

# Jeffrey L Blackburn

## List of Publications by Year in descending order

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118  
papers

7,761  
citations

46918

47  
h-index

53109

85  
g-index

119  
all docs

119  
docs citations

119  
times ranked

10929  
citing authors

#	ARTICLE	IF	CITATIONS
1	On the optical anisotropy in 2D metal-halide perovskites. <i>Nanoscale</i> , 2022, 14, 752-765.	2.8	15
2	Elucidating the electronic properties of single-wall carbon nanohorns. <i>Journal of Materials Chemistry C</i> , 2022, 10, 5783-5786.	2.7	5
3	Arresting Photodegradation in Semiconducting Single-Walled Carbon Nanotube Thin Films. <i>ACS Applied Nano Materials</i> , 2022, 5, 3502-3511.	2.4	2
4	The Structural Origin of Chiroptical Properties in Perovskite Nanocrystals with Chiral Organic Ligands. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	43
5	Carbon nanotubes in high-performance perovskite photovoltaics and other emerging optoelectronic applications. <i>Journal of Applied Physics</i> , 2021, 129, .	1.1	15
6	High-performance carbon nanotube electronic ratchets. <i>Energy and Environmental Science</i> , 2021, 14, 5457-5468.	15.6	8
7	Extracellular electron transfer across bio-nano interfaces for CO <sub>2</sub> electroreduction. <i>Nanoscale</i> , 2021, 13, 1093-1102.	2.8	8
8	Interplay between microstructure, defect states, and mobile charge generation in transition metal dichalcogenide heterojunctions. <i>Nanoscale</i> , 2021, 13, 8188-8198.	2.8	2
9	Polyvinyl acetate-based polymer host for optical and far-infrared spectroscopy of individualized nanoparticles. <i>Journal of Applied Physics</i> , 2021, 129, 034701.	1.1	2
10	Charge transfer states and carrier generation in 1D organolead iodide semiconductors. <i>Journal of Materials Chemistry A</i> , 2021, 9, 14977-14990.	5.2	15
11	Linking optical spectra to free charges in donor/acceptor heterojunctions: cross-correlation of transient microwave and optical spectroscopy. <i>Materials Horizons</i> , 2021, 8, 1509-1517.	6.4	3
12	Exogenous electricity flowing through cyanobacterial photosystem I drives CO <sub>2</sub> valorization with high energy efficiency. <i>Energy and Environmental Science</i> , 2021, 14, 5480-5490.	15.6	19
13	A Multi-Dimensional Perspective on Electronic Doping in Metal Halide Perovskites. <i>ACS Energy Letters</i> , 2021, 6, 1104-1123.	8.8	38
14	Direct Detection of Circularly Polarized Light Using Chiral Copper Chloride-Carbon Nanotube Heterostructures. <i>ACS Nano</i> , 2021, 15, 7608-7617.	7.3	69
15	Solution-phase <i>p</i> -type doping of highly enriched semiconducting single-walled carbon nanotubes for thermoelectric thin films. <i>Applied Physics Letters</i> , 2021, 119, .	1.5	9
16	Pyroelectricity of Lead Sulfide (PbS) Quantum Dot Films Induced by Janus-Ligand Shells. <i>ACS Nano</i> , 2021, 15, 14965-14971.	7.3	8
17	Unconventional Thermoelectric Materials for Energy Harvesting and Sensing Applications. <i>Chemical Reviews</i> , 2021, 121, 12465-12547.	23.0	186
18	Single-layer graphene as a highly selective barrier for vanadium crossover with high proton selectivity. <i>Journal of Energy Chemistry</i> , 2021, 59, 419-430.	7.1	17

