Sergio Brovelli

List of Publications by Year
in descending order

108 papers	8,275 citations	47006 47 h-index	46799 89 g-index
112 all docs	112 docs citations	112 times ranked	8482 citing authors

#	Article	IF	Citations
1	Spectroscopic and Device Aspects of Nanocrystal Quantum Dots. Chemical Reviews, 2016, 116, 10513-10622.	47.7	744
2	Large-area luminescent solar concentrators based on â€˜Stokes-shift-engineeredâ€™ nanocrystals in a mass-polymerized PMMA matrix. Nature Photonics, 2014, 8, 392-399.	31.4	568
3	Highly efficient large-area colourless luminescent solar concentrators using heavy-metal-free colloidal quantum dots. Nature Nanotechnology, 2015, 10, 878-885.	31.5	448
4	Colloidal Synthesis of Double Perovskite Cs₂AgInCl₆ and Mn-Doped Cs₂AgInCl₆ Nanocrystals. Journal of the American Chemical Society, 2018, 140, 12989-12995.	13.7	397
5	â€˜Giantâ€™ CdSe/CdS Core/Shell Nanocrystal Quantum Dots As Efficient Electroluminescent Materials: Strong Influence of Shell Thickness on Light-Emitting Diode Performance. Nano Letters, 2012, 12, 331-336.	9.1	364
6	Highly efficient luminescent solar concentrators based on earth-abundant indirect-bandgap silicon quantum dots. Nature Photonics, 2017, 11, 177-185.	31.4	319
7	Luminescent solar concentrators for building-integrated photovoltaics. Nature Reviews Materials, 2017, 2, .	48.7	303
8	Breakdown of Volume Scaling in Auger Recombination in CdSe/CdS Heteronanocrystals: The Role of the Coreâ^'Shell Interface. Nano Letters, 2011, 11, 687-693.	9.1	282
9	Intersystem Crossing Processes in Nonplanar Aromatic Heterocyclic Molecules. Journal of Physical Chemistry A, 2007, 111, 10490-10499.	2.5	261
10	Suppression of temperature quenching in perovskite nanocrystals for efficient and thermally stable light-emitting diodes. Nature Photonics, 2021, 15, 379-385.	31.4	260
11	Efficient, fast and reabsorption-free perovskite nanocrystal-based sensitized plastic scintillators. Nature Nanotechnology, 2020, 15, 462-468.	31.5	226
12	Doped Halide Perovskite Nanocrystals for Reabsorption-Free Luminescent Solar Concentrators. ACS Energy Letters, 2017, 2, 2368-2377.	17.4	224
13	Emissive Bi-Doped Double Perovskite Cs₂Ag_{1â€“x}Na_xInCl₆ Nanocrystals. ACS Energy Letters, 2019, 4, 1976-1982.	17.4	198
14	Copper-Doped Inverted Core/Shell Nanocrystals with â€œPermanentâ€•Optically Active Holes. Nano Letters, 2011, 11, 4753-4758.	9.1	176
15	Tuning Radiative Recombination in Cu-Doped Nanocrystals via Electrochemical Control of Surface Trapping. Nano Letters, 2012, 12, 4372-4379.	9.1	125
16	Long-lived photoinduced magnetization in copper-doped ZnSeâ€“CdSe coreâ€“shell nanocrystals. Nature Nanotechnology, 2012, 7, 792-797.	31.5	110
17	Role of Nonradiative Defects and Environmental Oxygen on Exciton Recombination Processes in CsPbBr₃ Perovskite Nanocrystals. Nano Letters, 2017, 17, 3844-3853.	9.1	101
18	Trap-Mediated Two-Step Sensitization of Manganese Dopants in Perovskite Nanocrystals. ACS Energy Letters, 2019, 4, 85-93.	17.4	92

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19	Stable and Size Tunable CsPbBr₃ Nanocrystals Synthesized with Oleylphosphonic Acid. Nano Letters, 2020, 20, 8847-8853.	9.1	92
20	Spectroscopic insights into the performance of quantum dot light-emitting diodes. MRS Bulletin, 2013, 38, 721-730.	3.5	91
21	Synthesis of highly luminescent wurtzite CdSe/CdS giant-shell nanocrystals using a fast continuous injection route. Journal of Materials Chemistry C, 2014, 2, 3439.	5.5	90
