

Wolfgang M Heckl

List of Publications by Year in descending order

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90
papers

6,170
citations

57719

44
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69214

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90
all docs

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docs citations

90
times ranked

4675
citing authors

#	ARTICLE	IF	CITATIONS
1	Self-Assembled Two-Dimensional Molecular Host-Guest Architectures From Trimesic Acid. <i>Single Molecules</i> , 2002, 3, 25-31.	1.6	373
2	Surface mediated synthesis of 2D covalent organic frameworks: 1,3,5-tris(4-bromophenyl)benzene on graphite(001), Cu(111), and Ag(110). <i>Chemical Communications</i> , 2009, , 4456.	2.2	300
3	Self-Assembly of Trimesic Acid at the Liquid-Solid Interface: A Study of Solvent-Induced Polymorphism. <i>Langmuir</i> , 2005, 21, 4984-4988.	1.6	292
4	Incorporation and Manipulation of Coronene in an Organic Template Structure. <i>Langmuir</i> , 2004, 20, 9403-9407.	1.6	233
5	Reversible Phase Transitions in Self-Assembled Monolayers at the Liquid-Solid Interface: Temperature-Controlled Opening and Closing of Nanopores. <i>Journal of the American Chemical Society</i> , 2010, 132, 5084-5090.	6.6	223
6	Synthesis of Well-Ordered COF Monolayers: Surface Growth of Nanocrystalline Precursors versus Direct On-Surface Polycondensation. <i>ACS Nano</i> , 2011, 5, 9737-9745.	7.3	211
7	Solvent Induced Polymorphism in Supramolecular 1,3,5-Benzenetribenzoic Acid Monolayers. <i>Journal of Physical Chemistry B</i> , 2006, 110, 10829-10836.	1.2	206
8	Carboxylic Acids: Versatile Building Blocks and Mediators for Two-Dimensional Supramolecular Self-Assembly. <i>Langmuir</i> , 2009, 25, 11307-11321.	1.6	197
9	Inverting dynamic force microscopy: From signals to time-resolved interaction forces. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 8473-8478.	3.3	196
10	Isorecticular Two-Dimensional Covalent Organic Frameworks Synthesized by On-Surface Condensation of Diboronic Acids. <i>ACS Nano</i> , 2012, 6, 7234-7242.	7.3	194
11	Room-Temperature Scanning Tunneling Microscopy Manipulation of Single C60 Molecules at the Liquid-Solid Interface: Playing Nanosoccer. <i>Journal of Physical Chemistry B</i> , 2004, 108, 11556-11560.	1.2	193
12	Thermodynamical Equilibrium of Binary Supramolecular Networks at the Liquid-Solid Interface. <i>Journal of the American Chemical Society</i> , 2008, 130, 8502-8507.	6.6	177
13	Thermomechanical noise of a free v-shaped cantilever for atomic-force microscopy. <i>Ultramicroscopy</i> , 2001, 86, 207-215.	0.8	161
14	Fourier transformed atomic force microscopy: tapping mode atomic force microscopy beyond the Hookian approximation. <i>Surface Science</i> , 2000, 457, 219-228.	0.8	150
15	Higher harmonics imaging in tapping-mode atomic-force microscopy. <i>Review of Scientific Instruments</i> , 2003, 74, 5111-5114.	0.6	138
16	Self-Assembly of Benzene-Dicarboxylic Acid Isomers at the Liquid Solid Interface: Steric Aspects of Hydrogen Bonding. <i>Journal of Physical Chemistry B</i> , 2004, 108, 13652-13655.	1.2	113
17	Chiral symmetry breaking during the self-assembly of monolayers from achiral purine molecules. <i>Journal of Molecular Evolution</i> , 1996, 43, 419-424.	0.8	111
18	Self-Assembly at the Prebiotic Solid-Liquid Interface: Structures of Self-Assembled Monolayers of Adenine and Guanine Bases Formed on Inorganic Surfaces. <i>Journal of Physical Chemistry B</i> , 1998, 102, 5914-5922.	1.2	110

