

Frank Biedermann

List of Publications by Year in descending order

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61
papers

5,873
citations

81743

39
h-index

123241

61
g-index

71
all docs

71
docs citations

71
times ranked

5637
citing authors

#	ARTICLE	IF	CITATIONS
1	Supramolecular Cross-Linked Networks via Host-Guest Complexation with Cucurbit[8]uril. <i>Journal of the American Chemical Society</i> , 2010, 132, 14251-14260.	6.6	547
2	The Hydrophobic Effect Revisited—Studies with Supramolecular Complexes Imply High-Energy Water as a Noncovalent Driving Force. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 11158-11171.	7.2	502
3	Release of High-Energy Water as an Essential Driving Force for the High-Affinity Binding of Cucurbit[8]urils. <i>Journal of the American Chemical Society</i> , 2012, 134, 15318-15323.	6.6	471
4	Ultrahigh-Water-Content Supramolecular Hydrogels Exhibiting Multistimuli Responsiveness. <i>Journal of the American Chemical Society</i> , 2012, 134, 11767-11773.	6.6	409
5	Experimental Binding Energies in Supramolecular Complexes. <i>Chemical Reviews</i> , 2016, 116, 5216-5300.	23.0	395
6	Strongly Fluorescent, Switchable Perylene Bis(diimide) Host-Guest Complexes with Cucurbit[8]uril In Water. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 7739-7743.	7.2	199
7	Noncovalent Chirality Sensing Ensembles for the Detection and Reaction Monitoring of Amino Acids, Peptides, Proteins, and Aromatic Drugs. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 5694-5699.	7.2	193
8	Cucurbit[8]uril and Blue-Box: High-Energy Water Release Overwhelms Electrostatic Interactions. <i>Journal of the American Chemical Society</i> , 2013, 135, 14879-14888.	6.6	174
9	Molecular Probes, Chemosensors, and Nanosensors for Optical Detection of Biorelevant Molecules and Ions in Aqueous Media and Biofluids. <i>Chemical Reviews</i> , 2022, 122, 3459-3636.	23.0	171
10	Orthogonal switching of a single supramolecular complex. <i>Nature Communications</i> , 2012, 3, 1207.	5.8	164
11	Nanomolar Binding of Steroids to Cucurbit[8]urils: Selectivity and Applications. <i>Journal of the American Chemical Society</i> , 2016, 138, 13022-13029.	6.6	143
12	Quantitative SERS Using the Sequestration of Small Molecules Inside Precise Plasmonic Nanoconstructs. <i>Nano Letters</i> , 2012, 12, 5924-5928.	4.5	142
13	Cucurbit[8]uril Mediated Donor-Acceptor Ternary Complexes: A Model System for Studying Charge-Transfer Interactions. <i>Journal of Physical Chemistry B</i> , 2012, 116, 2842-2849.	1.2	134
14	Correlating Solution Binding and ESI-MS Stabilities by Incorporating Solvation Effects in a Confined Cucurbit[8]uril System. <i>Journal of Physical Chemistry B</i> , 2010, 114, 8606-8615.	1.2	118
15	A supramolecular route for reversible protein-polymer conjugation. <i>Chemical Science</i> , 2011, 2, 279-286.	3.7	111
16	Efficient Host-Guest Energy Transfer in Polycationic Cyclophane-Perylene Diimide Complexes in Water. <i>Journal of the American Chemical Society</i> , 2014, 136, 9053-9060.	6.6	97
17	Benzobis(imidazolium)-Cucurbit[8]uril Complexes for Binding and Sensing Aromatic Compounds in Aqueous Solution. <i>Chemistry - A European Journal</i> , 2010, 16, 13716-13722.	1.7	92
18	In Situ SERS Monitoring of Photochemistry within a Nanojunction Reactor. <i>Nano Letters</i> , 2013, 13, 5985-5990.	4.5	85

