Carsten Schmuck

List of Publications by Year
in descending order

110 papers	3,745 citations	136740 32 h-index	155451 55 g-index
158 all docs	158 docs citations	158 times ranked	3604 citing authors

#	Article	IF	Citations
1	How to improve guanidinium cations for oxoanion binding in aqueous solution?. Coordination Chemistry Reviews, 2006, 250, 3053-3067.	9.5	193
2	Highly Stable Self-Assembly in Water:Â Ion Pair Driven Dimerization of a Guanidiniocarbonyl Pyrrole Carboxylate Zwitterion. Journal of the American Chemical Society, 2003, 125, 452-459.	6.6	190
3	Peptide Functionalized Polydiacetylene Liposomes Act as a Fluorescent Turn-On Sensor for Bacterial Lipopolysaccharide. Journal of the American Chemical Society, 2011, 133, 9720-9723.	6.6	175
4	Carboxylate Binding by 2-(Guanidiniocarbonyl)pyrrole Receptors in Aqueous Solvents: Improving the Binding Properties of Guanidinium Cations through Additional Hydrogen Bonds. Chemistry - A European Journal, 2000, 6, 709-718.	1.7	168
5	A Molecular Flytrap for the Selective Binding of Citrate and Other Tricarboxylates in Water. Journal of the American Chemical Society, 2005, 127, 3373-3379.	6.6	157
6	A Molecular Peptide Beacon for the Ratiometric Sensing of Nucleic Acids. Journal of the American Chemical Society, 2012, 134, 1958-1961.	6.6	146
7	Dipeptide Binding in Water by a de Novo Designed Guanidiniocarbonylpyrrole Receptor. Journal of the American Chemical Society, 2004, 126, 8898-8899.	6.6	106
8	A Tailorâ€Made Specific Anionâ€Binding Motif in the Side Chain Transforms a Tetrapeptide into an Efficient Vector for Gene Delivery. Angewandte Chemie - International Edition, 2015, 54, 2941-2944.	7.2	94
9	Side chain selective binding of N-acetyl-Î±-amino acid carboxylates by a 2-(guanidiniocarbonyl)pyrrole receptor in aqueous solvents. Chemical Communications, 1999, , 843-844.	2.2	78
10	A Supramolecular Gel from a Quadruple Zwitterion that Responds to Both Acid and Base. Angewandte Chemie - International Edition, 2013, 52, 12550-12554.	7.2	72
11	Incorporation of a Nonâ€Natural Arginine Analogue into a Cyclic Peptide Leads to Formation of Positively Charged Nanofibers Capable of Gene Transfection. Angewandte Chemie - International Edition, 2016, 55, 598-601.	7.2	69
12	â€œKnock-Outâ€•Analogues as a Tool to Quantify Supramolecular Processes:Â A Theoretical Study of Molecular Interactions in Guanidiniocarbonyl Pyrrole Carboxylate Dimers. Journal of the American Chemical Society, 2005, 127, 11115-11124.	6.6	67
13	From Supramolecular Vesicles to Micelles: Controllable Construction of Tumorâ€Targeting Nanocarriers Based on Hostâ€“Guest Interaction between a Pillar[5]areneâ€Based Prodrug and a RGDâ€Sulfonate Guest. Small, 2018, 14, e1803952.	5.2	67
14	Highly Stable Self-Association of 5-(Guanidiniocarbonyl)-1H-pyrrole-2-carboxylate in DMSO â€“ The Importance of Electrostatic Interactions. European Journal of Organic Chemistry, 1999, 1999, 2397-2403.	1.2	65
15	Nucleotide Recognition in Water by a Guanidiniumâ€Based Artificial Tweezer Receptor. Chemistry - A European Journal, 2011, 17, 5311-5318.	1.7	62
16	Cooperative Self-Assembly of Discoid Dimers: Hierarchical Formation of Nanostructures with a pH Switch. Journal of the American Chemical Society, 2013, 135, 8342-8349.	6.6	62
17	Nâ€˜-Alkylated Guanidiniocarbonyl Pyrroles:â€‰ New Receptors for Amino Acid Recognition in Water. Organic Letters, 2003, 5, 4579-4581.	2.4	59