22	Efficient Solution-Processed Nanoplatelet-Based Light-Emitting Diodes with High Operational Stability in Air. Nano Letters, 2018, 18, 3441-3448.	9.1	88
23	Sb-Doped Metal Halide Nanocrystals: A 0D versus 3D Comparison. ACS Energy Letters, 2021, 6, 2283-2292.	17.4	83
24	Synthesis and Characterization of Some Aza[5]helicenes. European Journal of Organic Chemistry, 2005, 2005, 1247-1257.	2.4	79
25	High-Efficiency All-Solution-Processed Light-Emitting Diodes Based on Anisotropic Colloidal Heterostructures with Polar Polymer Injecting Layers. Nano Letters, 2015, 15, 5455-5464.	9.1	69
26	Light-emitting electrochemical cells using polymeric ionic liquid/polyfluorene blends as luminescent material. Applied Physics Letters, 2010, 96, 043308.	3.3	66
27	Dual-Color Electroluminescence from Dot-in-Bulk Nanocrystals. Nano Letters, 2014, 14, 486-494.	9.1	66
28	Reversed oxygen sensing using colloidal quantum wells towards highly emissive photoresponsive varnishes. Nature Communications, 2015, 6, 6434.	12.8	66
29	Consensus statement: Standardized reporting of power-producing luminescent solar concentrator performance. Joule, 2022, 6, 8-15.	24.0	66
30	Band structure engineering via piezoelectric fields in strained anisotropic CdSe/CdS nanocrystals. Nature Communications, 2015, 6, 7905.	12.8	65
31	Evidence for the Bandâ€Edge Exciton of CuInS₂ Nanocrystals Enables Record Efficient Largeâ€Area Luminescent Solar Concentrators. Advanced Functional Materials, 2020, 30, 1906629.	14.9	65
32	Tuning Intrachain versus Interchain Photophysics via Control of the Threading Ratio of Conjugated Polyrotaxanes. Nano Letters, 2008, 8, 4546-4551.	9.1	64
33	Excitonic pathway to photoinduced magnetism in colloidal nanocrystals with nonmagnetic dopants. Nature Nanotechnology, 2018, 13, 145-151.	31.5	64
34	Tunable and Efficient Red to Near-Infrared Photoluminescence by Synergistic Exploitation of Core and Surface Silver Doping of CdSe Nanoplatelets. Chemistry of Materials, 2019, 31, 1450-1459.	6.7	64
35	Compositional Tuning of Carrier Dynamics in Cs₂Na_{1â€“x}Ag_xBiCl₆ Double-Perovskite Nanocrystals. ACS Energy Letters, 2020, 5, 1840-1847.	17.4	63
36	Bright Blue Emitting Cu-Doped Cs₂ZnCl₄ Colloidal Nanocrystals. Chemistry of Materials, 2020, 32, 5897-5903.	6.7	63

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37	Amylose-wrapped luminescent conjugated polymers. Chemical Communications, 2008, , 2797.	4.1	62
38	White Electroluminescence by Supramolecular Control of Energy Transfer in Blends of Organicâ€Soluble Encapsulated Polyfluorenes. Advanced Functional Materials, 2010, 20, 272-280.	14.9	60
39	Dynamic Hole Blockade Yields Two-Color Quantum and Classical Light from Dot-in-Bulk Nanocrystals. Nano Letters, 2013, 13, 321-328.	9.1	60
40	Spectro-electrochemical Probing of Intrinsic and Extrinsic Processes in Exciton Recombination in Iâ€“IIIâ€“VI₂ Nanocrystals. Nano Letters, 2017, 17, 4508-4517.	9.1	60
41	Effect of Core/Shell Interface on Carrier Dynamics and Optical Gain Properties of Dual-Color Emitting CdSe/CdS Nanocrystals. ACS Nano, 2016, 10, 6877-6887.	14.6	57
42	Control of Rapid Formation of Interchain Excited States in Sugarâ€Threaded Supramolecular Wires. Advanced Materials, 2008, 20, 3218-3223.	21.0	56
43	Fully inorganic oxide-in-oxide ultraviolet nanocrystal light emitting devices. Nature Communications, 2012, 3, 690.	12.8	56
44	Halide Perovskiteâ€“Lead Chalcohalide Nanocrystal Heterostructures. Journal of the American Chemical Society, 2021, 143, 1435-1446.	13.7	55
45	Permanent excimer superstructures by supramolecular networking of metal quantum clusters. Science, 2016, 353, 571-575.	12.6	54
