Edmondo Maria Benetti

List of Publications by Year
in descending order

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106 papers	4,054 citations	76294 40 h-index	138417 58 g-index
114 all docs	114 docs citations	114 times ranked	3946 citing authors

#	Article	IF	Citations
1	Self-Assembly of Focal Point Oligo-catechol Ethylene Glycol Dendrons on Titanium Oxide Surfaces: Adsorption Kinetics, Surface Characterization, and Nonfouling Properties. Journal of the American Chemical Society, 2011, 133, 10940-10950.	6.6	185
2	Topological Polymer Chemistry Enters Surface Science: Linear versus Cyclic Polymer Brushes. Angewandte Chemie - International Edition, 2016, 55, 15583-15588.	7.2	149
3	The role of the interplay between polymer architecture and bacterial surface properties on the microbial adhesion to polyoxazoline-based ultrathin films. Biomaterials, 2010, 31, 9462-9472.	5.7	114
4	Chemical Design of Nonâ€Ionic Polymer Brushes as Biointerfaces: Poly(2â€oxazine)s Outperform Both Poly(2â€oxazoline)s and PEG. Angewandte Chemie - International Edition, 2018, 57, 11667-11672.	7.2	110
5	Tunable Thermoresponsive Polymeric Platforms on Gold by â€œPhotoiniferterâ€•Based Surface Grafting. Advanced Materials, 2007, 19, 268-271.	11.1	103
6	Surface-Grafted, Covalently Cross-Linked Hydrogel Brushes with Tunable Interfacial and Bulk Properties. Macromolecules, 2011, 44, 5344-5351.	2.2	94
7	Nextâ€Generation Polymer Shells for Inorganic Nanoparticles are Highly Compact, Ultraâ€Dense, and Longâ€Lasting Cyclic Brushes. Angewandte Chemie - International Edition, 2017, 56, 4507-4511.	7.2	86
8	Topology Effects on the Structural and Physicochemical Properties of Polymer Brushes. Macromolecules, 2017, 50, 7760-7769.	2.2	86
9	C1q-Mediated Complement Activation and C3 Opsonization Trigger Recognition of Stealth Poly(2-methyl-2-oxazoline)-Coated Silica Nanoparticles by Human Phagocytes. ACS Nano, 2018, 12, 5834-5847.	7.3	86
10	Cyclic Polymer Grafts That Lubricate and Protect Damaged Cartilage. Angewandte Chemie - International Edition, 2018, 57, 1621-1626.	7.2	84
11	Buried, Covalently Attached RGD Peptide Motifs in Poly(methacrylic acid) Brush Layers: The Effect of Brush Structure on Cell Adhesion. Langmuir, 2008, 24, 10996-11002.	1.6	79
12	A Brushâ€Gel/Metalâ€Nanoparticle Hybrid Film as an Efficient Supported Catalyst in Glass Microreactors. Chemistry - A European Journal, 2010, 16, 12406-12411.	1.7	77
13	A triaxial supramolecular weave. Nature Chemistry, 2017, 9, 1068-1072.	6.6	76
14	Polymer brush coatings regulating cell behavior: Passive interfaces turn into active. Acta Biomaterialia, 2014, 10, 2367-2378.	4.1	74
15	Nanoassemblies of Tissue-Reactive, Polyoxazoline Graft-Copolymers Restore the Lubrication Properties of Degraded Cartilage. ACS Nano, 2017, 11, 2794-2804.	7.3	72
16	Polyoxazoline biointerfaces by surface grafting. European Polymer Journal, 2017, 88, 470-485.	2.6	65
17	Morphological and structural characterization of polypropylene based nanocomposites. Polymer, 2005, 46, 8275-8285.	1.8	64
18	Lubrication with Oil-Compatible Polymer Brushes. Tribology Letters, 2012, 45, 477-487.	1.2	64

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19	Characterization and molecular engineering of surface-grafted polymer brushes across the length scales by atomic force microscopy. Journal of Materials Chemistry, 2010, 20, 4981.	6.7	63
20	Fabrication and Interfacial Properties of Polymer Brush Gradients by Surface-Initiated Cu(0)-Mediated Controlled Radical Polymerization. Macromolecules, 2017, 50, 2436-2446.	2.2	61
