Christian P WÃ¼rth

List of Publications by Year
in descending order

69 papers	4,711 citations	101384 36 h-index	102304 66 g-index
69 all docs	69 docs citations	69 times ranked	6071 citing authors

#	Article	IF	Citations
1	Relative and absolute determination of fluorescence quantum yields of transparent samples. Nature Protocols, 2013, 8, 1535-1550.	5.5	863
2	NaYF₄:Yb,Er/NaYF₄ Core/Shell Nanocrystals with High Upconversion Luminescence Quantum Yield. Angewandte Chemie - International Edition, 2018, 57, 8765-8769.	7.2	298
3	Quenching of the upconversion luminescence of NaYF₄:Yb³⁺,Er³⁺and NaYF₄:Yb³⁺,Tm³⁺nanophosphors by water: the role of the sensitizer Yb³⁺in non-radiative relaxation. Nanoscale, 2015, 7, 11746-11757.	2.8	267
4	Water dispersible upconverting nanoparticles: effects of surface modification on their luminescence and colloidal stability. Nanoscale, 2015, 7, 1403-1410.	2.8	210
5	Quantum Yields, Surface Quenching, and Passivation Efficiency for Ultrasmall Core/Shell Upconverting Nanoparticles. Journal of the American Chemical Society, 2018, 140, 4922-4928.	6.6	185
6	Comparison of Methods and Achievable Uncertainties for the Relative and Absolute Measurement of Photoluminescence Quantum Yields. Analytical Chemistry, 2011, 83, 3431-3439.	3.2	169
7	Particle-Size-Dependent FÃ¶rster Resonance Energy Transfer from Upconversion Nanoparticles to Organic Dyes. Analytical Chemistry, 2017, 89, 4868-4874.	3.2	161
8	Power-dependent upconversion quantum yield of NaYF₄:Yb³⁺,Er³⁺ nano- and micrometer-sized particles â€“ measurements and simulations. Nanoscale, 2017, 9, 10051-10058.	2.8	132
9	Targeted Luminescent Near-Infrared Polymer-Nanoprobes for In Vivo Imaging of Tumor Hypoxia. Analytical Chemistry, 2011, 83, 9039-9046.	3.2	122
10	Excitation power dependent population pathways and absolute quantum yields of upconversion nanoparticles in different solvents. Nanoscale, 2017, 9, 4283-4294.	2.8	117
11	Determination of the absolute fluorescence quantum yield of rhodamine 6G with optical and photoacoustic methods â€“ Providing the basis for fluorescence quantum yield standards. Talanta, 2012, 90, 30-37.	2.9	107
12	Encapsulation of Hydrophobic Dyes in Polystyrene Micro- and Nanoparticles via Swelling Procedures. Journal of Fluorescence, 2011, 21, 937-944.	1.3	99
13	Scope and Limitations of Surface Functional Group Quantification Methods: Exploratory Study with Poly(acrylic acid)-Grafted Micro- and Nanoparticles. Journal of the American Chemical Society, 2012, 134, 8268-8276.	6.6	87
14	Integrating Sphere Setup for the Traceable Measurement of Absolute Photoluminescence Quantum Yields in the Near Infrared. Analytical Chemistry, 2012, 84, 1345-1352.	3.2	86
15	Particle-size-dependent upconversion luminescence of NaYF4: Yb, Er nanoparticles in organic solvents and water at different excitation power densities. Nano Research, 2018, 11, 6360-6374.	5.8	84
16	Femtosecond broadband fluorescence upconversion spectroscopy: Improved setup and photometric correction. Review of Scientific Instruments, 2011, 82, 063108.	0.6	81
17	Yb,Nd,Er-doped upconversion nanoparticles: 980 nm versus 808 nm excitation. Nanoscale, 2019, 11, 13440-13449.	2.8	78
18	On the decay time of upconversion luminescence. Nanoscale, 2019, 11, 4959-4969.	2.8	76

