Johannes A A W Elemans

List of Publications by Year
in descending order

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138 papers	8,769 citations	61984 43 h-index	42399 92 g-index
153 all docs	153 docs citations	153 times ranked	9462 citing authors

#	Article	IF	Citations
1	Self-Assembled Nanoreactors. Chemical Reviews, 2005, 105, 1445-1490.	47.7	1,395
2	Molecular Materials by Self-Assembly of Porphyrins, Phthalocyanines, and Perylenes. Advanced Materials, 2006, 18, 1251-1266.	21.0	642
3	Molecular and Supramolecular Networks on Surfaces: From Twoâ€Dimensional Crystal Engineering to Reactivity. Angewandte Chemie - International Edition, 2009, 48, 7298-7332.	13.8	616
4	Mastering molecular matter. Supramolecular architectures by hierarchical self-assembly. Journal of Materials Chemistry, 2003, 13, 2661-2670.	6.7	456
5	Two-dimensional supramolecular self-assembly: nanoporous networks on surfaces. Chemical Society Reviews, 2009, 38, 402-421.	38.1	444
6	Macroscopic Hierarchical Surface Patterning of Porphyrin Trimers via Self-Assembly and Dewetting. Science, 2006, 314, 1433-1436.	12.6	311
7	Functional interlocked systems. Chemical Society Reviews, 2014, 43, 99-122.	38.1	265
8	Molecular and Supramolecular Objects from Glycoluril. Accounts of Chemical Research, 1999, 32, 995-1006.	15.6	254
9	Two-dimensional chirality at liquidâ€“solid interfaces. Chemical Society Reviews, 2009, 38, 722.	38.1	215
10	Real-time single-molecule imaging of oxidation catalysis at a liquidâ€“solid interface. Nature Nanotechnology, 2007, 2, 285-289.	31.5	189
11	Encoding information into polymers. Nature Reviews Chemistry, 2018, 2, 365-381.	30.2	150
12	Binding Features of Molecular Clips. Separation of the Effects of Hydrogen Bonding and Ï€âˆ'Ï€ Interactions. Journal of the American Chemical Society, 1997, 119, 9956-9964.	13.7	127
13	A Bifunctional Electrocatalyst for Oxygen Evolution and Oxygen Reduction Reactions in Water. Angewandte Chemie - International Edition, 2016, 55, 2350-2355.	13.8	124
14	Mechanism of Threading a Polymer Through a Macrocyclic Ring. Science, 2008, 322, 1668-1671.	12.6	110
15	Detection of different oxidation states of individual manganese porphyrins during their reaction with oxygen at a solid/liquid interface. Nature Chemistry, 2013, 5, 621-627.	13.6	107
16	Supramolecular Porphyrin Polymers in Solution and at the Solidâˆ'Liquid Interface. Nano Letters, 2008, 8, 253-259.	9.1	95
17	Highly Oriented Self-Assembled Monolayers as Templates for Epitaxial Calcite Growth. Journal of the American Chemical Society, 2003, 125, 11571-11577.	13.7	94
18	Porphyrin Clips Derived from Diphenylglycoluril. Synthesis, Conformational Analysis, and Binding Properties. Journal of Organic Chemistry, 1999, 64, 7009-7016.	3.2	93

#	Article	IF	Citations
19	Porphyrin Macrocyclic Catalysts for the Processive Oxidation of Polymer Substrates. Journal of the American Chemical Society, 2010, 132, 1529-1531.	13.7	88
20	Highly Negative Homotropic Allosteric Binding of Viologens in a Double-Cavity Porphyrin. Journal of the American Chemical Society, 2003, 125, 1186-1187.	13.7	80
21	Aided Self-Assembly of Porphyrin Nanoaggregates into Ring-Shaped Architectures. Chemistry - A European Journal, 2004, 10, 831-839.	3.3	80
22	Extremely Strong Self-Assembly of a Bimetallic Salen Complex Visualized at the Single-Molecule Level. Journal of the American Chemical Society, 2012, 134, 7186-7192.	13.7	80