46	Synthesis and Optoelectronic Properties of Nonpolar Polyrotaxane Insulated Molecular Wires with High Solubility in Organic Solvents. Advanced Functional Materials, 2008, 18, 3367-3376.	14.9	51
47	Emission Color Trajectory and White Electroluminescence Through Supramolecular Control of Energy Transfer and Exciplex Formation in Binary Blends of Conjugated Polyrotaxanes. Advanced Functional Materials, 2012, 22, 4284-4291.	14.9	50
48	Optical and Electroluminescent Properties of Conjugated Polyrotaxanes. Small, 2010, 6, 2796-2820.	10.0	48
49	Recent Progress in Halide Perovskite Radiation Detectors for Gamma-Ray Spectroscopy. ACS Energy Letters, 2022, 7, 1066-1085.	17.4	47
50	Surface Polarization Drives Photoinduced Charge Separation at the P3HT/Water Interface. ACS Energy Letters, 2016, 1, 454-463.	17.4	46
51	Near-infrared roll-off-free electroluminescence from highly stable diketopyrrolopyrrole light emitting diodes. Scientific Reports, 2016, 6, 34096.	3.3	39
52	First demonstration of the use of very large Stokes shift cycloparaphenylenes as promising organic luminophores for transparent luminescent solar concentrators. Chemical Communications, 2019, 55, 3160-3163.	4.1	39
53	High Photon Upconversion Efficiency with Hybrid Triplet Sensitizers by Ultrafast Holeâ€Routing in Electronicâ€Doped Nanocrystals. Advanced Materials, 2020, 32, e2002953.	21.0	37
54	Cyclodextrinâ€Threaded Conjugated Polyrotaxanes for Organic Electronics: The Influence of the Counter Cations. Advanced Functional Materials, 2008, 18, 2419-2427.	14.9	36

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55	Influence of cyclodextrin size on fluorescence quenching in conjugated polyrotaxanes by methyl viologen in aqueous solution. Journal of Materials Chemistry, 2009, 19, 2846.	6.7	35
56	O₂ as a molecular probe for nonradiative surface defects in CsPbBr₃ perovskite nanostructures and single crystals. Nanoscale, 2019, 11, 7613-7623.	5.6	35
57	Ultraâ€Broad Optical Amplification and Twoâ€Colour Amplified Spontaneous Emission in Binary Blends of Insulated Molecular Wires. Advanced Materials, 2010, 22, 3690-3694.	21.0	34
58	Straightforward fabrication of stable white LEDs by embedding of inorganic UV-LEDs into bulk polymerized polymethyl-methacrylate doped with organic dyes. Scientific Reports, 2014, 4, 4400.	3.3	34
59	Chemically Sustainable Large Stokes Shift Derivatives for High-Performance Large-Area Transparent Luminescent Solar Concentrators. Joule, 2020, 4, 1988-2003.	24.0	32
60	Electrochemical Control of Two-Color Emission from Colloidal Dot-in-Bulk Nanocrystals. Nano Letters, 2014, 14, 3855-3863.	9.1	30
61	Twoâ€Color Emitting Colloidal Nanocrystals as Singleâ€Particle Ratiometric Probes of Intracellular pH. Advanced Functional Materials, 2017, 27, 1605533.	14.9	30
62	Cesium Manganese Bromide Nanocrystal Sensitizers for Broadband Vis-to-NIR Downshifting. ACS Energy Letters, 2022, 7, 1850-1858.	17.4	30
63	A Conjugated Thiopheneâ€Based Rotaxane: Synthesis, Spectroscopy, and Modeling. Chemistry - A European Journal, 2010, 16, 3933-3941.	3.3	29
64	Carrier Dynamics in Alloyed Chalcogenide Quantum Dots and Their Lightâ€Emitting Devices. Advanced Energy Materials, 2021, 11, 2101693.	19.5	29
65	Luminescent Colloidal InSb Quantum Dots from In Situ Generated Single-Source Precursor. ACS Nano, 2020, 14, 13146-13160.	14.6	28
66	Postâ€Deposition Activation of Latent Hydrogenâ€Bonding: A New Paradigm for Enhancing the Performances of Bulk Heterojunction Solar Cells. Advanced Functional Materials, 2014, 24, 7410-7419.	14.9	27