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19	Supramolecular hydrogel microcapsules via cucurbit[8]uril host-guest interactions with triggered and UV-controlled molecular permeability. <i>Chemical Science</i> , 2015, 6, 4929-4933.	3.7	77
20	Postpolymerization Modification of Hydroxyl-Functionalized Polymers with Isocyanates. <i>Macromolecules</i> , 2011, 44, 4828-4835.	2.2	73
21	A Systems Approach to Controlling Supramolecular Architecture and Emergent Solution Properties via Host-Guest Complexation in Water. <i>Journal of the American Chemical Society</i> , 2010, 132, 15734-15743.	6.6	72
22	Raman and SERS spectroscopy of cucurbit[n]urils. <i>Physical Chemistry Chemical Physics</i> , 2010, 12, 10429.	1.3	71
23	Chemical Sensors Based on Cucurbit[n]uril Macrocycles. <i>Israel Journal of Chemistry</i> , 2018, 58, 357-412.	1.0	69
24	Fluorescence Monitoring of Peptide Transport Pathways into Large and Giant Vesicles by Supramolecular Host-Dye Reporter Pairs. <i>Journal of the American Chemical Society</i> , 2019, 141, 20137-20145.	6.6	69
25	Synthesis and Photophysics of Fully π -Conjugated Heterobis-Functionalized Polymeric Molecular Wires via Suzuki Chain-Growth Polymerization. <i>Journal of the American Chemical Society</i> , 2012, 134, 17769-17777.	6.6	68
26	Supramolecular Glycopolymers in Water: A Reversible Route Toward Multivalent Carbohydrate-Lectin Conjugates Using Cucurbit[8]uril. <i>Macromolecules</i> , 2011, 44, 4276-4281.	2.2	64
27	Host-guest accelerated photodimerisation of anthracene-labeled macromolecules in water. <i>Polymer Chemistry</i> , 2014, 5, 5375.	1.9	64
28	Binding affinities of cucurbit[n]urils with cations. <i>Chemical Communications</i> , 2019, 55, 14131-14134.	2.2	64
29	Cavitation energies can outperform dispersion interactions. <i>Nature Chemistry</i> , 2018, 10, 1252-1257.	6.6	60
30	Associative chemosensing by fluorescent macrocycle-dye complexes - a versatile enzyme assay platform beyond indicator displacement. <i>Chemical Communications</i> , 2015, 51, 4977-4980.	2.2	57
31	Decoupled Associative and Dissociative Processes in Strong yet Highly Dynamic Host-Guest Complexes. <i>Journal of the American Chemical Society</i> , 2017, 139, 12985-12993.	6.6	56
32	Binding Studies on CB[6] with a Series of 1-Alkyl-3-methylimidazolium Ionic Liquids in an Aqueous System. <i>Chemistry - an Asian Journal</i> , 2010, 5, 530-537.	1.7	50
33	Triple Emission from π -Dimethylaminobenzonitrile-Cucurbit[8]uril Triggers the Elusive Excimer Emission. <i>Chemistry - A European Journal</i> , 2015, 21, 691-696.	1.7	44
34	Templated Formation of Luminescent Virus-like Particles by Tailor-Made Pt(II) Amphiphiles. <i>Journal of the American Chemical Society</i> , 2018, 140, 2355-2362.	6.6	42
35	Rational design and implementation of a cucurbit[8]uril-based indicator-displacement assay for application in blood serum. <i>Chemical Science</i> , 2019, 10, 6584-6593.	3.7	42
36	Nichtkovalente Chiralitätsensoren-Ensembles zur Detektion und Reaktionsverfolgung von Aminosäuren, Peptiden, Proteinen und aromatischen Wirkstoffen. <i>Angewandte Chemie</i> , 2014, 126, 5802-5807.	1.6	40

