

Sung-Chul Yi

List of Publications by Year in descending order

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133
papers

3,784
citations

147566

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docs citations

133
times ranked

4827
citing authors

#	ARTICLE	IF	CITATIONS
1	Preparation and antibacterial effects of Ag@SiO ₂ thin films by sol-gel method. <i>Biomaterials</i> , 2003, 24, 4921-4928.	5.7	444
2	The effect of filler particle size on the antibacterial properties of compounded polymer/silver fibers. <i>Journal of Materials Science</i> , 2005, 40, 5407-5411.	1.7	299
3	Strategies and Perspectives to Catch the Missing Pieces in Energy-Efficient Hydrogen Evolution Reaction in Alkaline Media. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 18981-19006.	7.2	239
4	Antibacterial properties of padded PP/PE nonwovens incorporating nano-sized silver colloids. <i>Journal of Materials Science</i> , 2005, 40, 5413-5418.	1.7	151
5	Corrosion and Alloy Engineering in Rational Design of High Current Density Electrodes for Efficient Water Splitting. <i>Advanced Energy Materials</i> , 2020, 10, 1904020.	10.2	109
6	Optimal catalyst layer structure of polymer electrolyte membrane fuel cell. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 9876-9885.	3.8	98
7	Solvent effect on the Nafion agglomerate morphology in the catalyst layer of the proton exchange membrane fuel cells. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 478-485.	3.8	83
8	Assembling pore-rich FeP nanorods on the CNT backbone as an advanced electrocatalyst for oxygen evolution. <i>Journal of Materials Chemistry A</i> , 2016, 4, 13005-13010.	5.2	82
9	Harvesting Electronic Waste for the Development of Highly Efficient Eco-Design Electrodes for Electrocatalytic Water Splitting. <i>Advanced Energy Materials</i> , 2018, 8, 1802615.	10.2	80
10	Preparation of Eu-Doped Y ₂ O ₃ Luminescent Nanoparticles in Nonionic Reverse Microemulsions. <i>Journal of Colloid and Interface Science</i> , 2000, 226, 65-70.	5.0	76
11	Hydrogen adsorption on Li metal in boron-substituted graphene: An ab initio approach. <i>International Journal of Hydrogen Energy</i> , 2010, 35, 3583-3587.	3.8	70
12	Depolymerization of polyethyleneterephthalate in supercritical methanol. <i>Journal of Applied Polymer Science</i> , 2001, 81, 2102-2108.	1.3	68
13	Characterization of Eu-Doped Y ₂ O ₃ Nanoparticles Prepared in Nonionic Reverse Microemulsions in Relation to Their Application for Field Emission Display. <i>Journal of the Electrochemical Society</i> , 2000, 147, 3139.	1.3	57
14	Metal-organic framework derived NiMo polyhedron as an efficient hydrogen evolution reaction electrocatalyst. <i>Applied Surface Science</i> , 2019, 478, 916-923.	3.1	55
15	Numerical and experimental investigation on 25 cm ² and 100 cm ² PEMFC with novel sinuous flow field for effective water removal and enhanced performance. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 7848-7862.	3.8	53
16	Investigations of the temperature distribution in proton exchange membrane fuel cells. <i>Applied Energy</i> , 2012, 93, 733-741.	5.1	52
17	High performance multicomponent bifunctional catalysts for overall water splitting. <i>Journal of Materials Chemistry A</i> , 2020, 8, 13795-13805.	5.2	51
18	Co ₃ Se ₄ nanosheets embedded on N-CNT as an efficient electroactive material for hydrogen evolution and supercapacitor applications. <i>Journal of Industrial and Engineering Chemistry</i> , 2018, 65, 62-71.	2.9	47