67	Highly Polarized Emission from Oriented Films Incorporating Waterâ€Soluble Conjugated Polymers in a Polyvinyl Alcohol Matrix. Advanced Materials, 2011, 23, 1855-1859.	21.0	26
68	Single-Particle Ratiometric Pressure Sensing Based on â€œDouble-Sensorâ€•Colloidal Nanocrystals. Nano Letters, 2017, 17, 1071-1081.	9.1	26
69	Synthesis of type II/type I CdTe/CdS/ZnS quantum dots and their use in cellular imaging. Journal of Materials Chemistry, 2009, 19, 8341.	6.7	25
70	Selfâ€Assembled Conjugated Thiopheneâ€Based Rotaxane Architectures: Structural, Computational, and Spectroscopic Insights into Molecular Aggregation. Advanced Functional Materials, 2011, 21, 834-844.	14.9	24
71	Efficient Luminescent Solar Concentrators Based on Environmentally Friendly Cdâ€Free Ternary AIS/ZnS Quantum Dots. Advanced Optical Materials, 2021, 9, 2100587.	7.3	24
72	Selfâ€Assembled pHâ€Sensitive Fluoromagnetic Nanotubes as Archetype System for Multimodal Imaging of Brain Cancer. Advanced Functional Materials, 2018, 28, 1707582.	14.9	22

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73	Synthesis and Photophysics of Coaxial Threaded Molecular Wires: Polyrotaxanes with Triarylamine Jackets. Journal of Physical Chemistry C, 2014, 118, 4553-4566.	3.1	21
74	â€œQuantizedâ€•Doping of Individual Colloidal Nanocrystals Using Size-Focused Metal Quantum Clusters. ACS Nano, 2017, 11, 6233-6242.	14.6	21
75	Magnetic Transitions and Energy Transfer Processes in Sb-Based Zero-Dimensional Metal Halide Nanocrystals Doped with Manganese. ACS Energy Letters, 2022, 7, 1566-1573.	17.4	21
76	Excited-State Properties and Emission Spectra of Nonplanar Heterocyclic Helicenes. Journal of Physical Chemistry A, 2006, 110, 11018-11024.	2.5	20
77	Understanding Thermal and Aâ€Thermal Trapping Processes in Lead Halide Perovskites Towards Effective Radiation Detection Schemes. Advanced Functional Materials, 2021, 31, 2104879.	14.9	20
78	Unique Cation Exchange in Nanocrystal Matrix via Surface Vacancy Engineering Overcoming Chemical Kinetic Energy Barriers. CheM, 2020, 6, 3086-3099.	11.7	18
79	Bottomâ€up Synthesis and Selfâ€Assembly of Copper Clusters into Permanent Excimer Supramolecular Nanostructures. Angewandte Chemie - International Edition, 2018, 57, 7051-7055.	13.8	17
80	Quantized Electronic Doping towards Atomically Controlled â€œCharge-Engineeredâ€•Semiconductor Nanocrystals. Nano Letters, 2019, 19, 1307-1317.	9.1	17
81	Enhanced luminescence properties of highly threaded conjugated polyelectrolytes with potassium counter-ions upon blending with poly(ethylene oxide). Journal of Applied Physics, 2010, 107, 124509.	2.5	16
82	Halide perovskites as disposable epitaxial templates for the phase-selective synthesis of lead sulfochloride nanocrystals. Nature Communications, 2022, 13, .	12.8	16
83	Intrinsic and Extrinsic Exciton Recombination Pathways in AgInS ₂ Colloidal Nanocrystals. Energy Material Advances, 2021, 2021, .	11.0	15
84	Isolated [SbCl₆]^{3â€“} Octahedra Are the Only Active Emitters in Rb₇Sb₃Cl₁₆ Nanocrystals. ACS Energy Letters, 2021, 6, 3952-3959.	17.4	15
85	Solâ€“Gel Strategy for Self-Induced Fluorination and Dehydration of Silica with Extended Vacuum Ultraviolet Transmittance and Radiation Hardness. Chemistry of Materials, 2012, 24, 677-681.	6.7	14
86	A bifunctional conjugated polyelectrolyte for the interfacial engineering of polymer solar cells. Journal of Colloid and Interface Science, 2019, 538, 611-619.	9.4	14
