Daisuke Takeuchi

List of Publications by Year
in descending order

142 papers	4,120 citations	101384 36 h-index	143772 57 g-index
145 all docs	145 docs citations	145 times ranked	2223 citing authors

#	ARTICLE	IF	CITATIONS
1	Electron emission from H-terminated diamond enhanced by polypyrrole grafting. Carbon, 2021, 176, 642-649.	5.4	8
2	Carrier transport mechanism of diamond p⁺â€“n junction at low temperature using Schottkyâ€“pn junction structure. Japanese Journal of Applied Physics, 2021, 60, 030905.	0.8	5
3	Inversion channel MOSFET on heteroepitaxially grown free-standing diamond. Carbon, 2021, 175, 615-619.	5.4	9
4	Suppression of killer defects in diamond vertical-type Schottky barrier diodes. Japanese Journal of Applied Physics, 2020, 59, SGGD10.	0.8	8
5	Damage-free highly efficient plasma-assisted polishing of a 20-mm square large mosaic single crystal diamond substrate. Scientific Reports, 2020, 10, 19432.	1.6	21
6	Temperature dependence of diamond MOSFET transport properties. Japanese Journal of Applied Physics, 2020, 59, SGGD19.	0.8	4
7	Toward Highâ€Performance Diamond Electronics: Control and Annihilation of Dislocation Propagation by Metalâ€Assisted Termination. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900498.	0.8	23
8	Inversion channel mobility and interface state density of diamond MOSFET using N-type body with various phosphorus concentrations. Applied Physics Letters, 2019, 114, .	1.5	19
9	Improved drain current of diamond metalâ€“semiconductor field-effect transistor by selectively grown p+ contact layer. Japanese Journal of Applied Physics, 2019, 58, SBBD17.	0.8	3
10	Carbon 1s X-ray photoelectron spectra of realistic samples of hydrogen-terminated and oxygen-terminated CVD diamond (111) and (001). Diamond and Related Materials, 2019, 93, 105-130.	1.8	25
11	Direct observation of inversion capacitance in p-type diamond MOS capacitors with an electron injection layer. Japanese Journal of Applied Physics, 2018, 57, 04FR01.	0.8	14
12	Reverseâ€recovery of diamond pâ€iâ€n diodes. IET Power Electronics, 2018, 11, 695-699.	1.5	4
13	Direct Nanoscale Sensing of the Internal Electric Field in Operating Semiconductor Devices Using Single Electron Spins. ACS Nano, 2017, 11, 1238-1245.	7.3	82
14	Fabrication of graphene on atomically flat diamond (111) surfaces using nickel as a catalyst. Diamond and Related Materials, 2017, 75, 105-109.	1.8	22
15	Dynamic properties of diamond high voltage pâ€“iâ€“n diodes. Japanese Journal of Applied Physics, 2017, 56, 04CR14.	0.8	10
16	Diamond Schottky-pn diode using lightly nitrogen-doped layer. Diamond and Related Materials, 2017, 75, 152-154.	1.8	37
17	Observation of Interface Defects in Diamond Lateral p-n-Junction Diodes and Their Effect on Reverse Leakage Current. IEEE Transactions on Electron Devices, 2017, 64, 3298-3302.	1.6	6
18	High-Temperature Bipolar-Mode Operation of Normally-Off Diamond JFET. IEEE Journal of the Electron Devices Society, 2017, 5, 95-99.	1.2	27

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19	Direct determination of the barrier height of Au ohmic-contact on a hydrogen-terminated diamond (001) surface. Diamond and Related Materials, 2017, 73, 182-189.	1.8	14
20	Enhanced thermionic electron emission from a stacked structure of phosphorusâ€doped diamond with a nitrogenâ€doped diamond surface layer. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 2650-2653.	0.8	8
21	N-type control of single-crystal diamond films by ultra-lightly phosphorus doping. Applied Physics Letters, 2016, 109, .	1.5	49
22	Toward highly conductive n-type diamond: Incremental phosphorus-donor concentrations assisted by surface migration of admolecules. Applied Physics Letters, 2016, 109, .	1.5	13
