Daisuke Aoki

List of Publications by Year
in descending order

99 papers	2,134 citations	185998 28 h-index	288905 40 g-index
103 all docs	103 docs citations	103 times ranked	1267 citing authors

#	Article	IF	Citations
1	Multicolor Mechanochromism of a Polymer/Silica Composite with Dual Distinct Mechanophores. Journal of the American Chemical Society, 2019, 141, 1898-1902.	6.6	105
2	Multicolor Mechanochromic Polymer Blends That Can Discriminate between Stretching and Grinding. ACS Macro Letters, 2018, 7, 556-560.	2.3	82
3	Synthesis of Vinylic Macromolecular Rotaxane Cross-Linkers Endowing Network Polymers with Toughness. ACS Macro Letters, 2015, 4, 598-601.	2.3	76
4	Mechanochromic Polymers That Turn Green Upon the Dissociation of Diarylbibenzothiophenonyl: The Missing Piece toward Rainbow Mechanochromism. Chemistry - A European Journal, 2018, 24, 3170-3173.	1.7	75
5	A Rational Entry to Cyclic Polymers via Selective Cyclization by Self-Assembly and Topology Transformation of Linear Polymers. Journal of the American Chemical Society, 2017, 139, 6791-6794.	6.6	63
6	Segmented Polyurethane Elastomers with Mechanochromic and Selfâ€Strengthening Functions. Angewandte Chemie - International Edition, 2021, 60, 8406-8409.	7.2	60
7	Decoupled Thermoâ€and pHâ€Responsive Hydrogel Microspheres Crossâ€Linked by Rotaxane Networks. Angewandte Chemie - International Edition, 2017, 56, 15393-15396.	7.2	59
8	The photoregulation of a mechanochemical polymer scission. Nature Communications, 2018, 9, 3504.	5.8	59
9	Freezing-Induced Mechanoluminescence of Polymer Gels. ACS Macro Letters, 2018, 7, 1087-1091.	2.3	59
10	Star/Linear Polymer Topology Transformation Facilitated by Mechanical Linking of Polymer Chains. Angewandte Chemie - International Edition, 2015, 54, 6770-6774.	7.2	57
11	Thermally Stable Radical-Type Mechanochromic Polymers Based on Difluorenylsuccinonitrile. ACS Macro Letters, 2018, 7, 1359-1363.	2.3	57
12	Effective Approach to Cyclic Polymer from Linear Polymer: Synthesis and Transformation of Macromolecular [1]Rotaxane. ACS Macro Letters, 2015, 4, 343-347.	2.3	55
13	Crystallization-induced mechanofluorescence for visualization of polymer crystallization. Nature Communications, 2021, 12, 126.	5.8	50
14	Fusion of Different Crosslinked Polymers Based on Dynamic Disulfide Exchange. Angewandte Chemie - International Edition, 2020, 59, 4294-4298.	7.2	48
15	Synthesis of rotaxane cross-linked polymers with supramolecular cross-linkers based on Î³-CD and PTHF macromonomers: The effect of the macromonomer structure on the polymer properties. Polymer, 2017, 128, 392-396.	1.8	44
16	Topology-transformable polymers: linearâ€“branched polymer structural transformation via the mechanical linking of polymer chains. Polymer Journal, 2018, 50, 127-147.	1.3	43
17	Mechanochromic dendrimers: the relationship between primary structure and mechanochromic properties in the bulk. Chemical Communications, 2019, 55, 6831-6834.	2.2	39
18	Macromolecular [2]Rotaxanes: Effective Synthesis and Characterization. ACS Macro Letters, 2013, 2, 461-465.	2.3	37

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19	A vinylic rotaxane cross-linker for toughened network polymers from the radical polymerization of vinyl monomers. Polymer Chemistry, 2017, 8, 1878-1881.	1.9	36
20	Visualization and Quantitative Evaluation of Toughening Polymer Networks by a Sacrificial Dynamic Cross-Linker with Mechanochromic Properties. ACS Macro Letters, 2020, 9, 1108-1113.	2.3	36
21	A Diarylacetonitrile as a Molecular Probe for the Detection of Polymeric Mechanoradicals in the Bulk State through a Radical Chainâ€Transfer Mechanism. Angewandte Chemie - International Edition, 2021, 60, 2680-2683.	7.2	34
22	Mechanically Linked Block/Graft Copolymers: Effective Synthesis via Functional Macromolecular [2]Rotaxanes. ACS Macro Letters, 2014, 3, 324-328.	2.3	32
23	Synthesis and Star/Linear Topology Transformation of a Mechanically Linked ABC Terpolymer. ACS Macro Letters, 2016, 5, 699-703.	2.3	32
24	Introducing static cross-linking points into dynamic covalent polymer gels that display freezing-induced mechanofluorescence: enhanced force transmission efficiency and stability. Polymer Chemistry, 2019, 10, 2636-2640.	1.9	32
25	A Guiding Principle for Strengthening Crosslinked Polymers: Synthesis and Application of Mobilityâ€Controlling Rotaxane Crosslinkers. Angewandte Chemie - International Edition, 2019, 58, 2765-2768.	7.2	32
26	Efficient Synthesis of Cyclic Block Copolymers by Rotaxane Protocol by Linear/Cyclic Topology Transformation. Chemistry - A European Journal, 2016, 22, 8759-8762.	1.7	31
27	A Strategy toward Cyclic Topologies Based on the Dynamic Behavior of a Bis(hindered amino)disulfide Linker. Angewandte Chemie - International Edition, 2020, 59, 4269-4273.	7.2	31
28	Mechanically linked supramolecular polymer architectures derived from macromolecular [2]rotaxanes: Synthesis and topology transformation. Polymer, 2017, 128, 276-296.	1.8	30
29	Mechanochemical Reactions of Bis(9-methylphenyl-9-fluorenyl) Peroxides and Their Applications in Cross-Linked Polymers. Journal of the American Chemical Society, 2021, 143, 17744-17750.	6.6	30
30	Effect of Component Mobility on the Properties of Macromolecular [2]Rotaxanes. Angewandte Chemie - International Edition, 2016, 55, 2778-2781.	7.2	29
31	Synthesis and characterization of supramolecular cross-linkers containing cyclodextrin dimer and trimer. Polymer Chemistry, 2016, 7, 3492-3495.	1.9	25
32	Enhancement of Mechanophore Activation in Mechanochromic Dendrimers by Functionalization of Their Surface. Macromolecules, 2021, 54, 1725-1731.	2.2	25
33	Functionalization of amine-cured epoxy resins by boronic acids based on dynamic dioxazaborocane formation. Polymer Chemistry, 2020, 11, 5356-5364.	1.9	23
34	Diarylbiindolinones as Substituentâ€Tunable Mechanochromophores and Their Application in Mechanochromic Polymers. Macromolecular Rapid Communications, 2020, 41, 1900460.	2.0	22
35	Polymer-Network Toughening and Highly Sensitive Mechanochromism via a Dynamic Covalent Mechanophore and a Multinetwork Strategy. Macromolecules, 2022, 55, 5795-5802.	2.2	22
36	Self-Strengthening of Cross-Linked Elastomers via the Use of Dynamic Covalent Macrocyclic Mechanophores. ACS Macro Letters, 2021, 10, 558-563.	2.3	20