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19	On-surface polymerization of 1,4-diethynylbenzene on Cu(111). <i>Chemical Communications</i> , 2013, 49, 2900.	2.2	97
20	Tapping-mode atomic force microscopy and phase-imaging in higher eigenmodes. <i>Applied Physics Letters</i> , 1999, 74, 3296-3298.	1.5	95
21	Structural investigations on native collagen type I fibrils using AFM. <i>Biochemical and Biophysical Research Communications</i> , 2007, 354, 27-32.	1.0	89
22	Dynamics of Grain Boundaries in Two-Dimensional Hydrogen-Bonded Molecular Networks. <i>Small</i> , 2005, 1, 532-539.	5.2	88
23	The role of self-assembled monolayers of the purine and pyrimidine bases in the emergence of life. , 1998, 28, 283-310.		87
24	The Role of Kinetics versus Thermodynamics in Surface-Assisted Ullmann Coupling on Gold and Silver Surfaces. <i>Journal of the American Chemical Society</i> , 2019, 141, 4824-4832.	6.6	83
25	Spectroscopy of the anharmonic cantilever oscillations in tapping-mode atomic-force microscopy. <i>Applied Physics Letters</i> , 2000, 77, 3293-3295.	1.5	80
26	On the Scalability of Supramolecular Networks â High Packing Density vs Optimized Hydrogen Bonds in Tricarboxylic Acid Monolayers. <i>Langmuir</i> , 2010, 26, 10708-10716.	1.6	72
27	Homology modeling of human Tollâlike receptors TLR7, 8, and 9 ligandâbinding domains. <i>Protein Science</i> , 2009, 18, 1684-1691.	3.1	70
28	Aromatic interaction vs. hydrogen bonding in self-assembly at the liquidâsolid interface. <i>Chemical Communications</i> , 2009, , 680-682.	2.2	66
29	BornâHaber Cycle for Monolayer Self-Assembly at the LiquidâSolid Interface: Assessing the Enthalpic Driving Force. <i>Journal of the American Chemical Society</i> , 2013, 135, 14854-14862.	6.6	66
30	Inhibition of Toll-like receptors TLR4 and 7 signaling pathways by SIGIRR: A computational approach. <i>Journal of Structural Biology</i> , 2010, 169, 323-330.	1.3	63
31	Cut out or poke inâthe key to the world of single genes: laser micromanipulation as a valuable tool on the look-out for the origin of disease. <i>Genetic Analysis, Techniques and Applications</i> , 1997, 14, 1-8.	1.5	61
32	Coronene on Ag(111) Investigated by LEED and STM in UHV. <i>Journal of Physical Chemistry B</i> , 2002, 106, 4482-4485.	1.2	61
33	Mediated Coadsorption at the LiquidâSolid Interface: â Stabilization through Hydrogen Bonds. <i>Journal of Physical Chemistry B</i> , 2005, 109, 14074-14078.	1.2	61
34	Self-programmable, self-assembling two-dimensional genetic matter. <i>Origins of Life and Evolution of Biospheres</i> , 2000, 30, 81-99.	0.8	59
35	Determination of elastic properties of single aerogel powder particles with the AFM. <i>Ultramicroscopy</i> , 1998, 75, 161-169.	0.8	53
36	Incorporation Dynamics of Molecular Guests into Two-Dimensional Supramolecular Host Networks at the LiquidâSolid Interface. <i>Langmuir</i> , 2011, 27, 13563-13571.	1.6	53