23	Inversion channel diamond metal-oxide-semiconductor field-effect transistor with normally off characteristics. Scientific Reports, 2016, 6, 31585.	1.6	150
24	Normally-Off Diamond Junction Field-Effect Transistors With Submicrometer Channel. IEEE Electron Device Letters, 2016, 37, 209-211.	2.2	36
25	Desorption time of phosphorus during MPCVD growth of n-type (001) diamond. Diamond and Related Materials, 2016, 64, 208-212.	1.8	11
26	Heavily phosphorus-doped nano-crystalline diamond electrode for thermionic emission application. Diamond and Related Materials, 2016, 63, 165-168.	1.8	23
27	Development Trend of Diamond Electronic Devices; from Attractive Gem Stones to Electronics. Journal of the Institute of Electrical Engineers of Japan, 2016, 136, 821-824.	0.0	0
28	Potential profile evaluation of a diamond lateral pâ€"n junction diode using Kelvin probe force microscopy. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2589-2594.	0.8	1
29	Fabrication of diamond lateral pâ€"n junction diodes on (111) substrates. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2548-2552.	0.8	7
30	Diamond PN/PIN Diode Type Electron Emitter with Negative Electron Affinity and Its Potential for the High Voltage Vacuum Power Switch. Topics in Applied Physics, 2015, , 237-272.	0.4	0
31	Electronic properties of diamond Schottky barrier diodes fabricated on silicon-based heteroepitaxially grown diamond substrates. Applied Physics Express, 2015, 8, 104103.	1.1	30
32	Carrier transport in homoepitaxial diamond films with heavy phosphorus doping. Japanese Journal of Applied Physics, 2014, 53, 05FP05.	0.8	19
33	Observation of negative electron affinity in low-voltage discharging boron-doped polycrystalline diamond. Japanese Journal of Applied Physics, 2014, 53, 05FP09.	0.8	4
34	Direct first-principles simulation of a high-performance electron emitter: Lithium-oxide-coated diamond surface. Journal of Applied Physics, 2014, 116, .	1.1	6
35	Electron emission from nitrogen-containing diamond with narrow-gap coplanar electrodes. Japanese Journal of Applied Physics, 2014, 53, 05FP08.	0.8	0
36	Diamond electronic devices fabricated using heavily doped hopping p⁺and n⁺layers. Japanese Journal of Applied Physics, 2014, 53, 05FA12.	0.8	29

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37	Investigation of electron emission site of pâ€“iâ€“n diode-type emitters with negative electron affinity. Japanese Journal of Applied Physics, 2014, 53, 05FP07.	0.8	0
38	Spectrally dependent photovoltages in Schottky photodiode based on (100) B-doped diamond. Journal of Applied Physics, 2014, 115, 053105.	1.1	12
39	Polarizationâ€controlled dressedâ€photonâ€“phonon etching of patterned diamond structures. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 2339-2342.	0.8	7
40	Unique temperature dependence of deep ultraviolet emission intensity for diamond light emitting diodes. Japanese Journal of Applied Physics, 2014, 53, 05FP02.	0.8	4
41	Free exciton luminescence from a diamond pâ€“iâ€“n diode grown on a substrate produced by heteroepitaxy. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 2251-2256.	0.8	14
42	600 V Diamond Junction Field-Effect Transistors Operated at 200$^{circ}{m C}$. IEEE Electron Device Letters, 2014, 35, 241-243.	2.2	74
43	Deterministic Electrical Charge-State Initialization of Single Nitrogen-Vacancy Center in Diamond. Physical Review X, 2014, 4, .	2.8	41
44	Reduction of nâ€type diamond contact resistance by graphite electrode. Physica Status Solidi - Rapid Research Letters, 2014, 8, 137-140.	1.2	16