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19	Highly efficient and durable dye-sensitized solar cells based on a wet-laid PET membrane electrolyte. <i>Journal of Materials Chemistry A</i> , 2016, 4, 458-465.	5.2	45
20	Synthesis and optical properties of push-pull type tetrapyrazinoporphyrazines. <i>Dyes and Pigments</i> , 2005, 65, 159-167.	2.0	44
21	Optimization of catalyst ink composition for the preparation of a membrane electrode assembly in a proton exchange membrane fuel cell using the decal transfer. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 18446-18454.	3.8	44
22	Reaction Pathway and Kinetics for Uncatalyzed Partial Oxidation of p-Xylene in Sub- and Supercritical Water. <i>Industrial & Engineering Chemistry Research</i> , 2002, 41, 5576-5583.	1.8	43
23	Adoption of novel porous inserts in the flow channel of pem fuel cell for the mitigation of cathodic flooding. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 7863-7872.	3.8	42
24	Pyrolysis of polystyrene in a batch-type stirred vessel. <i>Korean Journal of Chemical Engineering</i> , 1999, 16, 161-165.	1.2	41
25	Composite multi-functional over layer: A novel design to improve the photovoltaic performance of DSSC. <i>Solar Energy Materials and Solar Cells</i> , 2015, 140, 141-149.	3.0	38
26	Synergistic effect of boron/nitrogen co-doping into graphene and intercalation of carbon black for Pt-BCN-Gr/CB hybrid catalyst on cell performance of polymer electrolyte membrane fuel cell. <i>Energy</i> , 2016, 96, 314-324.	4.5	37
27	A graphene quantum dot/phthalocyanine conjugate: a synergistic catalyst for the oxygen reduction reaction. <i>RSC Advances</i> , 2017, 7, 26113-26119.	1.7	37
28	Molybdenum Sulphoselenophosphide Spheroids as an Effective Catalyst for Hydrogen Evolution Reaction. <i>Small</i> , 2018, 14, 1703862.	5.2	37
29	Mutual diffusivity, thermal conductivity, and heat of transport in binary liquid mixtures of alkanes in chloroform. <i>Journal of Chemical & Engineering Data</i> , 1988, 33, 362-366.	1.0	35
30	CO ₂ , N ₂ gas sorption and permeation behavior of chitosan membrane. <i>Korean Journal of Chemical Engineering</i> , 1998, 15, 223-226.	1.2	34
31	Electronic structure and half-metallic property of Mn-doped β -SiC diluted magnetic semiconductor. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2006, 126, 194-196.	1.7	34
32	A computational simulation of an alkaline fuel cell. <i>Journal of Power Sources</i> , 1999, 84, 87-106.	4.0	32
33	Incorporation of heteropoly acid, tungstophosphoric acid within MCM-41 via impregnation and direct synthesis methods for the fabrication of composite membrane of DMFC. <i>Journal of Membrane Science</i> , 2008, 325, 252-261.	4.1	31
34	Influence of the Nafion agglomerate morphology on the water-uptake behavior and fuel cell performance in the proton exchange membrane fuel cells. <i>Applied Surface Science</i> , 2019, 481, 777-784.	3.1	31
35	A PVdF-based electrolyte membrane for a carbon counter electrode in dye-sensitized solar cells. <i>RSC Advances</i> , 2017, 7, 20908-20918.	1.7	30
36	Self-humidifying Pt-C/Pt-TiO ₂ dual-catalyst electrode membrane assembly for proton-exchange membrane fuel cells. <i>Energy</i> , 2017, 120, 12-19.	4.5	30