21	Surfaceâ€Grafted Gelâ€Brush/Metal Nanoparticle Hybrids. Advanced Functional Materials, 2010, 20, 939-944.	7.8	60
22	Enzyme-functionalized polymer brush films on the inner wall of siliconâ€“glass microreactors with tunable biocatalytic activity. Lab on A Chip, 2010, 10, 3407.	3.1	60
23	Oxygen Tolerant and Cytocompatible Iron(0)-Mediated ATRP Enables the Controlled Growth of Polymer Brushes from Mammalian Cell Cultures. Journal of the American Chemical Society, 2020, 142, 3158-3164.	6.6	59
24	Design and characterization of ultrastable, biopassive and lubricious cyclic poly(2-alkyl-2-oxazoline) brushes. Polymer Chemistry, 2018, 9, 2580-2589.	1.9	56
25	Loops and Cycles at Surfaces: The Unique Properties of Topological Polymer Brushes. Chemistry - A European Journal, 2017, 23, 12433-12442.	1.7	55
26	Double-Network Hydrogels Including Enzymatically Crosslinked Poly-(2-alkyl-2-oxazoline)s for 3D Bioprinting of Cartilage-Engineering Constructs. Biomacromolecules, 2019, 20, 4502-4511.	2.6	54
27	Surface-Initiated Photoinduced ATRP: Mechanism, Oxygen Tolerance, and Temporal Control during the Synthesis of Polymer Brushes. Macromolecules, 2020, 53, 2801-2810.	2.2	53
28	Crosslinking Polymer Brushes with Ethylene Glycol-Containing Segments: Influence on Physicochemical and Antifouling Properties. Langmuir, 2016, 32, 10317-10327.	1.6	51
29	Growing Polymer Brushes from a Variety of Substrates under Ambient Conditions by Cu⁰-Mediated Surface-Initiated ATRP. ACS Applied Materials & Interfaces, 2019, 11, 27470-27477.	4.0	50
30	Translating Surface-Initiated Atom Transfer Radical Polymerization into Technology: The Mechanism of Cu⁰-Mediated SI-ATRP under Environmental Conditions. ACS Macro Letters, 2019, 8, 865-870.	2.3	50
31	Grafting mixed responsive brushes of poly(N-isopropylacrylamide) and poly(methacrylic acid) from gold by selective initiation. Polymer Chemistry, 2011, 2, 879.	1.9	49
32	Poly(methacrylic acid) Grafts Grown from Designer Surfaces: The Effect of Initiator Coverage on Polymerization Kinetics, Morphology, and Properties. Macromolecules, 2009, 42, 1640-1647.	2.2	46
33	Covalent Binding of Bone Morphogenetic Proteinâ€2 and Transforming Growth Factorâ€Î²3 to 3D Plotted Scaffolds for Osteochondral Tissue Regeneration. Biotechnology Journal, 2017, 12, 1700072.	1.8	46
34	Controlled Crosslinking Is a Tool To Precisely Modulate the Nanomechanical and Nanotribological Properties of Polymer Brushes. Macromolecules, 2017, 50, 2932-2941.	2.2	45
35	Polymer Topology Determines the Formation of Protein Corona on Coreâ€“Shell Nanoparticles. ACS Nano, 2020, 14, 12708-12718.	7.3	45
36	Stratified Polymer Grafts: Synthesis and Characterization of Layered â€˜Brushâ€™ and â€˜Gelâ€™ Structures. Advanced Materials Interfaces, 2014, 1, 1300007.	1.9	44

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37	The Role of Cu⁰ in Surface-Initiated Atom Transfer Radical Polymerization: Tuning Catalyst Dissolution for Tailoring Polymer Interfaces. Macromolecules, 2018, 51, 6825-6835.	2.2	44
38	Topological Polymer Chemistry Enters Materials Science: Expanding the Applicability of Cyclic Polymers. ACS Macro Letters, 2020, 9, 1024-1033.	2.3	44
39	Molecularly Engineered Biolubricants for Articular Cartilage. Advanced Healthcare Materials, 2018, 7, e1701463.	3.9	43
40	Surface-Initiated Cu(0)-Mediated CRP for the Rapid and Controlled Synthesis of Quasi-3D Structured Polymer Brushes. ACS Macro Letters, 2019, 8, 145-153.	2.3	43
41	Stemâ€Cell Clinging by a Thread: AFM Measure of Polymerâ€Brush Lateral Deformation. Advanced Materials Interfaces, 2016, 3, 1500456.	1.9	40