45	Electrical characterization of diamond Pi<scp>N</scp> diodes for high voltage applications. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 2035-2039.	0.8	52
46	Fabrication of bipolar junction transistor on (001)-oriented diamond by utilizing phosphorus-doped n-type diamond base. Diamond and Related Materials, 2013, 34, 41-44.	1.8	38
47	Single photon, spin, and charge in diamond semiconductor at room temperature. , 2013, , .		0
48	Negative electron affinity of diamond and its application to high voltage vacuum power switches. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 1961-1975.	0.8	53
49	<i>Ab initio</i> dynamics of field emission from diamond surfaces. Applied Physics Letters, 2013, 103, .	1.5	8
50	High-Temperature Operation of Diamond Junction Field-Effect Transistors With Lateral p-n Junctions. IEEE Electron Device Letters, 2013, 34, 1175-1177.	2.2	51
51	Formation of Graphene-on-Diamond Structure by Graphitization of Atomically Flat Diamond (111) Surface. Japanese Journal of Applied Physics, 2013, 52, 110121.	0.8	37
52	High-Voltage Vacuum Switch with a Diamond pâ€“iâ€“n Diode Using Negative Electron Affinity. Japanese Journal of Applied Physics, 2012, 51, 090113.	0.8	17
53	Diamond bipolar junction transistor device with phosphorus-doped diamond base layer. Diamond and Related Materials, 2012, 27-28, 19-22.	1.8	51
54	Device Design of Diamond Schottky-pn Diode for Low-Loss Power Electronics. Japanese Journal of Applied Physics, 2012, 51, 090116.	0.8	6

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55	Electrically driven single-photon source at room temperature in diamond. Nature Photonics, 2012, 6, 299-303.	15.6	291
56	Diamond Junction Field-Effect Transistors with Selectively Grown n^{+}-Side Gates. Applied Physics Express, 2012, 5, 091301.	1.1	61
57	Maskless Selective Growth Method for pâ€“n Junction Applications on (001)-Oriented Diamond. Japanese Journal of Applied Physics, 2012, 51, 090118.	0.8	6
58	High-Voltage Vacuum Switch with a Diamond pâ€“iâ€“n Diode Using Negative Electron Affinity. Japanese Journal of Applied Physics, 2012, 51, 090113.	0.8	22
59	Device Design of Diamond Schottky-pn Diode for Low-Loss Power Electronics. Japanese Journal of Applied Physics, 2012, 51, 090116.	0.8	5
60	Maskless Selective Growth Method for pâ€“n Junction Applications on (001)-Oriented Diamond. Japanese Journal of Applied Physics, 2012, 51, 090118.	0.8	5
61	Electron emission from CVD diamond pâ€“iâ€“n junctions with negative electron affinity during room temperature operation. Diamond and Related Materials, 2011, 20, 917-921.	1.8	10
62	Energy level of compensator states in (001) phosphorus-doped diamond. Diamond and Related Materials, 2011, 20, 1016-1019.	1.8	20
63	Carrier transport of diamond p⁺â€iâ€n⁺ junction diode fabricated using lowâ€resistance hopping p⁺ and n⁺ layers. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 937-942.	0.8	5
64	Electron emission from diamond <i>p</i>â€“<i>i</i>â€“<i>n</i> junction diode with heavily Pâ€doped <i>n</i>⁺ top layer. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 2073-2078.	0.8	19
65	Enhancement in emission efficiency of diamond deep-ultraviolet light emitting diode. Applied Physics Letters, 2011, 99, .	1.5	73
66	Electron emission by current injection from nâ€type diamond film surface with negative electron affinity. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 2093-2098.	0.8	6
67	Improvement of (001)-oriented diamond p-i-n diode by use of selective grown n+ layer. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 2099-2104.	0.8	12
68	Diamond Schottkyâ€pn diode without tradeâ€off relationship between onâ€resistance and blocking voltage. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 2105-2109.	0.8	34