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37	Comparative investigation of the molybdenum sulphide doped with cobalt and selenium towards hydrogen evolution reaction. <i>Electrochimica Acta</i> , 2018, 271, 211-219.	2.6	30
38	Preparation of Indium-Tin Oxide Particles in Shear-Induced Multilamellar Vesicles (Spherulites) as Chemical Reactors. <i>Chemistry of Materials</i> , 2000, 12, 996-1002.	3.2	28
39	A Highly Effective, Stable Oxygen Evolution Catalyst Derived from Transition Metal Selenides and Phosphides. <i>Particle and Particle Systems Characterization</i> , 2018, 35, 1800135.	1.2	28
40	Computational analysis of the zinc utilization in the primary zinc-air batteries. <i>Energy</i> , 2016, 102, 694-704.	4.5	27
41	Numerical analysis of catalyst agglomerates and liquid water transport in proton exchange membrane fuel cells. <i>International Journal of Hydrogen Energy</i> , 2010, 35, 8433-8445.	3.8	26
42	Synthesis of Pt/PEI-MWCNT composite materials on polyethyleneimine-functionalized MWNTs as supports. <i>Materials Research Bulletin</i> , 2011, 46, 2433-2440.	2.7	25
43	Mutual diffusivity, thermal conductivity, and heat of transport in binary liquid mixtures of alkanes in carbon tetrachloride. <i>Fluid Phase Equilibria</i> , 1987, 36, 219-233.	1.4	24
44	Continuous separation of copper ions from a mixture of heavy metal ions using a three-zone carousel process packed with metal ion-imprinted polymer. <i>Journal of Chromatography A</i> , 2010, 1217, 7100-7108.	1.8	23
45	Octahedral PtNi nanoparticles with controlled surface structure and composition for oxygen reduction reaction. <i>Science China Materials</i> , 2017, 60, 1109-1120.	3.5	23
46	Influence of the water uptake in the catalyst layer for the proton exchange membrane fuel cells. <i>Electrochemistry Communications</i> , 2013, 35, 34-37.	2.3	22
47	An ultralight-weight polymer electrolyte fuel cell based on woven carbon fiber-resin reinforced bipolar plate. <i>Journal of Power Sources</i> , 2021, 484, 229291.	4.0	22
48	Optimization of active sites by sulfurization of the core-shell ZIF 67@ZIF 8 for rapid oxygen reduction kinetics in acidic media. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 10739-10748.	3.8	22
49	Fabrication of highly effective self-humidifying membrane electrode assembly for proton exchange membrane fuel cells via electrostatic spray deposition. <i>Electrochemistry Communications</i> , 2018, 93, 76-80.	2.3	21
50	An efficient CoMoS ₂ nanosheets on nitrogen, sulfur dual doped reduced graphene oxide as an electrocatalyst for the hydrogen evolution reaction. <i>International Journal of Energy Research</i> , 2021, 45, 17397-17407.	2.2	21
51	A bifunctional hexa-filamentous microfibril multimetallic foam: an unconventional high-performance electrode for total water splitting under industrial operation conditions. <i>Journal of Materials Chemistry A</i> , 2021, 9, 4971-4983.	5.2	20
52	Degradation of high density polyethylene, polypropylene and their mixtures in supercritical acetone. <i>Korean Journal of Chemical Engineering</i> , 2001, 18, 396-401.	1.2	18
53	Modeling of the drying process in paper plants. <i>Korean Journal of Chemical Engineering</i> , 2004, 21, 761-766.	1.2	18
54	The prediction of the effects of tobacco type on smoke composition from the pyrolysis modeling of tobacco shreds. <i>Journal of Analytical and Applied Pyrolysis</i> , 2005, 74, 181-192.	2.6	18