42	Creeping Proteins in Microporous Structures: Polymer Brushâ€Assisted Fabrication of 3D Gradients for Tissue Engineering. Advanced Healthcare Materials, 2015, 4, 1169-1174.	3.9	39
43	Ultrathin, freestanding, stimuli-responsive, porous membranes from polymer hydrogel-brushes. Nanoscale, 2015, 7, 13017-13025.	2.8	39
44	Surface Density Variation within Cyclic Polymer Brushes Reveals Topology Effects on Their Nanotribological and Biopassive Properties. ACS Macro Letters, 2018, 7, 1455-1460.	2.3	39
45	Versatile Surface Modification of Hydrogels by Surface-Initiated, Cu⁰-Mediated Controlled Radical Polymerization. ACS Applied Materials & Interfaces, 2020, 12, 6761-6767.	4.0	38
46	Mimicking natural cell environments: design, fabrication and application of bio-chemical gradients on polymeric biomaterial substrates. Journal of Materials Chemistry B, 2016, 4, 4244-4257.	2.9	37
47	Amplified Responsiveness of Multilayered Polymer Grafts: Synergy between Brushes and Hydrogels. Macromolecules, 2015, 48, 7106-7116.	2.2	36
48	Hairy and Slippery Polyoxazoline-Based Copolymers on Model and Cartilage Surfaces. Biomacromolecules, 2018, 19, 680-690.	2.6	36
49	Mixing Poly(ethylene glycol) and Poly(2-alkyl-2-oxazoline)s Enhances Hydration and Viscoelasticity of Polymer Brushes and Determines Their Nanotribological and Antifouling Properties. ACS Applied Materials & Interfaces, 2018, 10, 41839-41848.	4.0	36
50	Easy to Apply Polyoxazoline-Based Coating for Precise and Long-Term Control of Neural Patterns. Langmuir, 2017, 33, 8594-8605.	1.6	35
51	Preparation and characterization of macromolecular â€œhedgeâ€• brushes grafted from Au nanowires. Journal of Materials Chemistry, 2007, 17, 3293.	6.7	34
52	Temperature-modulated quenching of quantum dots covalently coupled to chain ends of poly(<i>N</i>-isopropyl acrylamide) brushes on gold. Nanotechnology, 2009, 20, 185501.	1.3	34
53	Understanding the effect of hydrophobic protecting blocks on the stability and biopassivity of polymer brushes in aqueous environments: A TiramisÃ¹ for cell-culture applications. Polymer, 2016, 98, 470-480.	1.8	33
54	Surface-grafted assemblies of cyclic polymers: Shifting between high friction and extreme lubricity. European Polymer Journal, 2019, 110, 301-306.	2.6	33

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55	Thin Polymer Brush Decouples Biomaterialâ€™s Micro-/Nanotopology and Stem Cell Adhesion. Langmuir, 2013, 29, 13843-13852.	1.6	31
56	Controlling Enzymatic Polymerization from Surfaces with Switchable Bioaffinity. Biomacromolecules, 2017, 18, 4261-4270.	2.6	31
57	Biomaterials applications of cyclic polymers. Biomaterials, 2021, 267, 120468.	5.7	31
58	pH Responsive Polymeric Brush Nanostructures: Preparation and Characterization by Scanning Probe Oxidation and Surface Initiated Polymerization. Macromolecular Rapid Communications, 2009, 30, 411-417.	2.0	30
59	Nanostructured Polymer Brushes by UVâ€Assisted Imprint Lithography and Surfaceâ€Initiated Polymerization for Biological Functions. Advanced Functional Materials, 2011, 21, 2088-2095.	7.8	29
60	Polystyrene/TiO2 composite electrospun fibers as fillers for poly(butylene succinate-co-adipate): Structure, morphology and properties. European Polymer Journal, 2014, 50, 78-86.	2.6	28
61	Poly(2-oxazoline)â€“Pterostilbene Block Copolymer Nanoparticles for Dual-Anticancer Drug Delivery. Biomacromolecules, 2018, 19, 103-111.	2.6	28
62	Using Polymers to Impart Lubricity and Biopassivity to Surfaces: Are These Properties Linked?. Helvetica Chimica Acta, 2019, 102, e1900071.	1.0	28