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19	In Situ Synthesis of Molybdenum Carbide Nanoparticles Incorporated into Laser-Patterned Nitrogen-Doped Carbon for Room Temperature VOC Sensing. <i>Advanced Functional Materials</i> , 2021, 31, 2104061.	7.8	12
20	Interlayer Triplet-Sensitized Luminescence in Layered Two-Dimensional Hybrid Metal-Halide Perovskites. <i>ACS Energy Letters</i> , 2021, 6, 4079-4096.	8.8	22
21	Carbon dioxide and nitrogen reduction reactions using 2D transition metal dichalcogenide (TMDC) and carbide/nitride (MXene) catalysts. <i>Energy and Environmental Science</i> , 2021, 14, 6242-6286.	15.6	69
22	Measuring Photoexcited Free Charge Carriers in Mono- to Few-Layer Transition-Metal Dichalcogenides with Steady-State Microwave Conductivity. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 99-107.	2.1	11
23	Spatially Resolved Persistent Photoconductivity in MoS <sub>2</sub> WS <sub>2</sub> Lateral Heterostructures. <i>ACS Nano</i> , 2020, 14, 14080-14090.	7.3	36
24	Size- and Temperature-Dependent Suppression of Phonon Thermal Conductivity in Carbon Nanotube Thermoelectric Films. <i>Advanced Electronic Materials</i> , 2020, 6, 2000746.	2.6	14
25	Perovskite Electronic Ratchets for Energy Harvesting. <i>Advanced Electronic Materials</i> , 2020, 6, 2000831.	2.6	7
26	Photoinduced charge transfer in transition metal dichalcogenide heterojunctions towards next generation energy technologies. <i>Energy and Environmental Science</i> , 2020, 13, 2684-2740.	15.6	67
27	Using Carbon Laser Patterning to Produce Flexible, Metal-Free Humidity Sensors. <i>ACS Applied Electronic Materials</i> , 2020, 2, 4146-4154.	2.0	9
28	Disentangling oxygen and water vapor effects on optoelectronic properties of monolayer tungsten disulfide. <i>Nanoscale</i> , 2020, 12, 8344-8354.	2.8	11
29	Microsecond charge separation at heterojunctions between transition metal dichalcogenide monolayers and single-walled carbon nanotubes. <i>Materials Horizons</i> , 2019, 6, 2103-2111.	6.4	17
30	Carbon Nanotube Color Centers in Plasmonic Nanocavities: A Path to Photon Indistinguishability at Telecom Bands. <i>Nano Letters</i> , 2019, 19, 9037-9044.	4.5	35
31	Nanoscale mapping of hydrogen evolution on metallic and semiconducting MoS <sub>2</sub> nanosheets. <i>Nanoscale Horizons</i> , 2019, 4, 619-624.	4.1	46
32	Rapid Charge-Transfer Cascade through SWCNT Composites Enabling Low-Voltage Losses for Perovskite Solar Cells. <i>ACS Energy Letters</i> , 2019, 4, 1872-1879.	8.8	33
33	Conductivity Tuning via Doping with Electron Donating and Withdrawing Molecules in Perovskite CsPbI <sub>3</sub> Nanocrystal Films. <i>Advanced Materials</i> , 2019, 31, e1902250.	11.1	66
34	Intrinsic and Extrinsic Limited Thermoelectric Transport within Semiconducting Single-Walled Carbon Nanotube Networks. <i>Advanced Electronic Materials</i> , 2019, 5, 1800910.	2.6	29
35	Effect of nanotube coupling on exciton transport in polymer-free monochiral semiconducting carbon nanotube networks. <i>Nanoscale</i> , 2019, 11, 21196-21206.	2.8	17
36	Long-Lived Charge Separation at Heterojunctions between Semiconducting Single-Walled Carbon Nanotubes and Perylene Diimide Electron Acceptors. <i>Journal of Physical Chemistry C</i> , 2018, 122, 14150-14161.	1.5	18