87	Competition between green self-trapped-exciton and red non-bridging-oxygen emissions in SiO2 under interband excitation. Communications Physics, 2018, 1, .	5.3	13
88	White luminescence from single-layer devices of nonresonant polymer blends. Applied Physics Letters, 2010, 96, 213301.	3.3	9
89	Prolonged Lifetime in Nanocrystal Light-Emitting Diodes Incorporating MoS2-Based Conjugated Polyelectrolyte Interfacial Layer as an Alternative to PEDOT:PSS. ACS Applied Electronic Materials, 2020, 2, 1186-1192.	4.3	9
90	Guidelines for the characterization of metal halide nanocrystals. Trends in Chemistry, 2021, 3, 631-644.	8.5	9

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91	Perovskite Semiconductor Nanocrystals. Energy Material Advances, 2022, 2022, .	11.0	9
92	A Quaterthiopheneâ€Based Rotaxane: Synthesis, Spectroscopy, and Selfâ€Assembly at Surfaces. Small, 2012, 8, 1835-1839.	10.0	7
93	Tunable Dielectric Function in Electricâ€Responsive Glass with Treeâ€Like Percolating Pathways of Chargeable Conductive Nanoparticles. Advanced Functional Materials, 2010, 20, 3511-3518.	14.9	6
94	Dual-Emitting Dot-in-Bulk CdSe/CdS Nanocrystals with Highly Emissive Core- and Shell-Based Trions Sharing the Same Resident Electron. Nano Letters, 2019, 19, 8846-8854.	9.1	6
95	Stokes Shift Engineered Mn:CdZnS/ZnS Nanocrystals as Reabsorptionâ€Free Nanoscintillators in High Loading Polymer Composites. Advanced Optical Materials, 2022, 10, .	7.3	5
96	Stability of optical and electroluminescence properties of a semiconducting polymer over a decade. Organic Electronics, 2010, 11, 1445-1448.	2.6	4
97	Bottomâ€up Synthesis and Selfâ€Assembly of Copper Clusters into Permanent Excimer Supramolecular Nanostructures. Angewandte Chemie, 2018, 130, 7169-7173.	2.0	4
98	Tunable Dielectric Function in Electric-Responsive Glass with Tree-Like Percolating Pathways of Chargeable Conductive Nanoparticles. Advanced Functional Materials, 2010, 20, 3510-3510.	14.9	3
99	Increased luminescence efficiency by synergistic exploitation of lipo/hydrophilic co-solvency and supramolecular design. Journal of Materials Chemistry C, 2016, 4, 10893-10902.	5.5	3
100	Hybrid MoS2/PEDOT:PSS transporting layers for interface engineering of nanoplatelet-based light-emitting diodes. Dalton Transactions, 2021, 50, 9208-9214.	3.3	2
101	Optical and Magneto-Optical Properties of Donor-Bound Excitons in Vacancy-Engineered Colloidal Nanocrystals. Nano Letters, 2021, 21, 6211-6219.	9.1	2
102	Cyclodextrins: Highly Polarized Emission from Oriented Films Incorporating Water-Soluble Conjugated Polymers in a Polyvinyl Alcohol Matrix (Adv. Mater. 16/2011). Advanced Materials, 2011, 23, 1804-1804.	21.0	1
103	Perovskites cut energy losses. Nature Energy, 2019, 4, 176-177.	39.5	1
104	Light emission and structural properties of undoped and erbium-doped nanostructured silica with SnO 2 nanoparticles. Proceedings of SPIE, 2007, , .	0.8	0
105	Wavefunction engineering in core-shell semiconductor nanocrystals: from fine-tuned exciton dynamics and suppressed Auger recombination to dual color electroluminescence. Proceedings of SPIE, 2012, , .	0.8	0
106	Polyrotaxanes (Conjugated). , 2013, , 1-13.		0
107	(Invited) Ultrafast Exciton Dynamics in Semiconductor Nanocrystals: Effects on Single Vs Dual Emission and on Optical Gain. ECS Meeting Abstracts, 2020, MA2020-01, 1100-1100.	0.0	0
108	(Invited) Ultrafast Spectroscopy in Semiconductor Nanocrystals: Revealing the Origin of Single Vs Double Emission, of Optical Gain and the Role of Dopants. ECS Meeting Abstracts, 2022, MA2022-01, 1104-1104.	0.0	0