Ralf P Richter

List of Publications by Year
in descending order

78 papers	7,002 citations	71102 41 h-index	66911 78 g-index
89 all docs	89 docs citations	89 times ranked	7434 citing authors

#	Article	IF	Citations
1	Formation of Solid-Supported Lipid Bilayers:â€‰ An Integrated View. Langmuir, 2006, 22, 3497-3505.	3.5	980
2	Hearing What You Cannot See and Visualizing What You Hear: Interpreting Quartz Crystal Microbalance Data from Solvated Interfaces. Analytical Chemistry, 2011, 83, 8838-8848.	6.5	696
3	Pathways of Lipid Vesicle Deposition on Solid Surfaces: A Combined QCM-D and AFM Study. Biophysical Journal, 2003, 85, 3035-3047.	0.5	604
4	FG-Rich Repeats of Nuclear Pore Proteins Form a Three-Dimensional Meshwork with Hydrogel-Like Properties. Science, 2006, 314, 815-817.	12.6	555
5	Following the Formation of Supported Lipid Bilayers on Mica: A Study Combining AFM, QCM-D, and Ellipsometry. Biophysical Journal, 2005, 88, 3422-3433.	0.5	424
6	Analysis of CD44-Hyaluronan Interactions in an Artificial Membrane System. Journal of Biological Chemistry, 2010, 285, 30170-30180.	3.4	187
7	Dissipation in Films of Adsorbed Nanospheres Studied by Quartz Crystal Microbalance (QCM). Analytical Chemistry, 2009, 81, 8167-8176.	6.5	148
8	On the Kinetics of Adsorption and Two-Dimensional Self-Assembly of Annexin A5 on Supported Lipid Bilayers. Biophysical Journal, 2005, 89, 3372-3385.	0.5	133
9	Model-Independent Analysis of QCM Data on Colloidal Particle Adsorption. Langmuir, 2009, 25, 5177-5184.	3.5	133
10	Solvation Effects in the Quartz Crystal Microbalance with Dissipation Monitoring Response to Biomolecular Adsorption. A Phenomenological Approach. Analytical Chemistry, 2008, 80, 8880-8890.	6.5	132
11	The Inflammation-associated Protein TSG-6 Cross-links Hyaluronan via Hyaluronan-induced TSG-6 Oligomers. Journal of Biological Chemistry, 2011, 286, 25675-25686.	3.4	119
12	Water Content and Buildup of Poly(diallyldimethylammonium chloride)/Poly(sodium) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 312 Td (4-sty Polyelectrolyte Multilayers Studied by an in Situ Combination of a Quartz Crystal Microbalance with Dissipation Monitoring and Spectroscopic Ellipsometry. Macromolecules, 2010, 43, 9063-9070.	4.8	114
13	Designing multivalent probes for tunable superselective targeting. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 5579-5584.	7.1	104
14	Characterization of Lipid Bilayers and Protein Assemblies Supported on Rough Surfaces by Atomic Force Microscopyâ€. Langmuir, 2003, 19, 1632-1640.	3.5	103
15	QCM-D and Reflectometry Instrument: Applications to Supported Lipid Structures and Their Biomolecular Interactions. Analytical Chemistry, 2009, 81, 349-361.	6.5	102
16	Ultrathin nucleoporin phenylalanineâ€“glycine repeat films and their interaction with nuclear transport receptors. EMBO Reports, 2010, 11, 366-372.	4.5	101
17	On the Effect of the Solid Support on the Interleaflet Distribution of Lipids in Supported Lipid Bilayers. Langmuir, 2005, 21, 299-304.	3.5	100
18	Superselective Targeting Using Multivalent Polymers. Journal of the American Chemical Society, 2014, 136, 1722-1725.	13.7	92