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19	Absolute photoluminescence quantum yields of IR26 and IR-emissive Cd_{1â^'x}Hg_xTe and PbS quantum dots â€“ method- and material-inherent challenges. Nanoscale, 2015, 7, 133-143.	2.8	74
20	New Life of Ancient Pigments: Application in High-Performance Optical Sensing Materials. Analytical Chemistry, 2013, 85, 9371-9377.	3.2	72
21	Critical review of the determination of photoluminescence quantum yields of luminescent reporters. Analytical and Bioanalytical Chemistry, 2015, 407, 59-78.	1.9	70
22	Evaluation of a Commercial Integrating Sphere Setup for the Determination of Absolute Photoluminescence Quantum Yields of Dilute Dye Solutions. Applied Spectroscopy, 2010, 64, 733-741.	1.2	68
23	Simple strategies towards bright polymer particles via one-step staining procedures. Dyes and Pigments, 2012, 94, 247-257.	2.0	66
24	Absolute upconversion quantum yields of blue-emitting LiYF₄:Yb³⁺,Tm³⁺ upconverting nanoparticles. Physical Chemistry Chemical Physics, 2018, 20, 22556-22562.	1.3	66
25	Industrially scalable and cost-effective Mn²⁺ doped Zn_xCd_{1â^'x}S/ZnS nanocrystals with 70% photoluminescence quantum yield, as efficient down-shifting materials in photovoltaics. Energy and Environmental Science, 2016, 9, 1083-1094.	15.6	63
26	Upconversion properties of SrF₂:Yb³⁺,Er³⁺ single crystals. Journal of Materials Chemistry C, 2020, 8, 4093-4101.	2.7	58
27	Shaping Luminescent Properties of Yb³⁺ and Ho³⁺ Coâ€Doped Upconverting Coreâ€“Shell Î²â€NaYF₄ Nanoparticles by Dopant Distribution and Spacing. Small, 2017, 13, 1701635.	5.2	57
28	Optically Detected Degradation of NaYF₄:Yb,Tm-Based Upconversion Nanoparticles in Phosphate Buffered Saline Solution. Langmuir, 2017, 33, 553-560.	1.6	55
29	Simple Self-Referenced Luminescent pH Sensors Based on Upconversion Nanocrystals and pH-Sensitive Fluorescent BODIPY Dyes. Analytical Chemistry, 2019, 91, 7756-7764.	3.2	55
30	Inherently Broadband Photoluminescence in Agâ€“Inâ€“S/ZnS Quantum Dots Observed in Ensemble and Single-Particle Studies. Journal of Physical Chemistry C, 2019, 123, 2632-2641.	1.5	53
31	Target-specific nanoparticles containing a broad band emissive NIR dye for the sensitive detection and characterization of tumor development. Biomaterials, 2013, 34, 160-170.	5.7	50
32	Mechanistic insights into seeded growth processes of gold nanoparticles. Nanoscale, 2010, 2, 2463.	2.8	49
33	Tuning the Surface of Nanoparticles: Impact of Poly(2â€ethylâ€2â€oxazoline) on Protein Adsorption in Serum and Cellular Uptake. Macromolecular Bioscience, 2016, 16, 1287-1300.	2.1	43
34	Excitation wavelength dependence of the photoluminescence quantum yield and decay behavior of CdSe/CdS quantum dot/quantum rods with different aspect ratios. Physical Chemistry Chemical Physics, 2017, 19, 12509-12516.	1.3	42
35	A protected excitation-energy reservoir for efficient upconversion luminescence. Nanoscale, 2018, 10, 250-259.	2.8	41
36	Explaining the influence of dopant concentration and excitation power density on the luminescence and brightness of Î²-NaYF4:Yb3+,Er3+ nanoparticles: Measurements and simulations. Nano Research, 2019, 12, 1871-1879.	5.8	41

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37	Evolution of Size and Optical Properties of Upconverting Nanoparticles during High-Temperature Synthesis. Journal of Physical Chemistry C, 2018, 122, 28958-28967.	1.5	33
38	Spectroscopic Characterization of Coumarin-Stained Beads: Quantification of the Number of Fluorophores Per Particle with Solid-State ¹⁹F-NMR and Measurement of Absolute Fluorescence Quantum Yields. Analytical Chemistry, 2012, 84, 3654-3661.	3.2	32
39	Four- and Five-Component Syntheses and Photophysical Properties of Emission Solvatochromic 3-Aminovinylquinoxalines. Journal of Organic Chemistry, 2017, 82, 567-578.	1.7	32
40	Metasurface Enhanced Sensitized Photon Upconversion: Toward Highly Efficient Low Power Upconversion Applications and Nanoscale E-Field Sensors. Nano Letters, 2020, 20, 6682-6689.	4.5	26
41	LiYF4:Yb/LiYF4 and LiYF4:Yb,Er/LiYF4 core/shell nanocrystals with luminescence decay times similar to YLF laser crystals and the upconversion quantum yield of the Yb,Er doped nanocrystals. Nano Research, 2021, 14, 797-806.	5.8	26
42	Efficient Luminescent Solar Concentrators Based on Environmentally Friendly Cdâ€Free Ternary AIS/ZnS Quantum Dots. Advanced Optical Materials, 2021, 9, 2100587.	3.6	24
43	Sensitization of upconverting nanoparticles with a NIR-emissive cyanine dye using a micellar encapsulation approach. Methods and Applications in Fluorescence, 2019, 7, 014003.	1.1	22
44	Colour-optimized quantum yields of Yb, Tm Co-doped upconversion nanocrystals. Methods and Applications in Fluorescence, 2019, 7, 024001.	1.1	20
45	Time-resolved luminescence spectroscopy for monitoring the stability and dissolution behaviour of upconverting nanocrystals with different surface coatings. Nanoscale, 2020, 12, 12589-12601.	2.8	19
46	Synthesis and characterisation of highly fluorescent coreâ€“shell nanoparticles based on Alexa dyes. Journal of Nanoparticle Research, 2012, 14, 1.	0.8	18
47	Determination of Photoluminescence Quantum Yields of Scattering Media with an Integrating Sphere: Direct and Indirect Illumination. Applied Spectroscopy, 2015, 69, 749-759.	1.2	18
48	Multiband emission from single Î²-NaYF4(Yb,Er) nanoparticles at high excitation power densities and comparison to ensemble studies. Nano Research, 2021, 14, 4107-4115.	5.8	18
49	Fluorescent magnetoliposomes as a platform technology for functional and molecular MR and optical imaging. Contrast Media and Molecular Imaging, 2012, 7, 59-67.	0.4	16
50	Beam-profile-compensated quantum yield measurements of upconverting nanoparticles. Physical Chemistry Chemical Physics, 2017, 19, 22016-22022.	1.3	16
51	Preparation of coreâ€“shell structured NaYF₄:Yb³⁺/Tm³⁺@NaYF₄:Yb³⁺/Er³⁺ nanoparticles with high sensitivity, low resolution and good reliability and application of their fluorescence temperature properties. CrystEngComm, 2022, 24, 1752-1763.	1.3	15
52	Yb- and Er concentration dependence of the upconversion luminescence of highly doped NaYF4:Yb,Er/NaYF4:Lu core/shell nanocrystals prepared by a water-free synthesis. Nano Research, 2022, 15, 9639-9646.	5.8	14
53	Bioimaging: Shaping Luminescent Properties of Yb³⁺ and Ho³⁺ Coâ€Doped Upconverting Coreâ€“Shell Î²â€NaYF₄ Nanoparticles by Dopant Distribution and Spacing (Small) Tj ETQq1 1 0.784314 rgBT	5.2	14
54	Quantification of Anisotropy-Related Uncertainties in Relative Photoluminescence Quantum Yield Measurements of Nanomaterials â€“ Semiconductor Quantum Dots and Rods. Zeitschrift Fur Physikalische Chemie, 2015, 229, 153-165.	1.4	12