63	Oxygen Tolerance in Surface-Initiated Reversible Deactivation Radical Polymerizations: Are Polymer Brushes Turning into Technology?. ACS Macro Letters, 2022, 11, 415-421.	2.3	28
64	Topological Polymer Chemistry Enters Surface Science: Linear versus Cyclic Polymer Brushes. Angewandte Chemie, 2016, 128, 15812-15817.	1.6	27
65	Ultrastable Suspensions of Polyoxazoline-Functionalized ZnO Single Nanocrystals. Chemistry of Materials, 2015, 27, 2957-2964.	3.2	25
66	Brushes, Graft Copolymers, or Bottlebrushes? The Effect of Polymer Architecture on the Nanotribological Properties of Grafted-from Assemblies. Langmuir, 2019, 35, 11255-11264.	1.6	23
67	Functional Nanoassemblies of Cyclic Polymers Show Amplified Responsiveness and Enhanced Protein-Binding Ability. ACS Nano, 2020, 14, 10054-10067.	7.3	23
68	Effects of Lateral Deformation by Thermoresponsive Polymer Brushes on the Measured Friction Forces. Langmuir, 2017, 33, 4164-4171.	1.6	22
69	Comblike Polymers with Topologically Different Side Chains for Surface Modification: Assembly Process and Interfacial Physicochemical Properties. Macromolecules, 2019, 52, 1632-1641.	2.2	22
70	Sizeâ€Controlled Formation of Nobleâ€Metal Nanoparticles in Aqueous Solution with a Thiolâ€Free Tripeptide. Angewandte Chemie - International Edition, 2016, 55, 8542-8545.	7.2	21
71	Modulation of Surface-Initiated ATRP by Confinement: Mechanism and Applications. Macromolecules, 2017, 50, 5711-5718.	2.2	21
72	Mechanism and application of surface-initiated ATRP in the presence of a Zn⁰ plate. Polymer Chemistry, 2020, 11, 7009-7014.	1.9	21

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73	Dispersity within Brushes Plays a Major Role in Determining Their Interfacial Properties: The Case of Oligoxazoline-Based Graft Polymers. Journal of the American Chemical Society, 2021, 143, 19067-19077.	6.6	21
74	Quasiâ€3Dâ€Structured Interfaces by Polymer Brushes. Macromolecular Rapid Communications, 2018, 39, e1800189.	2.0	19
75	Bioinert and Lubricious Surfaces by Macromolecular Design. Langmuir, 2019, 35, 13521-13535.	1.6	19
76	Enzymatically crosslinked poly(2-alkyl-2-oxazoline) networks for 3D cell culture. Journal of Materials Chemistry B, 2018, 6, 7568-7572.	2.9	17
77	Influence of the Aliphatic Side Chain on the Near Atmospheric Pressure Plasma Polymerization of 2-Alkyl-2-oxazolines for Biomedical Applications. ACS Applied Materials & Interfaces, 2019, 11, 31356-31366.	4.0	17
78	Fabrication of Biopassive Surfaces Using Poly(2â€alkylâ€2â€oxazoline)s: Recent Progresses and Applications. Advanced Materials Interfaces, 2020, 7, 2000943.	1.9	15
79	The role of poly(2-alkyl-2-oxazoline)s in hydrogels and biofabrication. Biomaterials Science, 2021, 9, 2874-2886.	2.6	15
80	Physical Networks of Metal-Ion-Containing Polymer Brushes Show Fully Tunable Swelling, Nanomechanical and Nanotribological Properties. Macromolecules, 2017, 50, 2495-2503.	2.2	14
81	Nextâ€Generation Polymer Shells for Inorganic Nanoparticles are Highly Compact, Ultraâ€Dense, and Longâ€Lasting Cyclic Brushes. Angewandte Chemie, 2017, 129, 4578-4582.	1.6	14
82	Hydrogels Generated from Cyclic Poly(2â€Oxazoline)s Display Unique Swelling and Mechanical Properties. Macromolecular Rapid Communications, 2021, 42, e2000658.	2.0	13
83	Tuning Surface Mechanical Properties by Amplified Polyelectrolyte Self-Assembly: Where â€œGrafting-fromâ€•Meets â€œGrafting-toâ€• ACS Applied Materials & Interfaces, 2013, 5, 4913-4920.	4.0	12