23	A hostâ€“guest epoxidation catalyst with enhanced activity and stability. Chemical Communications, 2000, , 2443-2444.	4.1	77
24	Tunable Command Layers for Liquid Crystal Alignment. Journal of the American Chemical Society, 2005, 127, 11047-11052.	13.7	72
25	Processive Catalysis. Angewandte Chemie - International Edition, 2014, 53, 11420-11428.	13.8	72
26	Scanning Probe Studies of Porphyrin Assemblies and Their Supramolecular Manipulation at a Solidâ€“Liquid Interface. Advanced Materials, 2003, 15, 2070-2073.	21.0	70
27	Synthesis of Porphyrin-Containing [3]Rotaxanes by Olefin Metathesis. Angewandte Chemie - International Edition, 2003, 42, 650-654.	13.8	70
28	Self-assembled Architectures from Glycoluril. Industrial & Engineering Chemistry Research, 2000, 39, 3419-3428.	3.7	68
29	Processive enzyme mimic: Kinetics and thermodynamics of the threading and sliding process. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 19647-19651.	7.1	68
30	Muscovite mica: Flatter than a pancake. Surface Science, 2014, 619, 19-24.	1.9	61
31	Structure and function revealed with submolecular resolution at the liquidâ€“solid interface. Soft Matter, 2009, 5, 721-735.	2.7	60
32	Hierarchical Self-Assembly of Amphiphilic Metallohosts To Give Discrete Nanostructures. Journal of the American Chemical Society, 2002, 124, 1532-1540.	13.7	58
33	Allosterically Driven Multicomponent Assembly. Angewandte Chemie - International Edition, 2004, 43, 4755-4759.	13.8	56
34	Manganese Porphyrin Hosts as Epoxidation Catalysts â€“ Activity and Stability Control by Axial Ligand Effects. European Journal of Organic Chemistry, 2007, 2007, 751-757.	2.4	55
35	Extended Ï€-conjugated ruthenium zincâ€“porphyrin complexes with enhanced nonlinear-optical properties. Chemical Communications, 2015, 51, 2855-2858.	4.1	55
36	Artificial molecular rotors and motors on surfaces: STM reveals and triggers. Soft Matter, 2012, 8, 9053.	2.7	54

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37	Water oxidation electrocatalysis using ruthenium coordination oligomers adsorbed on multiwalled carbon nanotubes. Nature Chemistry, 2020, 12, 1060-1066.	13.6	54
38	Synthesis, Conformational Analysis, and Binding Properties of Molecular Clips with Two Different Side Walls. Journal of Organic Chemistry, 1997, 62, 2234-2243.	3.2	52
39	Polarized Absorption and Emission of Ordered Self-Assembled Porphyrin Rings. Nano Letters, 2004, 4, 1401-1406.	9.1	52
40	Self-association and self-assembly of molecular clips in solution and in the solid state. Tetrahedron, 2003, 59, 175-185.	1.9	48
41	Dynamic combinatorial olefin metathesis: templated synthesis of porphyrin boxes. Chemical Communications, 2005, , 3535.	4.1	47
42	Processive Rotaxane Systems. Studies on the Mechanism and Control of the Threading Process. Journal of the American Chemical Society, 2007, 129, 5699-5702.	13.7	47
43	Porphyrin cage compounds based on glycoluril â€“ from enzyme mimics to functional molecular machines. Chemical Communications, 2019, 55, 9590-9605.	4.1	47
44	Axial ligand control over monolayer and bilayer formation of metal-salophens at the liquidâ€“solid interface. Chemical Communications, 2010, 46, 2548.	4.1	44
45	A priori calculations of the free energy of formation from solution of polymorphic self-assembled monolayers. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E6101-10.	7.1	42