18	Ion Pair Driven Self-Assembly of a Flexible Bis-Zwitterion in Polar Solution:Â Formation of Discrete Nanometer-Sized Cyclic Dimers. Journal of the American Chemical Society, 2006, 128, 1430-1431.	6.6	57

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19	Recognition of Anionic Carbohydrates by an Artificial Receptor in Water. Organic Letters, 2005, 7, 3517-3520.	2.4	56
20	Efficient Complexation ofN-Acetyl Amino Acid Carboxylates in Water by an Artificial Receptor:Â Unexpected Cooperativity in the Binding of Glutamate but Not Aspartate. Journal of the American Chemical Society, 2005, 127, 10486-10487.	6.6	56
21	A metal-free fluorescence turn-on molecular probe for detection of nucleoside triphosphates. Chemical Communications, 2017, 53, 208-211.	2.2	53
22	Direct experimental observation of the aggregation of Î±-amino acids into 100â€“200 nm clusters in aqueous solution. RSC Advances, 2012, 2, 4690.	1.7	44
23	A Facile and Efficient Multiâ€Gram Synthesis of Nâ€Protected 5â€(Guanidinocarbonyl)â€1Hâ€pyroleâ€2â€carboxylic Acids. European Journal of Organic Chemistry, 2008, 2008, 324-329.	1.2	43
24	Charge Interactions Do the Job: A Combined Statistical and Combinatorial Approach to Finding Artificial Receptors for Binding Tetrapeptides in Water. Angewandte Chemie - International Edition, 2005, 44, 7208-7212.	7.2	42
25	Utilizing Combinatorial Chemistry and Rational Design: Peptidic Tweezers with Nanomolar Affinity to DNA Can Be Transformed into Efficient Vectors for Gene Delivery by Addition of a Lipophilic Tail. Angewandte Chemie - International Edition, 2013, 52, 14016-14020.	7.2	42
26	A Tailorâ€Made Specific Anionâ€Binding Motif in the Side Chain Transforms a Tetrapeptide into an Efficient Vector for Gene Delivery. Angewandte Chemie, 2015, 127, 2984-2987.	1.6	40
27	Morphologyâ€Dependent Cell Imaging by Using a Selfâ€Assembled Diacetylene Peptide Amphiphile. Angewandte Chemie - International Edition, 2017, 56, 14526-14530.	7.2	40
28	Non-viral transfection vectors: are hybrid materials the way forward?. MedChemComm, 2019, 10, 1692-1718.	3.5	40
29	Guanidiniocarbonylpyroleâ€“Aryl Derivatives: Structure Tuning for Spectrophotometric Recognition of Specific DNA and RNA Sequences and for Antiproliferative Activity. Chemistry - A European Journal, 2010, 16, 3036-3056.	1.7	38
30	pHâ€Switchable Vesicles from a Serineâ€Derived Guanidiniocarbonyl Pyrrole Carboxylate Zwitterion in DMSO. Angewandte Chemie - International Edition, 2010, 49, 8747-8750.	7.2	36
31	Diverse Properties of Guanidiniocarbonyl Pyrrole-Based Molecules: Artificial Analogues of Arginine. Accounts of Chemical Research, 2019, 52, 1709-1720.	7.6	36
32	Multi-Stimuli-Responsive Supramolecular Polymers Based on Noncovalent and Dynamic Covalent Bonds. ACS Applied Materials & Interfaces, 2020, 12, 2107-2115.	4.0	34
33	Efficient gene delivery into cells by a surprisingly small three-armed peptide ligand. Chemical Science, 2012, 3, 996.	3.7	32
34	A dual pH-responsive supramolecular gelator with aggregation-induced emission properties. Soft Matter, 2018, 14, 6166-6170.	1.2	32
35	A novel pyrene-guanidiniocarbonyl-pyrrole cation efficiently differentiates between ds-DNA and ds-RNA by two independent, sensitive spectroscopic methods. Bioorganic and Medicinal Chemistry Letters, 2008, 18, 2977-2981.	1.0	30
36	Impact of Modified Silica Beads on Methane Hydrate Formation in a Fixed-Bed Reactor. Industrial & Engineering Chemistry Research, 2019, 58, 16687-16695.	1.8	30