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37	Carbon-Nanotube-Based Thermoelectric Materials and Devices. <i>Advanced Materials</i> , 2018, 30, 1704386.	11.1	411
38	Control of Energy Flow Dynamics between Tetracene Ligands and PbS Quantum Dots by Size Tuning and Ligand Coverage. <i>Nano Letters</i> , 2018, 18, 865-873.	4.5	62
39	Balancing the Hydrogen Evolution Reaction, Surface Energetics, and Stability of Metallic MoS <sub>2</sub> Nanosheets via Covalent Functionalization. <i>Journal of the American Chemical Society</i> , 2018, 140, 441-450.	6.6	241
40	Broadband Light Collection Efficiency Enhancement of Carbon Nanotube Excitons Coupled to Metallo-Dielectric Antenna Arrays. <i>ACS Photonics</i> , 2018, 5, 289-294.	3.2	5
41	Efficiency of Charge-Transfer Doping in Organic Semiconductors Probed with Quantitative Microwave and Direct-Current Conductance. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 6864-6870.	2.1	30
42	Diameter-Dependent Optical Absorption and Excitation Energy Transfer from Encapsulated Dye Molecules toward Single-Walled Carbon Nanotubes. <i>ACS Nano</i> , 2018, 12, 6881-6894.	7.3	33
43	A practical field guide to thermoelectrics: Fundamentals, synthesis, and characterization. <i>Applied Physics Reviews</i> , 2018, 5, 021303.	5.5	223
44	Optically Generated Free-Carrier Collection from an All Single-Walled Carbon Nanotube Active Layer. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 4841-4847.	2.1	6
45	Suppression of exciton dephasing in sidewall-functionalized carbon nanotubes embedded into metallo-dielectric antennas. <i>Nanoscale</i> , 2018, 10, 12631-12638.	2.8	3
46	Semiconducting Single-Walled Carbon Nanotubes in Solar Energy Harvesting. <i>ACS Energy Letters</i> , 2017, 2, 1598-1613.	8.8	82
47	Low-Temperature Single Carbon Nanotube Spectroscopy of sp <sup>3</sup> Quantum Defects. <i>ACS Nano</i> , 2017, 11, 10785-10796.	7.3	79
48	Large n- and p-type thermoelectric power factors from doped semiconducting single-walled carbon nanotube thin films. <i>Energy and Environmental Science</i> , 2017, 10, 2168-2179.	15.6	172
49	Tunable room-temperature single-photon emission at telecom wavelengths from sp <sup>3</sup> defects in carbon nanotubes. <i>Nature Photonics</i> , 2017, 11, 577-582.	15.6	235
50	Switchable photovoltaic windows enabled by reversible photothermal complex dissociation from methylammonium lead iodide. <i>Nature Communications</i> , 2017, 8, 1722.	5.8	107
51	Status and Prognosis of Future-Generation Photoconversion to Photovoltaics and Solar Fuels. <i>ACS Energy Letters</i> , 2016, 1, 344-347.	8.8	9
52	Photoluminescence Imaging of Polyfluorene Surface Structures on Semiconducting Carbon Nanotubes: Implications for Thin Film Exciton Transport. <i>ACS Nano</i> , 2016, 10, 11449-11458.	7.3	11
53	Probing Exciton Diffusion and Dissociation in Single-Walled Carbon Nanotube-C <sub>60</sub> Heterojunctions. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 1794-1799.	2.1	33
54	Tuning the driving force for exciton dissociation in single-walled carbon nanotube heterojunctions. <i>Nature Chemistry</i> , 2016, 8, 603-609.	6.6	79