46	Synthesis and self-assembly of giant porphyrin discsElectronic supplementary information (ESI) available: experimental procedures and characterization data, NMR- and UV/Vis-titration data. See http://www.rsc.org/suppdata/cc/b4/b401324g/. Chemical Communications, 2004, , 762.	4.1	41
47	Designing Processive Catalytic Systems. Threading Polymers through a Flexible Macrocycle Ring. Journal of the American Chemical Society, 2014, 136, 9165-9172.	13.7	41
48	Allosterically Controlled Threading of Polymers through Macrocyclic Dimers. Journal of the American Chemical Society, 2015, 137, 3915-3923.	13.7	40
49	Bipyridine functionalized molecular clips. Self-assembly of their ruthenium complexes in water. Chemical Communications, 1998, , 1553-1554.	4.1	38
50	Molecular computing: paths to chemical Turing machines. Chemical Science, 2015, 6, 6050-6058.	7.4	38
51	Conformational Behavior and Binding Properties of Naphthalene-Walled Clips. Chemistry - A European Journal, 1998, 4, 716-722.	3.3	37
52	A Bifunctional Electrocatalyst for Oxygen Evolution and Oxygen Reduction Reactions in Water. Angewandte Chemie, 2016, 128, 2396-2401.	2.0	37
53	Cofactor Controlled Encapsulation of a Rhodium Hydroformylation Catalyst. Angewandte Chemie - International Edition, 2019, 58, 2696-2699.	13.8	36
54	Squaring cooperative binding circles. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 10471-10476.	7.1	35

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55	Lamellar Organic Thin Films through Self-Assembly and Molecular Recognition. Journal of Organic Chemistry, 2001, 66, 391-399.	3.2	34
56	Tip-Induced Chemical Manipulation of Metal Porphyrins at a Liquid/Solid Interface. Journal of the American Chemical Society, 2014, 136, 17418-17421.	13.7	34
57	Externally Applied Manipulation of Molecular Assemblies at Solidâ€Liquid Interfaces Revealed by Scanning Tunneling Microscopy. Advanced Functional Materials, 2016, 26, 8932-8951.	14.9	33
58	Giant Porphyrin Disks: Control of Their Selfâ€Assembly at Liquidâ€“Solid Interfaces through Metalâ€“Ligand Interactions. Chemistry - A European Journal, 2007, 13, 7948-7956.	3.3	32
59	Plastic- and liquid-crystalline architectures from dendritic receptor molecules. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 5093-5098.	7.1	31
60	Interlocked Porphyrin Switches. Chemistry - A European Journal, 2013, 19, 7758-7770.	3.3	31
61	Noncontact Liquid-Crystal Alignment by Supramolecular Amplification of Nanogrooves. Angewandte Chemie - International Edition, 2003, 42, 1812-1815.	13.8	28
62	Solvent-dependent amplification of chirality in assemblies of porphyrin trimers based on benzene tricarboxamide. Chemical Communications, 2012, 48, 4371.	4.1	28
63	Metal ion-exchange on the muscovite mica surface. Surface Science, 2017, 665, 56-61.	1.9	28
64	Supramolecular Rhombic Grids Formed from Bimolecular Building Blocks. Journal of the American Chemical Society, 2009, 131, 11695-11697.	13.7	27
65	Molecular Friction as a Tool to Identify Functionalized Alkanethiols. Langmuir, 2010, 26, 6357-6366.	3.5	27
66	A manganese porphyrinâ€“Î±-cyclodextrin conjugate as an artificial enzyme for the catalytic epoxidation of polybutadiene. Chemical Communications, 2018, 54, 5586-5589.	4.1	27