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55	Electronic wastes: A near inexhaustible and an unimaginably wealthy resource for water splitting electrocatalysts. <i>Journal of Hazardous Materials</i> , 2022, 421, 126687.	6.5	18
56	Optimization of productivity in a four-zone simulated moving bed process for separation of succinic acid and lactic acid. <i>Chemical Engineering Journal</i> , 2011, 171, 92-103.	6.6	17
57	Enhanced Power Conversion Efficiency of Dye-Sensitized Solar Cells Using Nanoparticle/Nanotube Double Layered Film. <i>Journal of Nanoscience and Nanotechnology</i> , 2013, 13, 7938-7943.	0.9	17
58	Performance degradation of solid oxide fuel cells due to sulfur poisoning of the electrochemical reaction and internal reforming reaction. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 17275-17283.	3.8	17
59	Effect of Mobile Phase Composition on Henry's Constants of 2-Amino-3-phenyl-propanoic Acid, 2-Amino-3-(3-indolyl)-propanoic Acid, and 2-Amino-3-(4-hydroxyphenyl)-propanoic Acid in a Capcell Pak C ₁₈ Chromatography. <i>Journal of Chemical & Engineering Data</i> , 2008, 53, 2613-2621.	1.0	16
60	Shape-controlled synthesis of gold-nickel bimetallic nanoparticles and their electrocatalytic properties. <i>Materials Chemistry and Physics</i> , 2015, 156, 1-8.	2.0	16
61	Product distribution from the pyrolysis modeling of tobacco particles. <i>Journal of Analytical and Applied Pyrolysis</i> , 2003, 66, 217-234.	2.6	15
62	Enhanced Performance of Dye-Sensitized Solar Cells with Activated Carbons. <i>Journal of Nanoscience and Nanotechnology</i> , 2013, 13, 7875-7879.	0.9	15
63	Three-dimensional reconstruction of coarse-dense dual catalyst layer for proton exchange membrane fuel cells. <i>Electrochimica Acta</i> , 2016, 211, 142-147.	2.6	15
64	Computational analysis of transport phenomena in proton exchange membrane for polymer electrolyte fuel cells. <i>Journal of Membrane Science</i> , 2008, 309, 1-6.	4.1	14
65	On the role of the silica-containing catalyst layer for proton exchange membrane fuel cells. <i>Energy</i> , 2014, 68, 794-800.	4.5	14
66	Ultrahigh PEMFC Performance of a Thin-Film, Dual-electrode Assembly with Tailored Electrode Morphology. <i>ChemSusChem</i> , 2014, 7, 466-473.	3.6	14
67	Stability of alkanoyl-6-O-ascorbates in various surfactant aggregates systems. <i>Colloids and Surfaces B: Biointerfaces</i> , 2002, 24, 33-44.	2.5	13
68	Surface Engineering of Perovskites for Rechargeable Zinc-Air Battery Application. <i>ACS Applied Energy Materials</i> , 2021, 4, 1876-1886.	2.5	13
69	Strategies and Perspectives to Catch the Missing Pieces in Energy-Efficient Hydrogen Evolution Reaction in Alkaline Media. <i>Angewandte Chemie</i> , 2021, 133, 19129-19154.	1.6	13
70	Mathematical Model of Smoldering Combustion in a Carbonaceous Porous Medium Part 1: Development of Pyrolysis and Combustion Models for a Cylindrical Geometry. <i>Journal of Fire Sciences</i> , 2001, 19, 429-448.	0.9	12
71	Uncatalyzed partial oxidation of p-xylene in sub- and supercritical water. <i>Reaction Kinetics and Catalysis Letters</i> , 2002, 77, 35-42.	0.6	12
72	Computational analysis of mixed potential effect in proton exchange membrane fuel cells. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 7654-7668.	3.8	12