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37	Discovery of potent inhibitors of human Î²-tryptase from pre-equilibrated dynamic combinatorial libraries. Chemical Science, 2015, 6, 1792-1800.	3.7	29
38	Transforming polyethylenimine into a pH-switchable hydrogel by additional supramolecular interactions. Chemical Communications, 2014, 50, 10464.	2.2	28
39	A Branched Tripeptide with an Anionâ€Binding Motif as a New Delivery Carrier for Efficient Gene Transfection. ChemBioChem, 2019, 20, 1410-1416.	1.3	28
40	Reversible and Noncompetitive Inhibition of Î²â€Tryptase by Protein Surface Binding of Tetravalent Peptide Ligands Identified from a Combinatorial Splitâ€“Mix Library. Angewandte Chemie - International Edition, 2010, 49, 4113-4116.	7.2	26
41	Interactions of Multicationic Bis(guanidiniocarbonylpyrrole) Receptors with Doubleâ€Stranded Nucleic Acids: Syntheses, Binding Studies, and Atomic Force Microscopy Imaging. Chemistry - A European Journal, 2012, 18, 1352-1363.	1.7	26
42	Design and synthesis of a new class of arginine analogues with an improved anion binding site in the side chain. Chemical Communications, 2005, , 772.	2.2	25
43	Screening of a Combinatorial Library Reveals Peptide-Based Catalysts for Phosphorester Cleavage in Water. Organic Letters, 2007, 9, 5389-5392.	2.4	24
44	Development of a Surfaceâ€Active Coating for Promoted Gas Hydrate Formation. Chemie-Ingenieur-Technik, 2019, 91, 85-91.	0.4	24
45	Fluorescent Peptide Beacons for the Selective Ratiometric Detection of Heparin. Chemistry - A European Journal, 2016, 22, 13156-13161.	1.7	22
46	Use of an Octapeptideâ€“Guanidiniocarbonylpyrrole Conjugate for the Formation of a Supramolecular Î²â€Helix that Selfâ€Assembles into pHâ€Responsive Fibers. Angewandte Chemie - International Edition, 2016, 55, 13015-13018.	7.2	22
47	Norbornane-based cationic antimicrobial peptidomimetics targeting the bacterial membrane. European Journal of Medicinal Chemistry, 2018, 160, 9-22.	2.6	22
48	Formation of Twisted Î²â€Sheet Tapes from a Selfâ€Complementary Peptide Based on Novel Pillarareneâ€GCP Hostâ€“Guest Interaction with Gene Transfection Properties. Chemistry - A European Journal, 2018, 24, 9754-9759.	1.7	22
49	Cancerâ€Cellâ€Specific Drug Delivery by a Tumorâ€Homing CPPâ€Gossypol Conjugate Employing a Tracelessly Cleavable Linker. Chemistry - A European Journal, 2020, 26, 3010-3015.	1.7	22
50	Downsizing of Enzymes by Chemical Methods: Arginine Mimics with Low pK_aâ€...Values Increase the Rates of Hydrolysis of RNA Model Compounds. Angewandte Chemie - International Edition, 2009, 48, 6722-6725.	7.2	21
51	A new approach to inhibit human Î²-tryptase by protein surface binding of four-armed peptide ligands with two different sets of arms. Organic and Biomolecular Chemistry, 2013, 11, 1631.	1.5	21
52	UV resonance Raman spectroscopic monitoring of supramolecular complex formation: peptide recognition in aqueous solution. Physical Chemistry Chemical Physics, 2007, 9, 4598.	1.3	20
53	Hydrolytic activity of histidine-containing octapeptides in water identified by quantitative screening of a combinatorial library. Organic and Biomolecular Chemistry, 2009, 7, 4362.	1.5	20
54	Preparation and antimalarial activity of a novel class of carbohydrate-derived, fused thiochromans. European Journal of Medicinal Chemistry, 2014, 87, 197-202.	2.6	19