67	On the â€œTertiary Structureâ€•of Polyâ€Carbenes; Selfâ€Assembly of sp³â€Carbonâ€Based Polymers into Liquidâ€Crystalline Aggregates. Chemistry - A European Journal, 2013, 19, 11577-11589.	3.3	26
68	Little exchange at the liquid/solid interface: defect-mediated equilibration of physisorbed porphyrin monolayers. Chemical Communications, 2011, 47, 9666.	4.1	25
69	Aerobic Epoxidation of Low-Molecular-Weight and Polymeric Olefins by a Supramolecular Manganese Porphyrin Catalyst. Catalysts, 2019, 9, 195.	3.5	25
70	Absolute configuration and host-guest binding of chiral porphyrin-cages by a combined chiroptical and theoretical approach. Nature Communications, 2020, 11, 4776.	12.8	25
71	Polymorphism in porphyrin monolayers: the relation between adsorption configuration and molecular conformation. Physical Chemistry Chemical Physics, 2013, 15, 12451.	2.8	21
72	Molecular motor-functionalized porphyrin macrocycles. Nature Communications, 2020, 11, 5291.	12.8	21

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73	Synthesis and Hierarchical Self-Assembly of Cavity-Containing Facial Amphiphiles. Journal of Organic Chemistry, 2003, 68, 9040-9049.	3.2	20
74	Scanning Tunneling Microscopy and Spectroscopy Studies of Porphyrins at Solidâ€“Liquid Interfaces. Japanese Journal of Applied Physics, 2006, 45, 1953-1955.	1.5	20
75	Supramolecular command surfaces for liquid crystal alignment. Polymer International, 2007, 56, 1186-1191.	3.1	20
76	Controlled Templating of Porphyrins by a Molecular Command Layer. Langmuir, 2011, 27, 2644-2651.	3.5	20
77	Slippage of a Porphyrin Macrocycle over Threads of Varying Bulkiness: Implications for the Mechanism of Threading Polymers through a Macrocyclic Ring. Chemistry - A European Journal, 2015, 21, 360-370.	3.3	20
78	Chemistry at the square nanometer: reactivity at liquid/solid interfaces revealed with an STM. Chemical Communications, 2017, 53, 1769-1788.	4.1	20
79	Synthesis of Porphyrin-Containing [3]Rotaxanes by Olefin Metathesis. Angewandte Chemie, 2003, 115, 674-678.	2.0	19
80	Carbenoid transfer reactions catalyzed by a ruthenium porphyrin macrocycle. Tetrahedron, 2017, 73, 5029-5037.	1.9	19
81	Photocatalytic oxidation of stilbene by self-assembled stacks of manganese porphyrins. Chemical Communications, 2013, 49, 10787.	4.1	18
82	The development of self-assembled liquid crystal display alignment layers. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2007, 365, 1553-1576.	3.4	17
83	Self-assembly of corrole trimers in solution and at the solidâ€“liquid interface. Journal of Materials Chemistry, 2009, 19, 66-69.	6.7	17
84	A Doubleâ€Cavityâ€Containing Porphyrin Host as a Highly Stable Epoxidation Catalyst. European Journal of Organic Chemistry, 2015, 2015, 5246-5253.	2.4	16
85	From Chaos to Order: Chain-Length Dependence of the Free Energy of Formation of Meso-tetraalkylporphyrin Self-Assembled Monolayer Polymorphs. Journal of Physical Chemistry C, 2016, 120, 1739-1748.	3.1	16
86	Strong Inducedâ€Fit Binding of Viologen and Pyridine Derivatives in Adjustable Porphyrin Cavities. Chemistry - A European Journal, 2014, 20, 11574-11583.	3.3	15
87	Direct Synthesis of Chiral Porphyrin Macrocyclic Receptors via Regioselective Nitration. Organic Letters, 2018, 20, 3719-3722.	4.6	15
88	Rapid and scalable synthesis of chiral porphyrin cage compounds. Tetrahedron, 2019, 75, 4640-4647.	1.9	15