84	ATR-IR Investigation of Solvent Interactions with Surface-Bound Polymers. Langmuir, 2016, 32, 7588-7595.	1.6	11
85	Conjugated Polymers in Cages: Templating Poly(3â€hexylthiophene) Nanocrystals by Inert Gel Matrices. Advanced Materials, 2012, 24, 5636-5641.	11.1	10
86	Cyclic Polymer Grafts That Lubricate and Protect Damaged Cartilage. Angewandte Chemie, 2018, 130, 1637-1642.	1.6	10
87	Fabrication of Three-Dimensional Polymer-Brush Gradients within Elastomeric Supports by Cu⁰-Mediated Surface-Initiated ATRP. ACS Macro Letters, 2021, 10, 1099-1106.	2.3	10
88	Sizeâ€Controlled Formation of Nobleâ€Metal Nanoparticles in Aqueous Solution with a Thiolâ€Free Tripeptide. Angewandte Chemie, 2016, 128, 8684-8687.	1.6	8
89	Topology and Molecular Architecture of Polyelectrolytes Determine Their pH-Responsiveness When Assembled on Surfaces. ACS Macro Letters, 2021, 10, 90-97.	2.3	8
90	Robust and Biocompatible Functionalization of ZnS Nanoparticles by Catechol-Bearing Poly(2-methyl-2-oxazoline)s. Langmuir, 2018, 34, 11534-11543.	1.6	7

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91	Hostâ€“guest driven ligand replacement on monodisperse inorganic nanoparticles. Nanoscale, 2017, 9, 8925-8929.	2.8	6
92	Chemical Design of Nonâ€Ionic Polymer Brushes as Biointerfaces: Poly(2â€oxazine)s Outperform Both Poly(2â€oxazoline)s and PEG. Angewandte Chemie, 2018, 130, 11841-11846.	1.6	6
93	Immobilization of Colloidal Monolayers at Fluidâ€“Fluid Interfaces. Gels, 2016, 2, 19.	2.1	5
94	Engineering Lubricious, Biopassive Polymer Brushes by Surface-Initiated, Controlled Radical Polymerization. Industrial & Engineering Chemistry Research, 2018, 57, 4600-4606.	1.8	5
95	Assembly of poly-3-(hexylthiophene) nanocrystals in marginal solvent: The role of PCBM. European Polymer Journal, 2018, 109, 222-228.	2.6	4
96	Poly(3-hexylthiophene) nanowhiskers filler in poly(Îµ-caprolactone) based nanoblends as potential bioactive material. European Polymer Journal, 2019, 114, 144-150.	2.6	3
97	Cell Adhesion: Stemâ€Cell Clinging by a Thread: AFM Measure of Polymerâ€Brush Lateral Deformation (Adv. Mater. Interfaces 3/2016). Advanced Materials Interfaces, 2016, 3, .	1.9	2
98	Polymeric Thin Films: Stratified Polymer Grafts: Synthesis and Characterization of Layered â€˜Brushâ€™ and â€˜Gelâ€™ Structures (Adv. Mater. Interfaces 1/2014). Advanced Materials Interfaces, 2014, 1, n/a-n/a.	1.9	1
99	Titelbild: Topological Polymer Chemistry Enters Surface Science: Linear versus Cyclic Polymer Brushes (Angew. Chem. 50/2016). Angewandte Chemie, 2016, 128, 15671-15671.	1.6	1
100	Berichtigung: Topological Polymer Chemistry Enters Surface Science: Linear versus Cyclic Polymer Brushes. Angewandte Chemie, 2017, 129, 2272-2272.	1.6	1
101	Biocatalytic ATRP in solution and on surfaces. Methods in Enzymology, 2019, 627, 263-290.	0.4	1
102	Lateral Deformability of Polymer Brushes by AFM-Based Method. Chimia, 2015, 69, 709.	0.3	0
103	Titelbild: Size-Controlled Formation of Noble-Metal Nanoparticles in Aqueous Solution with a Thiol-Free Tripeptide (Angew. Chem. 30/2016). Angewandte Chemie, 2016, 128, 8599-8599.	1.6	0
104	RÃ¼cktitelbild: Nextâ€Generation Polymer Shells for Inorganic Nanoparticles are Highly Compact, Ultraâ€Dense, and Longâ€Lasting Cyclic Brushes (Angew. Chem. 16/2017). Angewandte Chemie, 2017, 129, 4702-4702.	1.6	0
105	Frontispiece: Loops and Cycles at Surfaces: The Unique Properties of Topological Polymer Brushes. Chemistry - A European Journal, 2017, 23, .	1.7	0
106	Nanobiointerfaces: a themed collection. Biomaterials Science, 2018, 6, 706-707.	2.6	0