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55	DNA/RNA recognition controlled by the glycine linker and the guanidine moiety of phenanthridine peptides. International Journal of Biological Macromolecules, 2019, 134, 422-434.	3.6	19
56	Functional Disruption of the Cancerâ€Relevant Interaction between Survivin and Histone H3 with a Guanidiniocarbonyl Pyrrole Ligand. Angewandte Chemie - International Edition, 2020, 59, 5567-5571.	7.2	19
57	A FRET-enabled molecular peptide beacon with a significant red shift for the ratiometric detection of nucleic acids. Chemical Communications, 2016, 52, 6134-6137.	2.2	18
58	Twoâ€Component Selfâ€Assembly: Hierarchical Formation of pHâ€Switchable Supramolecular Networks by Ï€â€“Ï€ Induced Aggregation of Ion Pairs. Chemistry - A European Journal, 2016, 22, 15242-15247.	1.7	18
59	A Selective Cucurbit[8]urilâ€Peptide Beacon Ensemble for the Ratiometric Fluorescence Detection of Peptides. Chemistry - A European Journal, 2019, 25, 13088-13093.	1.7	18
60	Chapter 8. Synthetic Receptors for Amino Acids and Peptides. Monographs in Supramolecular Chemistry, 2015, , 326-368.	0.2	18
61	Site-specific pKa determination of the carboxylate-binding subunit in artificial peptide receptors. Chemical Communications, 2010, 46, 2133.	2.2	17
62	Quantitative label-free monitoring of peptide recognition by artificial receptors: a comparative FT-IR and UV resonance Raman spectroscopic study. Chemical Science, 2012, 3, 3371.	3.7	17
63	Dual pHâ€Induced Reversible Selfâ€Assembly of Gold Nanoparticles by Surface Functionalization with Zwitterionic Ligands. Small, 2020, 16, e2001044.	5.2	17
64	Characterization of guanidiniocarbonyl pyrroles in water by pH-dependent UV Raman spectroscopy and component analysis. Physical Chemistry Chemical Physics, 2008, 10, 6770.	1.3	16
65	Guanidiniocarbonyl pyrrole (GCP) conjugated PAMAM-G2, a highly efficient vector for gene delivery: the importance of DNA condensation. Chemical Communications, 2016, 52, 12446-12449.	2.2	15
66	pHâ€Controlled Formation of a Stable Î²â€Sheet and Amyloidâ€like Fibers from an Amphiphilic Peptide: The Importance of a Tailorâ€Made Binding Motif for Secondary Structure Formation. Angewandte Chemie - International Edition, 2016, 55, 15287-15291.	7.2	15
67	Efficient Gene Transfection through Inhibition of Î²â€Sheet (Amyloid Fiber) Formation of a Short Amphiphilic Peptide by Gold Nanoparticles. Angewandte Chemie - International Edition, 2017, 56, 8083-8088.	7.2	15
68	Rational Design, Binding Studies, and Crystalâ€Structure Evaluation of the First Ligand Targeting the Dimerization Interface of the 14â€3â€3Î¶ Adapter Protein. ChemBioChem, 2018, 19, 591-595.	1.3	15
69	A Supramolecular Stabilizer of the 14â€3â€3Î¶/ERÎ± Proteinâ€Protein Interaction with a Synergistic Mode of Action. Angewandte Chemie - International Edition, 2020, 59, 5284-5287.	7.2	15
70	A Systematic Structureâ€“Activity Study of a New Type of Small Peptidic Transfection Vector Reveals the Importance of a Special Oxoâ€Anionâ€Binding Motif for Gene Delivery. ChemBioChem, 2017, 18, 2268-2279.	1.3	14
71	Quantitative, label-free and site-specific monitoring of molecular recognition: a multivariate resonance Raman approach. Chemical Communications, 2011, 47, 568-570.	2.2	13
72	Guanidiniocarbonyl-pyrrole-aryl conjugates as inhibitors of human dipeptidyl peptidase III: combined experimental and computational study. RSC Advances, 2016, 6, 83044-83052.	1.7	13

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73	Multivalent Ligands with Tailorâ€Made Anion Binding Motif as Stabilizers of Proteinâ€“Protein Interactions. ChemBioChem, 2019, 20, 2921-2926.	1.3	13