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37	Control of Intermolecular Bonds by Deposition Rates at Room Temperature: Hydrogen Bonds versus Metal Coordination in Trinitrile Monolayers. <i>Journal of the American Chemical Society</i> , 2013, 135, 691-695.	6.6	52
38	On-surface radical addition of triply iodinated monomers on Au(111) – the influence of monomer size and thermal post-processing. <i>Surface Science</i> , 2012, 606, 999-1004.	0.8	51
39	Determination of shear stiffness based on thermal noise analysis in atomic force microscopy: Passive overtone microscopy. <i>Physical Review B</i> , 2001, 64, .	1.1	50
40	Focussed ion beam preparation and in situ nanoscopic study of Precambrian acritarchs. <i>Precambrian Research</i> , 2005, 140, 36-54.	1.2	50
41	Solution Preparation of Two-Dimensional Covalently Linked Networks by Polymerization of 1,3,5-Tri(4-iodophenyl)benzene on Au(111). <i>ACS Nano</i> , 2013, 7, 3014-3021.	7.3	50
42	Combined nanomanipulation by atomic force microscopy and UV-laser ablation for chromosomal dissection. <i>European Biophysics Journal</i> , 2003, 32, 33-39.	1.2	49
43	Atomic force microscopy of Precambrian microscopic fossils. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 9117-9120.	3.3	47
44	From Au – Thiolate Chains to Thioether Sierpiński Triangles: The Versatile Surface Chemistry of 1,3,5-Tris(4-mercaptophenyl)benzene on Au(111). <i>ACS Nano</i> , 2016, 10, 10901-10911.	7.3	47
45	Solvent-Dependent Stabilization of Metastable Monolayer Polymorphs at the Liquid – Solid Interface. <i>ACS Nano</i> , 2013, 7, 6711-6718.	7.3	46
46	Nanostructure and mechanics of mummified type I collagen from the 5300-year-old Tyrolean Iceman. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2010, 277, 2301-2309.	1.2	45
47	1,3-Diiodobenzene on Cu(111) – an exceptional case of on-surface Ullmann coupling. <i>Chemical Communications</i> , 2015, 51, 13301-13304.	2.2	44
48	Generation of Chromosome Painting Probes from Single Chromosomes by Laser Microdissection and Linker-Adaptor PCR. <i>Chromosome Research</i> , 2004, 12, 337-343.	1.0	43
49	Quantum technology: from research to application. <i>Applied Physics B: Lasers and Optics</i> , 2016, 122, 1.	1.1	42
50	Isotopological Supramolecular Networks from Melamine and Fatty Acids. <i>Journal of Physical Chemistry C</i> , 2009, 113, 1014-1019.	1.5	40
51	Post – Synthetic Decoupling of On – Surface – Synthesized Covalent Nanostructures from Ag(111). <i>Angewandte Chemie - International Edition</i> , 2016, 55, 7650-7654.	7.2	39
52	Noncontact scanning force microscopy based on a modified tuning fork sensor. <i>Review of Scientific Instruments</i> , 2000, 71, 3104-3107.	0.6	38
53	Scanning Tunneling Microscopy Image Contrast as a Function of Scan Angle in Hydrogen-Bonded Self-Assembled Monolayers. <i>Langmuir</i> , 1998, 14, 5195-5202.	1.6	36
54	Solvent-free on-surface synthesis of boroxine COF monolayers. <i>Chemical Communications</i> , 2017, 53, 5147-5150.	2.2	36

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55	Scanning tunneling microscopy and atomic force microscopy on organic and biomolecules. <i>Thin Solid Films</i> , 1992, 210-211, 640-647.	0.8	35
56	LRRML: a conformational database and an XML description of leucine-rich repeats (LRRs). <i>BMC Structural Biology</i> , 2008, 8, 47.	2.3	31
57	A leucine-rich repeat assembly approach for homology modeling of the human TLR5-10 and mouse TLR11-13 ectodomains. <i>Journal of Molecular Modeling</i> , 2011, 17, 27-36.	0.8	31
58	Characterization of a covalently bound phospholipid on a graphite substrate by x-ray photoelectron spectroscopy and scanning tunneling microscopy. <i>Langmuir</i> , 1989, 5, 1433-1435.	1.6	30
59	Reversible intercalation of iodine monolayers between on-surface synthesised covalent polyphenylene networks and Au(111). <i>Nanoscale</i> , 2017, 9, 4995-5001.	2.8	30
60	On-Surface Polymerization of 1,6-Dibromo-3,8-diiodopyrene—A Comparative Study on Au(111) Versus Ag(111) by STM, XPS, and NEXAFS. <i>Journal of Physical Chemistry C</i> , 2018, 122, 5967-5977.	1.5	29
61	Origin of Solvent-Induced Polymorphism in Self-Assembly of Trimesic Acid Monolayers at Solid—Liquid Interfaces. <i>Chemistry of Materials</i> , 2020, 32, 5057-5065.	3.2	29
62	STM and STS of coronene on HOPG(0001) in UHV - adsorption of the smallest possible graphite flakes on graphite. <i>Analytical and Bioanalytical Chemistry</i> , 2002, 374, 685-687.	1.9	27
63	Combination of a Knudsen effusion cell with a quartz crystal microbalance: <i>In situ</i> measurement of molecular evaporation rates with a fully functional deposition source. <i>Review of Scientific Instruments</i> , 2010, 81, 015108.	0.6	27
64	Distinct Differences in Self-Assembly of Aromatic Linear Dicarboxylic Acids. <i>Langmuir</i> , 2009, 25, 968-972.	1.6	23
65	Competitive Metal Coordination of Hexaaminotriphenylene on Cu(111) by Intrinsic Copper Versus Extrinsic Nickel Adatoms. <i>Chemistry - A European Journal</i> , 2019, 25, 1975-1983.	1.7	18
66	TollML: a database of toll-like receptor structural motifs. <i>Journal of Molecular Modeling</i> , 2010, 16, 1283-1289.	0.8	17
67	Self-assembly of melem on Ag(111)—emergence of porous structures based on amino-heptazine hydrogen bonds. <i>CrystEngComm</i> , 2011, 13, 5559.	1.3	17
68	Laser—Raman and atomic force microscopy assessment of the chlorococcalean affinity of problematic microfossils. <i>Journal of Raman Spectroscopy</i> , 2012, 43, 32-39.	1.2	15
69	Evolution of adsorption heights in the on-surface synthesis and decoupling of covalent organic networks on Ag(111) by normal-incidence X-ray standing wave. <i>Nanoscale Horizons</i> , 2021, 7, 51-62.	4.1	15
70	The influence of <i>ortho</i> -methyl substitution in organometallic self-assembly—a comparative study on Cu(111) vs. Ag(111). <i>Chemical Communications</i> , 2018, 54, 9745-9748.	2.2	14
71	Adsorption structure determination of a large polyaromatic trithiolate on Cu(111): combination of LEED-I(V) and DFT-vdW. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 11054.	1.3	13
72	Simultaneous measurement of tunneling current and force as a function of position through a lipid film on a solid substrate. <i>Surface Science</i> , 1991, 257, L653-L658.	0.8	12