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37	Probing cucurbit[8]uril-mediated supramolecular block copolymer assembly in water using diffusion NMR. <i>Polymer Chemistry</i> , 2010, 1, 1434.	1.9	39
38	Size Selective Supramolecular Cages from Aryl-Bisimidazolium Derivatives and Cucurbit[8]uril. <i>Organic Letters</i> , 2011, 13, 3044-3047.	2.4	39
39	Platinum Complex Assemblies as Luminescent Probes and Tags for Drugs and Toxins in Water. <i>Chemistry - A European Journal</i> , 2017, 23, 1965-1971.	1.7	35
40	Covalent cucurbit[7]uril-dye conjugates for sensing in aqueous saline media and biofluids. <i>Chemical Science</i> , 2020, 11, 11142-11153.	3.7	33
41	Further Dimensions for Sensing in Biofluids: Distinguishing Bioorganic Analytes by the Salt-Induced Adaptation of a Cucurbit[7]uril-Based Chemosensor. <i>Journal of the American Chemical Society</i> , 2022, 144, 13084-13095.	6.6	33
42	Fluorescent artificial receptor-based membrane assay (FARMA) for spatiotemporally resolved monitoring of biomembrane permeability. <i>Communications Biology</i> , 2020, 3, 383.	2.0	32
43	A Ratiometric Luminescent Switch Based on Platinum Complexes Tethered to a Crown-Ether Scaffold. <i>ChemPhysChem</i> , 2016, 17, 1829-1834.	1.0	27
44	Chirality sensing of terpenes, steroids, amino acids, peptides and drugs with acyclic cucurbit[<i>n</i>]urils and molecular tweezers. <i>Chemical Communications</i> , 2020, 56, 4652-4655.	2.2	26
45	NFDI4Chem - Towards a National Research Data Infrastructure for Chemistry in Germany. <i>Research Ideas and Outcomes</i> , 0, 6, .	1.0	25
46	Kinetics and Mechanism of Cation-Induced Guest Release from Cucurbit[7]uril. <i>Chemistry - A European Journal</i> , 2020, 26, 7433-7441.	1.7	24
47	Teaching old indicators even more tricks: binding affinity measurements with the guest-displacement assay (GDA). <i>Chemical Communications</i> , 2020, 56, 6620-6623.	2.2	22
48	Mechanically strong, fluorescent hydrogels from zwitterionic, fully π -conjugated polymers. <i>Chemical Communications</i> , 2014, 50, 8930-8933.	2.2	19
49	Elucidating dissociation activation energies in host-guest assemblies featuring fast exchange dynamics. <i>Chemical Science</i> , 2021, 12, 865-871.	3.7	17
50	Cucurbit[<i>n</i>]uril-Immobilized Sensor Arrays for Indicator-Displacement Assays of Small Bioactive Metabolites. <i>ACS Applied Nano Materials</i> , 2021, 4, 4676-4687.	2.4	17
51	Teaching indicators to unravel the kinetic features of host-guest inclusion complexes. <i>Chemical Communications</i> , 2020, 56, 12327-12330.	2.2	16
52	Fluorescence detected circular dichroism (FD CD) for supramolecular host-guest complexes. <i>Chemical Science</i> , 2021, 12, 9420-9431.	3.7	15
53	The Role of Packing, Dispersion, Electrostatics, and Solvation in High-Affinity Complexes of Cucurbit[<i>n</i>]urils with Uncharged Polar Guests. <i>Chemistry - A European Journal</i> , 2022, 28, .	1.7	15
54	Probing the stability of multicomponent self-assembled architectures based on cucurbit[8]uril in the gas phase. <i>Organic and Biomolecular Chemistry</i> , 2012, 10, 2447.	1.5	13

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55	Programmable and Sequence-Selective Supramolecular Assembly of Two Different Chromophores along DNA Templates. <i>Chemistry - A European Journal</i> , 2018, 24, 16257-16261.	1.7	12
56	Discovery of a size-record breaking green-emissive fluorophore: small, smaller, HINA. <i>Chemical Science</i> , 2021, 12, 1392-1397.	3.7	9
57	Fluorescent Nanozeolite Receptors for the Highly Selective and Sensitive Detection of Neurotransmitters in Water and Biofluids. <i>Advanced Materials</i> , 2021, 33, e2104614.	11.1	9
58	Simultaneous analyte indicator binding assay (SBA) for the monitoring of reversible host-guest complexation kinetics. <i>Chemical Communications</i> , 2021, 57, 12663-12666.	2.2	5
59	Porous supramolecular materials: the importance of emptiness. <i>Supramolecular Chemistry</i> , 2018, 30, 166-168.	1.5	2
60	Hosting Hydrogel Formation. <i>Synfacts</i> , 2010, 2010, 1365-1365.	0.0	0
61	Synthesis of Photoswitchable Homodimeric Polypeptides: Towards Biological Applications. , 2013, , .		0