69	Electron Emission from a Diamond (111) pâ€“iâ€“n+Junction Diode with Negative Electron Affinity during Room Temperature Operation. Applied Physics Express, 2010, 3, 041301.	1.1	24
70	Electron Emission from Diamond (111) p+-i-n+ Junction Diode. Materials Research Society Symposia Proceedings, 2009, 1203, 1.	0.1	0
71	Diamond Schottky pâ€“n diode with high forward current density. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 2086-2090.	0.8	20
72	Dopingâ€induced changes in the valence band edge structure of homoepitaxial Bâ€doped diamond films below Mott's critical density. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 1991-1995.	0.8	5

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73	Diamond Schottky-pn diode with high forward current density and fast switching operation. Applied Physics Letters, 2009, 94, .	1.5	77
74	Flattening of oxidized diamond (111) surfaces with H2SO4/H2O2 solutions. Diamond and Related Materials, 2009, 18, 213-215.	1.8	12
75	Characterization of specific contact resistance on heavily phosphorus-doped diamond films. Diamond and Related Materials, 2009, 18, 782-785.	1.8	35
76	Recovery of negative electron affinity by annealing on (111) oxidized diamond surfaces. Diamond and Related Materials, 2009, 18, 206-209.	1.8	9
77	High performance of diamond p+-i-n+ junction diode fabricated using heavily doped p+ and n+ layers. Applied Physics Letters, 2009, 94, .	1.5	73
78	Electrical activity of doped phosphorus atoms in (001) nâ€‑type diamond. Physica Status Solidi (A) Applications and Materials Science, 2008, 205, 2195-2199.	0.8	29
79	Fermi level pinning-free interface at metals/homoepitaxial diamond (111) films after oxidation treatments. Applied Physics Letters, 2008, 92, 112112.	1.5	14
80	Low specific contact resistance of heavily phosphorus-doped diamond film. Applied Physics Letters, 2008, 93, .	1.5	68
81	Photoelectron emission from heavily B-doped homoepitaxial diamond films. Diamond and Related Materials, 2008, 17, 813-816.	1.8	3
82	Electron emission suppression from hydrogen-terminated n-type diamond. Diamond and Related Materials, 2008, 17, 986-988.	1.8	13
83	Exciton-derived Electron Emission from (001) Diamond<i>p</i>â€“<i>n</i>Junction Diodes with Negative Electron Affinity. Applied Physics Express, 2008, 1, 015004.	1.1	8
84	Total Photoelectron Emission Yield Spectroscopy on Diamond Surfaces. Hyomen Kagaku, 2008, 29, 151-158.	0.0	0
85	Surface defect states analysis on diamond by photoelectron emission yield experiments. Diamond and Related Materials, 2007, 16, 823-825.	1.8	18
86	Surface electronic properties on boron doped (111) CVD homoepitaxial diamond films after oxidation treatments. Diamond and Related Materials, 2007, 16, 831-835.	1.8	6
87	Photoelectron emission properties of hydrogen terminated intrinsic diamond. Journal of Applied Physics, 2006, 99, 086102.	1.1	22
88	Alkene/Diamond Liquid/Solid Interface Characterization Using Internal Photoemission Spectroscopy. Langmuir, 2006, 22, 5645-5653.	1.6	31
89	Secondary photoelectron emission experiments on p-, intrinsic, and n-type diamond. Diamond and Related Materials, 2006, 15, 698-702.	1.8	16
90	Surface conductive layers on (111) diamonds after oxygen treatments. Diamond and Related Materials, 2006, 15, 692-697.	1.8	20

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91	Photochemical attachment of amine linker molecules on hydrogen terminated diamond. Diamond and Related Materials, 2006, 15, 1107-1112.	1.8	32
92	Electrochemical properties of undoped hydrogen terminated CVD diamond. Diamond and Related Materials, 2006, 15, 264-268.	1.8	46