89	Construction of supramolecular multi-component assemblies by using allosteric interactions. Tetrahedron, 2008, 64, 8535-8542.	1.9	13
90	Triggering chemical reactions by Scanning Tunneling Microscopy: From atoms to polymers. European Polymer Journal, 2016, 83, 390-406.	5.4	13

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91	Nanostructuring of Selfâ€Assembled Porphyrin Networks at a Solid/Liquid Interface: Local Manipulation under Global Control. ChemPhysChem, 2014, 15, 3484-3488.	2.1	12
92	Synthesis and Characterization of PY2- and TPA-Appended Diphenylglycoluril Receptors and Their Bis-CuI Complexes. European Journal of Organic Chemistry, 2006, 2006, 2281-2295.	2.4	11
93	Effect of Chirality on the Binding of Viologen Guests in Porphyrin Macrocycles. European Journal of Organic Chemistry, 2019, 2019, 3525-3533.	2.4	11
94	Hostâ€“Guest Exchange of Viologen Guests in Porphyrin Cage Compounds as Studied by Selective Exchange Spectroscopy (1D EXSY) NMR. Angewandte Chemie - International Edition, 2021, 60, 1254-1262.	13.8	11
95	A new look at the chemical reaction. Materials Today, 2009, 12, 34-38.	14.2	10
96	Hostâ€“guest complexes with tuneable solid state structures. Chemical Communications, 2000, , 355-356.	4.1	9
97	Self-assembly studies of allosteric photosynthetic antenna model systems. New Journal of Chemistry, 2006, 30, 148-155.	2.8	9
98	Dibenzo Crown Ether Layer Formation on Muscovite Mica. Langmuir, 2014, 30, 12570-12577.	3.5	9
99	Directional threading of a chiral porphyrin cage compound onto viologen guests. Chemical Communications, 2018, 54, 12491-12494.	4.1	9
100	Self-Assembly of Porphyrins on a Single Crystalline Organic Substrate. Langmuir, 2010, 26, 498-503.	3.5	8
101	AFM topography and friction studies of hydrogen-bonded bilayers of functionalized alkanethiols. Soft Matter, 2010, 6, 3450.	2.7	8
102	Mechano-Catalysis: Cyclohexane Oxidation in a Silver Nanowire Break Junction. Journal of Physical Chemistry C, 2011, 115, 8295-8299.	3.1	8
103	Self-Association and Self-Assembly of Molecular Clips in Water. Journal of Inclusion Phenomena and Macrocyclic Chemistry, 2001, 41, 65-68.	1.6	7
104	Conformational Analysis and Binding Properties of a Cavity Containing Porphyrin Catalyst Provided with Urea Functions. European Journal of Organic Chemistry, 2016, 2016, 4487-4495.	2.4	7
105	Enantioselective synthesis of chiral porphyrin macrocyclic hosts and kinetic enantiorecognition of viologen guests. Chemical Science, 2021, 12, 1661-1667.	7.4	7
106	Paramagnetic relaxation enhancement NMR as a tool to probe guest binding and exchange in metallohosts. Nature Communications, 2022, 13, 1846.	12.8	7
107	Synthesis and physical properties of a porphyrin cavity based on glycoluril. Journal of Supramolecular Chemistry, 2002, 2, 151-158.	0.4	6
108	Templated self-assembly of porphyrin cages. Israel Journal of Chemistry, 2005, 45, 271-279.	2.3	6

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109	Thermodynamics and Kinetics of Guest-Induced Switching between â€œBasket Handleâ€•Porphyrin Isomers. Molecules, 2014, 19, 5278-5300.	3.8	6
110	Self-Assembly of Covalently Linked Porphyrin Dimers at the Solidâ€“Liquid Interface. Molecules, 2019, 24, 3018.	3.8	6
111	Mapping Long-Lived Dark States in Copper Porphyrin Nanostructures. Journal of Physical Chemistry C, 2016, 120, 16977-16984.	3.1	5
112	Surfaces with Controllable Topography and Chemistry Used as a Template for Protein Crystallization. Crystal Growth and Design, 2018, 18, 763-769.	3.0	5