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73	Cobalt encapsulated in the nitrogen and sulfur co-doped carbon nanotube supported platinum for the oxygen reduction reaction catalyst. <i>Carbon</i> , 2018, 139, 656-665.	5.4	12
74	Pinched Wave Design of a Four-Zone Simulated Moving Bed for Linear Adsorption Systems with Significant Mass-Transfer Effects. <i>Industrial & Engineering Chemistry Research</i> , 2006, 45, 7241-7250.	1.8	11
75	Synthesis of nano-sized Pt/C via zeolite-templating method and its application to the cathode catalyst in PEMFC. <i>Microporous and Mesoporous Materials</i> , 2010, 134, 1-7.	2.2	11
76	Effect of functionalization for carbon molecular sieve (CMS) synthesized using zeolite template on the incorporation of Pt nanoparticle and performance of the electrodes in PEMFC. <i>Microporous and Mesoporous Materials</i> , 2012, 152, 148-156.	2.2	11
77	Bacterial nanocellulose as a green and flexible electrode matrix for efficient hydrogen evolution reaction in alkaline conditions. <i>Cellulose</i> , 2020, 27, 8135-8146.	2.4	11
78	Alternating Current Techniques for a Better Understanding of Photoelectrocatalysts. <i>ACS Catalysis</i> , 2021, 11, 12763-12776.	5.5	11
79	Simulation of influences of layer thicknesses in an alkaline fuel cell. <i>Journal of Applied Electrochemistry</i> , 2000, 30, 1023-1031.	1.5	10
80	Electrochemical properties of hybrid typed electrocatalyst using Pt/carbon molecular sieve synthesized by zeolite template and Pt carbon black. <i>Microporous and Mesoporous Materials</i> , 2013, 172, 161-166.	2.2	10
81	Improved polarization of mesoporous electrodes of a proton exchange membrane fuel cell using N-methyl-2-pyrrolidinone. <i>Electrochimica Acta</i> , 2013, 113, 37-41.	2.6	10
82	Kinetics of the Nonisothermal Degradation of Styrene-Butadiene Rubber. <i>Journal of Fire Sciences</i> , 1999, 17, 362-377.	0.9	9
83	Synthesis of Ultrafine and Spherical Barium Titanate Powders Using a Titania Nano-Sol. <i>Journal of the American Ceramic Society</i> , 2006, 89, 3299-3301.	1.9	9
84	Electronic Structures and Atomic Surface Diffusion in Cr/Fe(001) and Fe/Cr(001) Systems: First-Principles Study. <i>Japanese Journal of Applied Physics</i> , 2008, 47, 5076-5078.	0.8	9
85	Three-dimensional simulation of humid-air dryer using computational fluid dynamics. <i>Journal of Industrial and Engineering Chemistry</i> , 2013, 19, 1092-1098.	2.9	9
86	Influence of Phosphidation on CoSe ₂ Catalyst for Hydrogen Evolution Reaction. <i>ChemistrySelect</i> , 2017, 2, 10661-10667.	0.7	9
87	Engineering ionomer homogeneously distributed onto the fuel cell electrode with superbly retrieved activity towards oxygen reduction reaction. <i>Applied Catalysis B: Environmental</i> , 2021, 298, 120609.	10.8	9
88	A Kinetic Analysis of the Thermal-Oxidative Decomposition of Polypropylene. <i>Journal of Fire Sciences</i> , 2000, 18, 245-264.	0.9	9
89	Mixed monolayer behaviors of vitamin derivatives and cholesterol. <i>Synthetic Metals</i> , 2001, 117, 181-182.	2.1	8
90	Numerical methodology for proton exchange membrane fuel cell simulation using computational fluid dynamics technique. <i>Korean Journal of Chemical Engineering</i> , 2004, 21, 1153-1160.	1.2	8

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91	Dual-curable fluorinated poly(methacrylate) copolymers for optical adhesives. <i>Polymers for Advanced Technologies</i> , 2005, 16, 484-488.	1.6	8
92	Computational analysis of polarizations in membrane-electrode-assembly for proton exchange membrane fuel cells. <i>Journal of Membrane Science</i> , 2009, 341, 5-10.	4.1	8
93	Development of a four-zone carousel process packed with metal ion-imprinted polymer for continuous separation of copper ions from manganese ions, cobalt ions, and the constituent metal ions of the buffer solution used as eluent. <i>Journal of Chromatography A</i> , 2011, 1218, 5664-5674.	1.8	8