93	Field emission process of O-terminated heavily P-doped homoepitaxial diamond. Diamond and Related Materials, 2006, 15, 863-865.	1.8	8
94	Temperature evolution of photocurrent spectra in undoped and boron-doped homoepitaxial CVD diamond film. Diamond and Related Materials, 2006, 15, 577-581.	1.8	7
95	Photoelectron emission from diamond. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 3100-3106.	0.8	29
96	Photo- and electrochemical bonding of DNA to single crystalline CVD diamond. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 3245-3272.	0.8	45
97	Hydrogen plasma etching mechanism on (001) diamond. Journal of Crystal Growth, 2006, 293, 311-317.	0.7	24
98	Photoelectron Emission Mechanism From Hydrogen Terminated Nano-Crystalline Diamond. Materials Research Society Symposia Proceedings, 2006, 956, 1.	0.1	3
99	Structure due to indirect exciton in photocurrent spectrum of homoepitaxial diamond film. Solid State Communications, 2005, 133, 469-472.	0.9	3
100	Negative electron affinity on hydrogen terminated diamond. Physica Status Solidi A, 2005, 202, 2098-2103.	1.7	21
101	Surface conductive layers on oxidized (111) diamonds. Applied Physics Letters, 2005, 87, 262107.	1.5	19
102	Direct observation of negative electron affinity in hydrogen-terminated diamond surfaces. Applied Physics Letters, 2005, 86, 152103.	1.5	148
103	Field emission mechanism of oxidized highly phosphorus-doped homoepitaxial diamond (111). Applied Physics Letters, 2005, 87, 234107.	1.5	24
104	Total photoyield experiments on hydrogen terminated n-type diamond. Diamond and Related Materials, 2005, 14, 2019-2022.	1.8	10
105	Muon spin relaxation in CVD polycrystalline diamond film. Diamond and Related Materials, 2004, 13, 709-712.	1.8	2
106	Band diagrams of intrinsic and p-type diamond with hydrogenated surfaces. Physica Status Solidi A, 2003, 199, 64-70.	1.7	15
107	Surface band bending and surface conductivity of hydrogenated diamond. Physical Review B, 2003, 68, .	1.1	88
108	Schottky junction properties of the high conductivity layer of diamond. Diamond and Related Materials, 2002, 11, 355-358.	1.8	31

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109	Misorientation angle dependence of surface morphology in homoepitaxial diamond film growth at a low CH4/H2 ratio. Journal of Crystal Growth, 2002, 235, 300-306.	0.7	22
110	Device-grade homoepitaxial diamond film growth. Journal of Crystal Growth, 2002, 237-239, 1269-1276.	0.7	63
111	Structure of unepitaxial crystallites in a homoepitaxial diamond film. Diamond and Related Materials, 2001, 10, 2096-2098.	1.8	5
112	Cross-sectional TEM study of unepitaxial crystallites in a homoepitaxial diamond film. Diamond and Related Materials, 2001, 10, 2030-2034.	1.8	20
113	Origin of band-A emission in homoepitaxial diamond films. Diamond and Related Materials, 2001, 10, 526-530.	1.8	17
114	Device Grade B-Doped Homoepitaxial Diamond Thin Films. Physica Status Solidi A, 2001, 186, 269-280.	1.7	63
115	Defect Characteristics in Sulfur-Implanted CVD Homoepitaxial Diamond. Solid State Phenomena, 2001, 78-79, 171-176.	0.3	2
116	Defects Analysis of Diamond Films in Cross Section Using Cathodoluminescence and High-Resolution Transmission Electron Microscopy. Solid State Phenomena, 2001, 78-79, 197-204.	0.3	0
117	Diamond radiation detector made of an ultrahigh-purity type IIa diamond crystal grown by high-pressure and high-temperature synthesis. Review of Scientific Instruments, 2001, 72, 1406.	0.6	9
118	Origin of band-Aemission in diamond thin films. Physical Review B, 2001, 63, .	1.1	81