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55	Structural and chemical evolution of methylammonium lead halide perovskites during thermal processing from solution. <i>Energy and Environmental Science</i> , 2016, 9, 2072-2082.	15.6	188
56	Photoluminescence Side Band Spectroscopy of Individual Single-Walled Carbon Nanotubes. <i>Journal of Physical Chemistry C</i> , 2016, 120, 23898-23904.	1.5	24
57	Critical Role of the Sorting Polymer in Carbon Nanotube-Based Minority Carrier Devices. <i>ACS Nano</i> , 2016, 10, 10808-10815.	7.3	15
58	Polymer-Free Carbon Nanotube Thermoelectrics with Improved Charge Carrier Transport and Power Factor. <i>ACS Energy Letters</i> , 2016, 1, 1212-1220.	8.8	76
59	Charge Transfer Dynamics between Carbon Nanotubes and Hybrid Organic Metal Halide Perovskite Films. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 418-425.	2.1	83
60	Experimental and Computational Investigation of Acetic Acid Deoxygenation over Oxophilic Molybdenum Carbide: Surface Chemistry and Active Site Identity. <i>ACS Catalysis</i> , 2016, 6, 1181-1197.	5.5	76
61	Efficient charge extraction and slow recombination in organic-inorganic perovskites capped with semiconducting single-walled carbon nanotubes. <i>Energy and Environmental Science</i> , 2016, 9, 1439-1449.	15.6	126
62	Effect of host-mobility dependent carrier scattering on thermoelectric power factors of polymer composites. <i>Nano Energy</i> , 2016, 19, 128-137.	8.2	25
63	Guided Photoluminescence from Integrated Carbon Nanotube-Based Optical Waveguides. <i>Advanced Materials</i> , 2015, 27, 6181-6186.	11.1	8
64	Precision printing and optical modeling of ultrathin SWCNT/C <sub>60</sub> heterojunction solar cells. <i>Nanoscale</i> , 2015, 7, 6556-6566.	2.8	40
65	Strong Acoustic Phonon Localization in Copolymer-Wrapped Carbon Nanotubes. <i>ACS Nano</i> , 2015, 9, 6383-6393.	7.3	26
66	Quantum Confined Electron-Phonon Interaction in Silicon Nanocrystals. <i>Nano Letters</i> , 2015, 15, 1511-1516.	4.5	50
67	Isolation of >1 nm Diameter Single-Wall Carbon Nanotube Species Using Aqueous Two-Phase Extraction. <i>ACS Nano</i> , 2015, 9, 5377-5390.	7.3	137
68	Bench-top aqueous two-phase extraction of isolated individual single-walled carbon nanotubes. <i>Nano Research</i> , 2015, 8, 1755-1769.	5.8	41
69	Graphene as an Efficient Interfacial Layer for Electrochromic Devices. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 11330-11336.	4.0	19
70	Suppression of the $\text{Cu}_{2-x}\text{S}$ Secondary Phases in CZTS Films Through Controlling the Film Elemental Composition. <i>IEEE Journal of Photovoltaics</i> , 2015, 5, 1470-1475.	1.5	9
71	Biological imaging without autofluorescence in the second near-infrared region. <i>Nano Research</i> , 2015, 8, 3027-3034.	5.8	263
72	Silyl Radical Abstraction in the Functionalization of Plasma-Synthesized Silicon Nanocrystals. <i>Chemistry of Materials</i> , 2015, 27, 6869-6878.	3.2	72