74	Peptideâ€Based Probes with an Artificial Anionâ€Binding Motif for Direct Fluorescence â€œSwitchâ€Onâ€• Detection of Nucleic Acid in Cells. Chemistry - A European Journal, 2017, 23, 17356-17362.	1.7	12
75	A new class of supramolecular ligands stabilizes 14-3-3 proteinâ€“protein interactions by up to two orders of magnitude. Chemical Communications, 2019, 55, 111-114.	2.2	11
76	Arginine mimetic appended peptide-based probes for fluorescence turn-on detection of 14-3-3 proteins. Organic and Biomolecular Chemistry, 2019, 17, 4359-4363.	1.5	11
77	Two-component self-assembly of a tetra-guanidiniocarbonyl pyrrole cation and Na₄EDTA: formation of pH switchable supramolecular networks. Chemical Communications, 2015, 51, 16065-16067.	2.2	9
78	Introduction of a tailor made anion receptor into the side chain of small peptides allows fine-tuning the thermodynamic signature of peptideâ€“DNA binding. Organic and Biomolecular Chemistry, 2016, 14, 8800-8803.	1.5	9
79	Use of an Octapeptideâ€“Guanidiniocarbonylpyrrole Conjugate for the Formation of a Supramolecular Î²â€Helix that Selfâ€Assembles into pHâ€Responsive Fibers. Angewandte Chemie, 2016, 128, 13209-13212.	1.6	9
80	Morphologyâ€Dependent Cell Imaging by Using a Selfâ€Assembled Diacetylene Peptide Amphiphile. Angewandte Chemie, 2017, 129, 14718-14722.	1.6	9
81	Nucleobaseâ€“Guanidiniocarbonyl-Pyrrole Conjugates as Novel Fluorimetric Sensors for Single Stranded RNA. Molecules, 2017, 22, 2213.	1.7	9
82	A stimuli responsive two component supramolecular hydrogelator with aggregation-induced emission properties. Soft Matter, 2019, 15, 7117-7121.	1.2	9
83	pHâ€Controlled Formation of a Stable Î²â€Sheet and Amyloidâ€like Fibers from an Amphiphilic Peptide: The Importance of a Tailorâ€Made Binding Motif for Secondary Structure Formation. Angewandte Chemie, 2016, 128, 15513-15517.	1.6	8
84	Dimensional control of supramolecular assemblies of diacetylene-derived peptide gemini amphiphile: from spherical micelles to foamlike networks. Soft Matter, 2018, 14, 5565-5571.	1.2	8
85	Incorporation of arginine mimetic residue into peptides for recognition of double stranded nucleic acid structure: Binding and aggregation studies. Bioorganic and Medicinal Chemistry, 2017, 25, 1875-1880.	1.4	7
86	A dipeptide with enhanced anion binding affinity enables cell uptake and protein delivery. Organic and Biomolecular Chemistry, 2018, 16, 2312-2317.	1.5	7
87	Water-Soluble, pH Responsive Polymeric Nanoparticles: A Modular Approach. ACS Applied Polymer Materials, 2020, 2, 2499-2503.	2.0	7
88	Selfâ€Assembly of a Tripodal Triszwitterion Forms a pHâ€Switchable Hydrogel that Can Reversibly Encapsulate Hydrophobic Guests in Water. Chemistry - A European Journal, 2017, 23, 320-326.	1.7	6
89	Locating Large, Flexible Ligands on Proteins. Journal of Chemical Information and Modeling, 2018, 58, 315-327.	2.5	6
90	Molecular recognition of carboxylates in the protein leucine zipper by a multivalent supramolecular ligand: residue-specific, sensitive and label-free probing by UV resonance Raman spectroscopy. Physical Chemistry Chemical Physics, 2018, 20, 1817-1820.	1.3	6

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91	Fluorescent cyanine-guanidiniocarbonyl-pyrrole conjugate with pH-dependent DNA/RNA recognition and DPP III fluorescent labelling and inhibition properties. Monatshefte FÃ¼r Chemie, 2018, 149, 1307-1313.	0.9	6