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19	Viscoelasticity of Thin Biomolecular Films: A Case Study on Nucleoporin Phenylalanine-Glycine Repeats Grafted to a Histidine-Tag Capturing QCM-D Sensor. Biomacromolecules, 2012, 13, 2322-2332.	5.4	86
20	Controlling Multivalent Binding through Surface Chemistry: Model Study on Streptavidin. Journal of the American Chemical Society, 2017, 139, 4157-4167.	13.7	86
21	Vesicles surfing on a lipid bilayer: Self-induced haptotactic motion. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 12382-12387.	7.1	81
22	Single-molecule kinetics of pore assembly by the membrane attack complex. Nature Communications, 2019, 10, 2066.	12.8	74
23	Label-Free Detection of Clustering of Membrane-Bound Proteins. Analytical Chemistry, 2010, 82, 9275-9281.	6.5	73
24	Membrane-Grafted Hyaluronan Films:Â A Well-Defined Model System of Glycoconjugate Cell Coats. Journal of the American Chemical Society, 2007, 129, 5306-5307.	13.7	70
25	A physical model describing the interaction of nuclear transport receptors with FG nucleoporin domain assemblies. ELife, 2016, 5, .	6.0	69
26	Incorporation of Pentraxin 3 into Hyaluronan Matrices Is Tightly Regulated and Promotes Matrix Cross-linking. Journal of Biological Chemistry, 2014, 289, 30481-30498.	3.4	67
27	QCM-D on Mica for Parallel QCM-DAFM Studies. Langmuir, 2004, 20, 4609-4613.	3.5	62
28	Inter-Î±-inhibitor Impairs TSG-6-induced Hyaluronan Cross-linking. Journal of Biological Chemistry, 2013, 288, 29642-29653.	3.4	60
29	Binding of a model regulator of complement activation (RCA) to a biomaterial surface: surface-bound factor H inhibits complement activation. Biomaterials, 2001, 22, 2435-2443.	11.4	57
30	Well-defined biomimetic surfaces to characterize glycosaminoglycan-mediated interactions on the molecular, supramolecular and cellular levels. Biomaterials, 2014, 35, 8903-8915.	11.4	57
31	Supported lipid membranes. Materials Today, 2003, 6, 32-37.	14.2	56
32	Assembly of Multilayer Arrays of Viral Nanoparticles via Biospecific Recognition: A Quartz Crystal Microbalance with Dissipation Monitoring Study. Biomacromolecules, 2008, 9, 456-462.	5.4	56
33	Cytokines and growth factors cross-link heparan sulfate. Open Biology, 2015, 5, 150046.	3.6	55
34	Glycosaminoglycans in extracellular matrix organisation: are concepts from soft matter physics key to understanding the formation of perineuronal nets?. Current Opinion in Structural Biology, 2018, 50, 65-74.	5.7	54
35	A quartz crystal microbalance method to study the terminal functionalization of glycosaminoglycans. Chemical Communications, 2014, 50, 15148-15151.	4.1	52
36	On the Adsorption Behavior of Biotin-Binding Proteins on Gold and Silica. Langmuir, 2010, 26, 1029-1034.	3.5	51

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37	Solid-supported lipid bilayers to drive stem cell fate and tissue architecture using periosteum derived progenitor cells. Biomaterials, 2013, 34, 1878-1887.	11.4	51
38	Enzyme immobilization on poly(ethylene-co-acrylic acid) films studied by quartz crystal microbalance with dissipation monitoring. Journal of Colloid and Interface Science, 2005, 287, 35-42.	9.4	47
39	Hydration Dynamics of Hyaluronan and Dextran. Biophysical Journal, 2012, 103, L10-L12.	0.5	47
40	Sensor Based on Aptamer Folding to Detect Low-Molecular Weight Analytes. Analytical Chemistry, 2015, 87, 7566-7574.	6.5	47
41	Metal Ion-dependent Heavy Chain Transfer Activity of TSG-6 Mediates Assembly of the Cumulus-Oocyte Matrix. Journal of Biological Chemistry, 2015, 290, 28708-28723.	3.4	46
42	Films of End-Grafted Hyaluronan Are a Prototype of a Brush of a Strongly Charged, Semiflexible Polyelectrolyte with Intrinsic Excluded Volume. Biomacromolecules, 2012, 13, 1466-1477.	5.4	44
43	Cohesiveness tunes assembly and morphology of FG nucleoporin domain meshworks â€“ Implications for nuclear pore permeability. Biophysical Journal, 2013, 105, 1860-1870.	0.5	42
44	Multivalent Recognition at Fluid Surfaces: The Interplay of Receptor Clustering and Superselectivity. Journal of the American Chemical Society, 2019, 141, 2577-2588.	13.7	41
45	pH- and Electro-Responsive Properties of Poly(acrylic acid) and Poly(acrylic) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 427 Td (acid) Microbalance with Dissipation Monitoring. Langmuir, 2015, 31, 7684-7694.	3.5	40
46	Quartz Crystal Microbalance with Dissipation Monitoring and Spectroscopic Ellipsometry Measurements of the Phospholipid Bilayer Anchoring Stability and Kinetics of Hydrophobically Modified DNA Oligonucleotides. Langmuir, 2014, 30, 6525-6533.	3.5	39
47	A single molecule assay to probe monovalent and multivalent bonds between hyaluronan and its key leukocyte receptor CD44 under force. Scientific Reports, 2016, 6, 34176.	3.3	38
48	Differential structural remodelling of heparan sulfate by chemokines: the role of chemokine oligomerization. Open Biology, 2017, 7, 160286.	3.6	37
49	Elastohydrodynamic Lift at a Soft Wall. Physical Review Letters, 2018, 120, 198001.	7.8	36
50	Micromechanical Analysis of the Hyaluronan-Rich Matrix Surrounding the Oocyte Reveals a Uniquely Soft and Elastic Composition. Biophysical Journal, 2016, 110, 2779-2789.	0.5	31
51	Reversible Immobilization of Proteins in Sensors and Solidâ€State Nanopores. Small, 2018, 14, e1703357.	10.0	30
52	Membrane binding controls ordered self-assembly of animal septins. ELife, 2021, 10, .	6.0	30
53	Dynamic Modulation of the Glycosphingolipid Content in Supported Lipid Bilayers by Glycolipid Transfer Protein. Biophysical Journal, 2010, 99, 2947-2956.	0.5	29
54	Self-assembly and elasticity of hierarchical proteoglycanâ€“hyaluronan brushes. Soft Matter, 2013, 9, 10473.	2.7	25