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73	Synthesis and Spectroscopy of PbSe Fused Quantum-Dot Dimers. <i>Journal of the American Chemical Society</i> , 2014, 136, 4670-4679.	6.6	32
74	Charge Separation in P3HT:SWCNT Blends Studied by EPR: Spin Signature of the Photoinduced Charged State in SWCNT. <i>Journal of Physical Chemistry Letters</i> , 2014, 5, 601-606.	2.1	13
75	Ultrafast Spectroscopic Signature of Charge Transfer between Single-Walled Carbon Nanotubes and C <sub>60</sub> . <i>ACS Nano</i> , 2014, 8, 8573-8581.	7.3	62
76	Role of Dopants in Long-Range Charge Carrier Transport for p-Type and n-Type Graphene Transparent Conducting Thin Films. <i>ACS Nano</i> , 2013, 7, 7251-7261.	7.3	83
77	High-Yield Dispersions of Large-Diameter Semiconducting Single-Walled Carbon Nanotubes with Tunable Narrow Chirality Distributions. <i>ACS Nano</i> , 2013, 7, 2231-2239.	7.3	203
78	Recent developments in the photophysics of single-walled carbon nanotubes for their use as active and passive material elements in thin film photovoltaics. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 14896.	1.3	102
79	Plasmon-enhanced plastic devices. <i>Nature Photonics</i> , 2013, 7, 675-677.	15.6	13
80	Fullerenes and carbon nanotubes as acceptor materials in organic photovoltaics. <i>Materials Letters</i> , 2013, 90, 115-125.	1.3	63
81	Free Carrier Generation and Recombination in Polymer-Wrapped Semiconducting Carbon Nanotube Films and Heterojunctions. <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 3550-3559.	2.1	42
82	Manipulation of Hydrogen Binding Energy and Desorption Kinetics by Boron Doping of High Surface Area Carbon. <i>Journal of Physical Chemistry C</i> , 2012, 116, 26138-26143.	1.5	7
83	Platinum Nanoplates as Fuel Cell Electrocatalysts. <i>Journal of the Electrochemical Society</i> , 2012, 159, F622-F627.	1.3	18
84	Unraveling the <sup>13</sup> C NMR Chemical Shifts in Single-Walled Carbon Nanotubes: Dependence on Diameter and Electronic Structure. <i>Journal of the American Chemical Society</i> , 2012, 134, 4850-4856.	6.6	18
85	Confirmation of K-Momentum Dark Exciton Vibronic Sidebands Using <sup>13</sup> C-labeled, Highly Enriched (6,5) Single-walled Carbon Nanotubes. <i>Nano Letters</i> , 2012, 12, 1398-1403.	4.5	47
86	Effect of Solvent Polarity and Electrophilicity on Quantum Yields and Solvatochromic Shifts of Single-Walled Carbon Nanotube Photoluminescence. <i>Journal of the American Chemical Society</i> , 2012, 134, 12485-12491.	6.6	91
87	Spectroscopic Identification of Hydrogen Spillover Species in Ruthenium-Modified High Surface Area Carbons by Diffuse Reflectance Infrared Fourier Transform Spectroscopy. <i>Journal of Physical Chemistry C</i> , 2012, 116, 26744-26755.	1.5	32
88	Reactions and reversible hydrogenation of single-walled carbon nanotube anions. <i>Journal of Materials Research</i> , 2012, 27, 2806-2811.	1.2	2
89	Control of PbSe Quantum Dot Surface Chemistry and Photophysics Using an Alkylselenide Ligand. <i>ACS Nano</i> , 2012, 6, 5498-5506.	7.3	99
90	Comparing the Fundamental Physics and Device Performance of Transparent, Conductive Nanostructured Networks with Conventional Transparent Conducting Oxides. <i>Advanced Energy Materials</i> , 2012, 2, 353-360.	10.2	140