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109	Facile Nanostructured Composite Synthesis of Selenium and Molybdenum Chalcogenides/Carbon Nanotubes for Li-ion Batteries. Bulletin of the Korean Chemical Society, 2017, 38, 1347-1352.	1.0	4
110	Production of Hydrogen and Volatile Fatty Acid by Enterobacter sp. T4384 Using Organic Waste Materials. Journal of Microbiology and Biotechnology, 2013, 23, 189-194.	0.9	4
111	Thermal conductive thin, flexible composite sheet of boron nitride aggregates and alumina for enhanced through plane conductivity. Ceramics International, 2022, 48, 29183-29189.	2.3	4
112	The solid-phase synthesis of amino acid-derived diacetylene lipids. Macromolecular Research, 2005, 13, 253-256.	1.0	3
113	Dynamics of the wet-end section in paper mills. Korean Journal of Chemical Engineering, 2005, 22, 17-25.	1.2	3
114	Particle-Size Optimization for a Polymer Coated Silica Gel in SMB Chromatography for Amino Acid Separation. Journal of Liquid Chromatography and Related Technologies, 2009, 32, 2822-2838.	0.5	3
115	Studies of the factors effecting the preparation of heterogeneous platinum-based catalyst on silica supports. Materials Research Bulletin, 2010, 45, 1419-1425.	2.7	3
116	Synthesis of Pt-immobilized on silica and polystyrene-encapsulated silica and their applications as electrocatalysts in the proton exchange membrane fuel cell. Materials Research Bulletin, 2011, 46, 12-18.	2.7	3
117	Study on the Variation of Surface Morphology and Residual Stress Under Various Thermal Annealing Conditions with Bulk GaN Substrates Grown by HVPE. Electronic Materials Letters, 2021, 17, 43-53.	1.0	3
118	Optimization of the CMP Process with Colloidal Silica Performance for Bulk AlN Single Crystal Substrate. Journal of Korean Institute of Metals and Materials, 2019, 57, 582-588.	0.4	3
119	Heat Transfer of a Smoldering Flammable Substrate. Part 1. Development of a Theoretical Model for the Heat Transfer of a Smoldering Substrate. Journal of Fire Sciences, 1997, 15, 462-480.	0.9	2
120	Heat Transfer of a Smoldering Flammable Substrate. Part 2. A Theoretical Model and Its Application. Journal of Fire Sciences, 1998, 16, 32-45.	0.9	2
121	Modeling and simulation of evaporation-pyrolysis processes of a naturally smoldering cylindrical cellulosic materials rod: Effect of smoldering rate on product concentrations. Journal of Industrial and Engineering Chemistry, 2008, 14, 120-130.	2.9	2
122	Photoanode Using Hollow Spherical TiO ₂ for Dual Functions in Dye-Sensitized Solar Cell. Journal of Nanoscience and Nanotechnology, 2013, 13, 7906-7911.	0.9	2
123	Water Splitting: Corrosion and Alloy Engineering in Rational Design of High Current Density Electrodes for Efficient Water Splitting (Adv. Energy Mater. 24/2020). Advanced Energy Materials, 2020, 10, 2070107.	10.2	2
124	Effect of Dry Thermal Oxidation on Bulk GaN Substrates Grown by HVPE during CMP. ECS Journal of Solid State Science and Technology, 2019, 8, P811-P820.	0.9	2
125	Enhanced Electrochemical Oxygen Evolution Reaction on Hydrogen Embrittled CoSe Surface. Advanced Materials Interfaces, 0, , 2101209.	1.9	2
126	Reconstitute tobacco product drying model. Korean Journal of Chemical Engineering, 1997, 14, 141-145.	1.2	1

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127	Thermotropic liquid crystal polymer fabric reinforced polyimide composite materials. <i>Polymer Composites</i> , 2000, 21, 806-813.	2.3	1
128	Electrocatalysts: Molybdenum Sulphoselenophosphide Spheroids as an Effective Catalyst for Hydrogen Evolution Reaction (Small 8/2018). <i>Small</i> , 2018, 14, 1870034.	5.2	1
129	Recombination of Oxygen and Nitrogen Atoms on Silica and High-Temperature Coating Materials. <i>ACS Symposium Series</i> , 1997, , 71-80.	0.5	0
130	Mathematical Model of Smoldering Combustion in a Carbonaceous Porous Medium Part 2 “Sensitivity Analysis of Model Parameters. <i>Journal of Fire Sciences</i> , 2001, 19, 449-461.	0.9	0
131	Physico-chemical processes occurring inside a pyrolyzing two-dimensional tobacco particle. <i>Korean Journal of Chemical Engineering</i> , 2003, 20, 300-306.	1.2	0
132	Metal oxides-free anodes for lithium-ion batteries. , 2022, , 149-176.		0
133	Enhanced Electrochemical Oxygen Evolution Reaction on Hydrogen Embrittled CoSe Surface (Adv.) <i>Tj ETQq1 1 0.784314 rgBJ /Overl</i>	1.9	0