92	Hierarchical self-assembly of a small monomer with two orthogonal binding sites: from discrete hexagonal containers to a stimuli-responsive supramolecular gel. Supramolecular Chemistry, 2018, 30, 395-403.	1.5	6
93	The guanidiniocarbonylpyrroleâ€“fluorophore conjugates as theragnostic tools for dipeptidyl peptidase III monitoring and inhibition. Journal of Biomolecular Structure and Dynamics, 2020, 38, 3790-3800.	2.0	5
94	Smart Glycopolymeric Nanoparticles for Multivalent Lectin Binding and Stimuli-Controlled Guest Release. Biomacromolecules, 2020, 21, 2356-2364.	2.6	5
95	Fluorimetric and CD Recognition between Various ds-DNA/RNA Depends on a Cyanine Connectivity in Cyanine-guanidiniocarbonyl-pyrrole Conjugate. Molecules, 2020, 25, 4470.	1.7	4
96	Advances towards Cell Specific Gene Transfection â€“ A Small Molecule Approach Allows for Order of Magnitude Selectivity. Chemistry - A European Journal, 0, , .	1.7	4
97	Force field-based conformational searches: efficiency and performance for peptide receptor complexes. Molecular Physics, 2013, 111, 2489-2500.	0.8	3
98	Guanidiniocarbonyl Pyrrole Cation (GCP) â€“ A New Guest for Cucurbit[8]uril: Application to the Synthesis of Supramolecular Polymers Based on CB[8]@2GCP Complex Formation. European Journal of Organic Chemistry, 2018, 2018, 6515-6518.	1.2	3
99	A Metallosupramolecular Coordination Polymer for the â€˜Turnâ€onâ€™ Fluorescence Detection of Hydrogen Sulfide. ChemistryOpen, 2020, 9, 786-792.	0.9	3
100	Funktionelle Inhibition der krebsrelevanten Interaktion von Survivin und Histon H3 mit einem Guanidiniumcarbonylpyrrolâ€Liganden. Angewandte Chemie, 2020, 132, 5614-5619.	1.6	3
101	Selective Disruption of Survivin's Proteinâ€Protein Interactions: A Supramolecular Approach Based on Guanidiniocarbonylpyrrole. ChemBioChem, 2022, , e202100618.	1.3	3
102	Efficient Gene Transfection through Inhibition of Î²â€Sheet (Amyloid Fiber) Formation of a Short Amphiphilic Peptide by Gold Nanoparticles. Angewandte Chemie, 2017, 129, 8195-8200.	1.6	2
103	Formation of Polymeric Particles by Direct Polymerization on the Surface of a Supramolecular Template. Chemistry - A European Journal, 2018, 24, 9061-9065.	1.7	2
104	Structure optimization of lipopeptide assemblies for aldol reactions in an aqueous medium. Physical Chemistry Chemical Physics, 2021, 23, 10953-10963.	1.3	2
105	An inverted supramolecular amphiphile and its step-wise self-assembly into vesicular networks. Soft Matter, 2017, 13, 8108-8112.	1.2	1
106	Naphthalene diimide bis-guanidinio-carbonyl-pyrrole as a pH-switchable threading DNA intercalator. Beilstein Journal of Organic Chemistry, 2020, 16, 2201-2211.	1.3	1
107	Supramolecular polymers with reversed viscosity/temperature profile for application in motor oils. Beilstein Journal of Organic Chemistry, 2021, 17, 105-114.	1.3	1
108	Advances towards Cellâ€Specific Gene Transfection: A Smallâ€Molecule Approach Allows Orderâ€ofâ€Magnitude Selectivity. Chemistry - A European Journal, 0, , .	1.7	1

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109	A Supramolecular Stabilizer of the 14â€3â€3Î¶/ERÎ± Proteinâ€Protein Interaction with a Synergistic Mode of Action. Angewandte Chemie, 2020, 132, 5322-5325.	1.6	0
110	Front Cover: Advances towards Cellâ€Specific Gene Transfection: A Smallâ€Molecule Approach Allows Orderâ€ofâ€Magnitude Selectivity (Chem. Eur. J. 43/2022). Chemistry - A European Journal, 2022, 28, .	1.7	0