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55	Polymer-and Glass-based Fluorescence Standards for the Near Infrared (NIR) Spectral Region. Journal of Fluorescence, 2011, 21, 953-961.	1.3	11
56	Synthesis of NIRâ€Emitting InAsâ€Based Core/Shell Quantum Dots with the Use of Tripyrazolylarsane as Arsenic Precursor. Particle and Particle Systems Characterization, 2018, 35, 1800175.	1.2	11
57	AufwÃ¤rtskonvertierende NaYF₄:Yb,Er/NaYF₄â€Kern/Schaleâ€Nanokristalle mit hoher Lumineszenzquantenausbeute. Angewandte Chemie, 2018, 130, 8901-8905.	1.6	10
58	Fluorescence Quantum Yield and Single-Particle Emission of CdSe Dot/CdS Rod Nanocrystals. Journal of Physical Chemistry C, 2019, 123, 24338-24346.	1.5	10
59	Efficient sub-15 nm cubic-phase core/shell upconversion nanoparticles as reporters for ensemble and single particle studies. Nanoscale, 2020, 12, 10592-10599.	2.8	10
60	Tailoring the SWIR emission of gold nanoclusters by surface ligand rigidification and their application in 3D bioimaging. Chemical Communications, 2022, 58, 2967-2970.	2.2	10
61	Coreâ€“Shell NaYF₄:Yb³⁺/Tm³⁺@NaGdF₄:Ce³⁺/Eu³⁺ Nanoparticles for Upconversion and Downconversion Dual-Mode Fluorescence-Based Temperature Sensing. ACS Applied Nano Materials, 2022, 5, 9266-9276.	2.4	10
62	Metasurfaceâ€Enhanced Photon Upconversion upon 1550Ânm Excitation. Advanced Optical Materials, 2021, 9, 2101285.	3.6	7
63	Effect of Ca²⁺ doping on the upconversion luminescence properties of NaYF₄:Yb³⁺/Tm³⁺ nanoparticles and study of its temperature measurement performance. CrystEngComm, 2022, 24, 4887-4898.	1.3	5
64	Fluorophoreâ€Labeled Siloxaneâ€Based Nanoparticles for Biomedical Applications. Macromolecular Symposia, 2011, 309-310, 141-146.	0.4	3
65	Volume and surface effects on two-photonic and three-photonic processes in dry co-doped upconversion nanocrystals. Nano Research, 2022, 15, 2362-2373.	5.8	3
66	The toolbox of fluorescence standards: flexible calibration tools for the standardization of fluorescence-based measurements. Proceedings of SPIE, 2010, , .	0.8	2
67	Fast and Reliable Measurement of Photoluminescence Quantum Yields forÂthe Development of Fluorescent Probes. Biophysical Journal, 2013, 104, 345a.	0.2	0
68	Enhanced Photon Upconversion Using Erbium-Doped Nanoparticles Interacting with Silicon Metasurfaces. , 2021, , .		0
69	Lumineszenzmessungen â€â€Standards und die Vergleichbarkeit der Ergebnisse. Nachrichten Aus Der Chemie, 2021, 69, 45-48.	0.0	0