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73	Electropolymerization of glutaraldehyde observed by scanning tunneling microscopy and its implications for scanning tunneling microscopy imaging of organic material. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 1991, 9, 1159.	1.6	10
74	Scanning probe microscopy studies of the surface of decagonal quasicrystals in ambient conditions. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2000, 294-296, 878-881.	2.6	9
75	Postsynthetische Entkopplung oberflächensynthetisierter kovalenter Nanostrukturen von Ag(111). <i>Angewandte Chemie</i> , 2016, 128, 7780-7784.	1.6	8
76	What can be inferred from moiré patterns? A case study of trimesic acid monolayers on graphite. <i>Faraday Discussions</i> , 2017, 204, 331-348.	1.6	8
77	Molecular Self-Assembly and the Origin of Life. , 2002, , 361-372.		6
78	Steering Self-Assembly of Three-Dimensional Iptycenes on Au(111) by Tuning Molecule-Surface Interactions. <i>Angewandte Chemie - International Edition</i> , 2022, , .	7.2	6
79	Controlled Self-Assembly of Collagen Fibrils by an Automated Dialysis System. <i>Journal of Biomechanical Engineering</i> , 2006, 128, 792-796.	0.6	5
80	Immersion-scanning-tunneling-microscope for long-term variable-temperature experiments at liquid-solid interfaces. <i>Review of Scientific Instruments</i> , 2018, 89, 053707.	0.6	5
81	From Benzenethiolate Self-Assembly to Copper Sulfide Adlayers on Cu(111): Temperature-Induced Irreversible and Reversible Phase Transitions. <i>Journal of Physical Chemistry C</i> , 2014, 118, 3590-3598.	1.5	4
82	Quantifying the Ultraslow Desorption Kinetics of 2,6-Naphthalenedicarboxylic Acid Monolayers at Liquid-Solid Interfaces. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 7320-7326.	2.1	4
83	Manipulating genetic material. <i>Materials Today</i> , 2005, 8, 40-49.	8.3	3
84	TORSIONAL RESONANCE MODE ATOMIC FORCE MICROSCOPY OF A PROTEIN-DNA COMPLEX. <i>Nano</i> , 2008, 03, 443-448.	0.5	2
85	Simultaneous measurement of tunneling current and force as a function of position through a lipid film on a solid substrate. <i>Surface Science Letters</i> , 1991, 257, L653-L658.	0.1	0
86	Frontispiece: Post-Synthetic Decoupling of On-Surface-Synthesized Covalent Nanostructures from Ag(111). <i>Angewandte Chemie - International Edition</i> , 2016, 55, .	7.2	0
87	Molecular Self-Assembly. , 2002, , 505-517.		0
88	Nanobiotechnologien: Konzepte, Kontroversen, Kommunikation. <i>Acatech-Diskussion</i> , 2012, , 155-189.	0.2	0
89	Steering Self-Assembly of Three-Dimensional Iptycenes on Au(111) by Tuning Molecule-Surface Interactions. <i>Angewandte Chemie</i> , 0, , .	1.6	0
90	Initial Coupling and Reaction Progression of Directly Deposited Biradical Graphene Nanoribbon Monomers on Iodine-Passivated Versus Pristine Ag(111). <i>Chemistry</i> , 2022, 4, 259-269.	0.9	0