113	Cofactor Controlled Encapsulation of a Rhodium Hydroformylation Catalyst. Angewandte Chemie, 2019, 131, 2722-2725.	2.0	5
114	Stabilization of thermally unstable photoisomers of pyridinium-functionalized hemithioindigo switches by host-guest complexation. Tetrahedron, 2021, , 132499.	1.9	5
115	Porphyrin Clips Derived from Diphenylglycoluril. Synthesis, Conformational Analysis, and Binding Properties.. Journal of Organic Chemistry, 2000, 65, 1600-1600.	3.2	4
116	Self-Assembled Nanoreactors. ChemInform, 2005, 36, no.	0.0	4
117	Bio-Inspired Supramolecular Catalysis. , 0, , 143-164.		4
118	STM studies of the self-assembly of manganese porphyrin catalysts at the Au(111)â^'n-tetradecane interface. New Journal of Physics, 2009, 11, 083011.	2.9	4
119	Feeling the strain. Nature Chemistry, 2011, 3, 656-657.	13.6	4
120	Solution scattering studies of the hierarchical assembly of porphyrin trimers based on benzene triscarboxamide. Soft Matter, 2014, 10, 9688-9694.	2.7	4
121	Organothiol Monolayer Formation Directly on Muscovite Mica. Angewandte Chemie - International Edition, 2020, 59, 2323-2327.	13.8	4
122	Dynamic rearrangement of bilayers of porphyrin hetero-dimers at a solid/liquid interface. Chemical Communications, 2014, 50, 7291.	4.1	3
123	Noble metal surface degradation induced by organothiols. Surface Science, 2017, 662, 59-66.	1.9	3
124	Self-assembly of porphyrin hexamers via bidentate metalâ€“ligand coordination. Dalton Transactions, 2018, 47, 14277-14287.	3.3	3
125	Correlative microscopy of morphology and luminescence of Cu porphyrin aggregates. Journal of Physics B: Atomic, Molecular and Optical Physics, 2018, 51, 144002.	1.5	3
126	Hostâ€“Guest Exchange of Viologen Guests in Porphyrin Cage Compounds as Studied by Selective Exchange Spectroscopy (1D EXSY) NMR. Angewandte Chemie, 2021, 133, 1274-1282.	2.0	3

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127	Double Porphyrin Cage Compounds. European Journal of Organic Chemistry, 2020, 2020, 7087-7100.	2.4	3
128	Epitaxial Crystallization of Insulin on an Ordered 2D Polymer Template. Chemistry - A European Journal, 2019, 25, 3756-3760.	3.3	2
129	Role of redox-active axial ligands of metal porphyrins adsorbed at solidâ€“liquid interfaces in a liquid-STM setup. Beilstein Journal of Nanotechnology, 2020, 11, 1264-1271.	2.8	2
130	Allosteric Guest Binding in Chiral Zirconium(IV) Double Decker Porphyrin Cages. European Journal of Organic Chemistry, 2021, 2021, 607-617.	2.4	2
131	Mechanistic Studies on the Epoxidation of Alkenes by Macrocyclic Manganese Porphyrin Catalysts. European Journal of Organic Chemistry, 2022, 2022, .	2.4	2
132	79 Ordered Surface Structures of Self-Assembled Porphyrins. Handbook of Porphyrin Science, 2012, , 1-56.	0.8	1
133	Organothiol Monolayer Formation Directly on Muscovite Mica. Angewandte Chemie, 2020, 132, 2343-2347.	2.0	1
134	Lightâ€gated binding in doubleâ€motorized porphyrin cages. Natural Sciences, 2022, 2, .	2.1	1
135	Glycolurilâ€Based Hosts. , 2004, , 597-605.		0
136	A Toroidal Oxidation Catalyst. , 2010, , 225-230.		0
137	Processive Rotaxane Catalysts. , 2012, , 183-193.		0
138	¹¹³ Cd as a Probe in NMR Studies of Allosteric Hostâ€Guestâ€Ligand Complexes of Porphyrin Cage Compounds. European Journal of Organic Chemistry, 2022, 2022, .	2.4	0