119	Spatial uniformity of Schottky contacts between aluminum and hydrogenated homoepitaxial diamond films. Applied Surface Science, 2000, 159-160, 572-577.	3.1	17
120	Electrical conduction of high-conductivity layers near the surfaces in hydrogenated homoepitaxial diamond films. Applied Surface Science, 2000, 159-160, 567-571.	3.1	18
121	Cu/CaF2/Diamond Metal-Insulator-Semiconductor Field-Effect Transistor Utilizing Self-Aligned Gate Fabrication Process. Japanese Journal of Applied Physics, 2000, 39, L908-L910.	0.8	32
122	Low-compensated boron-doped homoepitaxial diamond films. Diamond and Related Materials, 2000, 9, 956-959.	1.8	39
123	Homoepitaxial diamond films grown by step-flow mode in various misorientation angles of diamond substrates. Diamond and Related Materials, 2000, 9, 231-235.	1.8	50
124	High-Performance Diamond Metal-Semiconductor Field-Effect Transistor with 1 Âµm Gate Length. Japanese Journal of Applied Physics, 1999, 38, L1222-L1224.	0.8	47
125	n-Type Control by Sulfur Ion Implantation in Homoepitaxial Diamond Films Grown by Chemical Vapor Deposition. Japanese Journal of Applied Physics, 1999, 38, L1519-L1522.	0.8	60
126	Defects in Device Grade Homoepitaxial Diamond Thin Films Grown with Ultra-Low CH4/H2 Conditions by Microwave-Plasma Chemical Vapor Deposition. Physica Status Solidi A, 1999, 174, 101-115.	1.7	42

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127	Low-Compensated Boron-Doped Homoepitaxial Diamond Films Using Trimethylboron. Physica Status Solidi A, 1999, 174, 59-64.	1.7	40
128	High quality homoepitaxial diamond thin film synthesis with high growth rate by a two-step growth method. Diamond and Related Materials, 1999, 8, 1046-1049.	1.8	34
129	Homoepitaxial diamond film with an atomically flat surface over a large area. Diamond and Related Materials, 1999, 8, 1272-1276.	1.8	100
130	A Study of the Origin of Band-A Emission in Homoepitaxial Diamond Thin Films. Materials Research Society Symposia Proceedings, 1999, 588, 87.	0.1	0
131	Cluster ion bombardment on atomically flat Au(111) solid surfaces. Materials Chemistry and Physics, 1998, 54, 76-79.	2.0	31
132	High-Quality B-Doped Homoepitaxial Diamond Films using Trimethylboron. Japanese Journal of Applied Physics, 1998, 37, L1129-L1131.	0.8	114
133	Spatially Resolved Cathodoluminescence Study on CVD Homoepitaxial Diamond Film. Solid State Phenomena, 1998, 63-64, 489-496.	0.3	5
134	Strong excitonic recombination radiation from homoepitaxial diamond thin films at room temperature. Applied Physics Letters, 1998, 73, 981-983.	1.5	92
135	Junction properties of homoepitaxial diamond films grown by stepâ€“flow mode. Journal of Applied Physics, 1998, 84, 6095-6099.	1.1	37
136	Study of Ar cluster ion bombardment of a sapphire surface. Nuclear Instruments & Methods in Physics Research B, 1997, 121, 493-497.	0.6	27
137	Shallow junction formation by polyatomic cluster ion implantation. Nuclear Instruments & Methods in Physics Research B, 1997, 121, 345-348.	0.6	39
138	Fullerene ion irradiation to silicon. Nuclear Instruments & Methods in Physics Research B, 1997, 121, 480-483.	0.6	9
139	STM observation of HOPG surfaces irradiated with Ar cluster ions. Nuclear Instruments & Methods in Physics Research B, 1997, 121, 498-502.	0.6	61
140	Surface processing by gas cluster ion beams at the atomic (molecular) level. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1996, 14, 781-785.	0.9	65
141	Investigation of damage formation by gas cluster ion bombardment. Nuclear Instruments & Methods in Physics Research B, 1996, 112, 89-93.	0.6	12
142	Effects of bombardment by high energy gas cluster ion beams. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1996, 217-218, 74-77.	2.6	16