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91	High-Performance Hydrogen Production and Oxidation Electrodes with Hydrogenase Supported on Metallic Single-Wall Carbon Nanotube Networks. <i>Journal of the American Chemical Society</i> , 2011, 133, 4299-4306.	6.6	61
92	Homeotropic Alignment and Director Structures in Thin Films of Triphenylamine-Based Discotic Liquid Crystals Controlled by Supporting Nanostructured Substrates and Surface Confinement. <i>Journal of Physical Chemistry B</i> , 2011, 115, 609-617.	1.2	38
93	n-Type Transparent Conducting Films of Small Molecule and Polymer Amine Doped Single-Walled Carbon Nanotubes. <i>ACS Nano</i> , 2011, 5, 3714-3723.	7.3	109
94	Correlation between Photooxidation and the Appearance of Raman Scattering Bands in Lead Chalcogenide Quantum Dots. <i>Journal of Physical Chemistry Letters</i> , 2011, 2, 599-603.	2.1	35
95	Separation of Empty and Water-Filled Single-Wall Carbon Nanotubes. <i>ACS Nano</i> , 2011, 5, 3943-3953.	7.3	65
96	Photoinduced Energy and Charge Transfer in P3HT:SWNT Composites. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 2406-2411.	2.1	66
97	Nanostructured Fe <sub>3</sub> O <sub>4</sub> /SWNT Electrode: Binder-Free and High-Rate Li-ion Anode. <i>Advanced Materials</i> , 2010, 22, E145-9.	11.1	556
98	Solid-State <sup>13</sup> C NMR Assignment of Carbon Resonances on Metallic and Semiconducting Single-Walled Carbon Nanotubes. <i>Journal of the American Chemical Society</i> , 2010, 132, 9956-9957.	6.6	28
99	Prolonging Charge Separation in P3HT~SWNT Composites Using Highly Enriched Semiconducting Nanotubes. <i>Nano Letters</i> , 2010, 10, 4627-4633.	4.5	106
100	Ultrasoother, Large Area, High Uniformity, Conductive Transparent Single-Walled Carbon Nanotube Films for Photovoltaics Produced by Ultrasonic Spraying. <i>Advanced Materials</i> , 2009, 21, 3210-3216.	11.1	398
101	Transparent Conductive Single-Walled Carbon Nanotube Networks with Precisely Tunable Ratios of Semiconducting and Metallic Nanotubes. <i>ACS Nano</i> , 2008, 2, 1266-1274.	7.3	297
102	Measurement of the reversible hydrogen storage capacity of milligram Ti-6Al-4V alloy samples with temperature programmed desorption and volumetric techniques. <i>Journal of Alloys and Compounds</i> , 2008, 454, 483-490.	2.8	25
103	Protonation Effects on the Branching Ratio in Photoexcited Single-Walled Carbon Nanotube Dispersions. <i>Nano Letters</i> , 2008, 8, 1047-1054.	4.5	42
104	Efficient Photoinduced Charge Injection from Chemical Bath Deposited CdS into Mesoporous TiO <sub>2</sub> Probed with Time-Resolved Microwave Conductivity. <i>Journal of Physical Chemistry C</i> , 2008, 112, 7742-7749.	1.5	35
105	Photogenerated Free Carrier Dynamics in Metal and Semiconductor Single-Walled Carbon Nanotube Films. <i>Nano Letters</i> , 2008, 8, 4238-4242.	4.5	77
106	Chiral-Selective Protection of Single-walled Carbon Nanotube Photoluminescence by Surfactant Selection. <i>Journal of Physical Chemistry C</i> , 2007, 111, 17894-17900.	1.5	28
107	Nontrivial Tuning of the Hydrogen-Binding Energy to Fullerenes with Endohedral Metal Dopants. <i>Journal of Physical Chemistry C</i> , 2007, 111, 13275-13279.	1.5	11
108	Temperature-Dependent Excitonic Decay and Multiple States in Single-Wall Carbon Nanotubes. <i>Journal of Physical Chemistry C</i> , 2007, 111, 3601-3606.	1.5	21

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109	Wiring-Up Hydrogenase with Single-Walled Carbon Nanotubes. Nano Letters, 2007, 7, 3528-3534.	4.5	106
110	Optimization of crystalline tungsten oxide nanoparticles for improved electrochromic applications. Solid State Ionics, 2007, 178, 895-900.	1.3	48
111	Synthesis and Characterization of Boron-Doped Single-Wall Carbon Nanotubes Produced by the Laser Vaporization Technique. Chemistry of Materials, 2006, 18, 2558-2566.	3.2	69
112	Effects of Surfactant and Boron Doping on the BWF Feature in the Raman Spectrum of Single-Wall Carbon Nanotube Aqueous Dispersions. Journal of Physical Chemistry B, 2006, 110, 25551-25558.	1.2	40
113	Hot-wire chemical vapor synthesis for a variety of nano-materials with novel applications. Thin Solid Films, 2006, 501, 216-220.	0.8	34
114	Toward rapid and inexpensive identification of bulk carbon nanotubes. Applied Physics Letters, 2006, 88, 143122.	1.5	8
115	Experimental Gibbs Free Energy Considerations in the Nucleation and Growth of Single-Walled Carbon Nanotubes. Journal of Physical Chemistry B, 2005, 109, 10435-10440.	1.2	17
116	Electron and Hole Transfer from Indium Phosphide Quantum Dots. Journal of Physical Chemistry B, 2005, 109, 2625-2631.	1.2	118
117	Electron Relaxation in Colloidal InP Quantum Dots with Photogenerated Excitons or Chemically Injected Electrons. Journal of Physical Chemistry B, 2003, 107, 102-109.	1.2	90
118	Excitation Energy Dependent Efficiency of Charge Carrier Relaxation and Photoluminescence in Colloidal InP Quantum Dots. Journal of Physical Chemistry B, 2002, 106, 7758-7765.	1.2	79