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55	Enhanced Biological Activity of BMPâ€2 Bound to Surfaceâ€Grafted Heparan Sulfate. Advanced Biology, 2017, 1, e1600041.	3.0	24
56	Combining Colloidal Probe Atomic Force and Reflection Interference Contrast Microscopy to Study the Compressive Mechanics of Hyaluronan Brushes. Langmuir, 2012, 28, 3206-3216.	3.5	23
57	Single-Molecule Unbinding Forces between the Polysaccharide Hyaluronan and Its Binding Proteins. Biophysical Journal, 2018, 114, 2910-2922.	0.5	23
58	Effects of flow on solute exchange between fluids and supported biosurfaces. Biotechnology and Applied Biochemistry, 2004, 39, 277-284.	3.1	22
59	Transient Exposure of Pulmonary Surfactant to Hyaluronan Promotes Structural and Compositional Transformations into a Highly Active State. Journal of Biological Chemistry, 2013, 288, 29872-29881.	3.4	20
60	Orientationâ€Selective Incorporation of Transmembrane F₀F₁ ATP Synthase Complex from <i>Micrococcus luteus</i> in Polymerâ€Supported Membranes. Macromolecular Bioscience, 2008, 8, 1034-1043.	4.1	16
61	A new configurational bias scheme for sampling supramolecular structures. Journal of Chemical Physics, 2014, 141, 244909.	3.0	16
62	Structure and properties of polydisperse polyelectrolyte brushes studied by self-consistent field theory. Soft Matter, 2018, 14, 6230-6242.	2.7	16
63	Binding of the chemokine CXCL12Î± to its natural extracellular matrix ligand heparan sulfate enables myoblast adhesion and facilitates cell motility. Biomaterials, 2017, 123, 24-38.	11.4	15
64	An integrated assay to probe endothelial glycocalyx-blood cell interactions under flow in mechanically and biochemically well-defined environments. Matrix Biology, 2019, 78-79, 47-59.	3.6	15
65	Effect of calcium ions and pH on the morphology and mechanical properties of hyaluronan brushes. Interface Focus, 2019, 9, 20180061.	3.0	13
66	Membrane-containing virus particles exhibit the mechanics of a composite material for genome protection. Nanoscale, 2018, 10, 7769-7779.	5.6	12
67	Strong Reduction of the Chain Rigidity of Hyaluronan by Selective Binding of Ca²⁺ Ions. Macromolecules, 2021, 54, 1137-1146.	4.8	12
68	Impact of Antigen Density on Recognition by Monoclonal Antibodies. Analytical Chemistry, 2020, 92, 5396-5403.	6.5	9
69	Electroresponsive Polyelectrolyte Brushes Studied by Self-Consistent Field Theory. Polymers, 2020, 12, 898.	4.5	9
70	A quartz crystal microbalance method to quantify the size of hyaluronan and other glycosaminoglycans on surfaces. Scientific Reports, 2022, 12, .	3.3	9
71	Development of a selective cell capture and release assay: impact of clustered RGD ligands. Journal of Materials Chemistry B, 2017, 5, 4745-4753.	5.8	8
72	Interaction of Hyaluronan with Cationic Nanoparticles. Langmuir, 2015, 31, 8411-8420.	3.5	6

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73	Reversible Membrane Tethering by ZipA Determines FtsZ Polymerization in Two and Three Dimensions. Biochemistry, 2019, 58, 4003-4015.	2.5	6
74	The sweet coat of living cells â€“ from supramolecular structure and dynamics to biological function. International Journal of Materials Research, 2011, 102, 903-905.	0.3	4
75	Polymer Brush in a Nanopore: Effects of Solvent Strength and Macromolecular Architecture Studied by Self-Consistent Field and Scaling Theory. Polymers, 2021, 13, 3929.	4.5	3
76	A Method to Quantify Molecular Diffusion within Thin Solvated Polymer Films: A Case Study on Films of Natively Unfolded Nucleoporins. ACS Nano, 2020, 14, 9938-9952.	14.6	2
77	Editorial overview: Carbohydrates: MÃ©nage Ã trois with glycosaminoglycans â€” a serious rendezvous, not a gag!. Current Opinion in Structural Biology, 2018, 50, iv-vi.	5.7	0
78	Blood cell - vessel wall interactions probed by reflection interference contrast microscopy. , 2019, , .		0