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37	Mechanofluorescent polymer/silsesquioxane composites based on tetraarylsuccinonitrile. Materials Chemistry Frontiers, 2019, 3, 2681-2685.	3.2	19
38	Visualization of the Necking Initiation and Propagation Processes during Uniaxial Tensile Deformation of Crystalline Polymer Films via the Generation of Fluorescent Radicals. ACS Macro Letters, 2021, 10, 623-627.	2.3	19
39	Synthesis and characterization of a mechanically linked transformable polymer. Polymer Journal, 2014, 46, 546-552.	1.3	18
40	Formation of Tough Films by Evaporation of Water from Dispersions of Elastomer Microspheres Crosslinked with Rotaxane Supramolecules. Chemistry - A European Journal, 2017, 23, 8405-8408.	1.7	18
41	Effect of Coexisting Covalent Cross-Links on the Properties of Rotaxane-Cross-Linked Polymers. ACS Applied Polymer Materials, 2020, 2, 1061-1064.	2.0	16
42	Rational Entry to Cyclic Polymers via Thermally Induced Radical Ring-Expansion Polymerization of Macrocycles with One Bis(hindered amino)disulfide Linkage. Macromolecules, 2020, 53, 4670-4677.	2.2	16
43	Visualization of the slide-ring effect: a study on movable cross-linking points using mechanochromism. Chemical Communications, 2020, 56, 3361-3364.	2.2	16
44	Polystyrene Functionalized with Diarylacetonitrile for the Visualization of Mechanoradicals and Improved Thermal Stability. ACS Macro Letters, 2021, 10, 744-748.	2.3	16
45	Mechanophore activation enhanced by hydrogen bonding of diarylurea motifs: An efficient supramolecular forceâ€transducing system. Aggregate, 2021, 2, e50.	5.2	15
46	Modification of amine-cured epoxy resins by boronic acids based on their reactivity with intrinsic diethanolamine units. Chemical Communications, 2018, 54, 12930-12933.	2.2	14
47	Energy Dissipation and Mechanoresponsive Color Evaluation of a Poly(n-hexyl Methacrylate) Soft Material Enhanced by a Mechanochromic Cross-Linker with Dynamic Covalent Bonds. Macromolecules, 2020, 53, 9313-9324.	2.2	14
48	Polybutadiene rubbers with urethane linkages prepared by a dynamic covalent approach for tire applications. Polymer, 2020, 202, 122700.	1.8	14
49	Non-symmetric mechanophores prepared from radical-type symmetric mechanophores: bespoke mechanofunctional polymers. Chemical Communications, 2021, 57, 2899-2902.	2.2	14
50	Starâ€Polymerâ€“DNA Gels Showing Highly Predictable and Tunable Mechanical Responses. Advanced Materials, 2022, 34, e2108818.	11.1	14
51	Vinylic Rotaxane Crossâ€Linker Comprising Different Axle Length for the Characterization of Rotaxane Crossâ€linked Polymers. Macromolecular Symposia, 2017, 372, 115-119.	0.4	13
52	Segmented Polyurethane Elastomers with Mechanochromic and Selfâ€Strengthening Functions. Angewandte Chemie, 2021, 133, 8487-8490.	1.6	13
53	Mechanical Performance and Visual Fracture Warning Function of Mechanochromic Stimuli-Recovery Polymer Networks. Macromolecules, 2021, 54, 8664-8674.	2.2	13
54	Using the dynamic behavior of macrocyclic monomers with a bis(hindered amino)disulfide linker for the preparation of end-functionalized polymers. Polymer Chemistry, 2020, 11, 3557-3563.	1.9	12

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55	Mechanochromic Polymers That Recognize the Duration of the Mechanical Stimulation via Multiple Mechanochromism. Macromolecular Rapid Communications, 2021, 42, e2000429.	2.0	12
56	Fast and Reversible Cross-Linking Reactions of Thermoresponsive Polymers Based on Dynamic Dialkylaminodisulfide Exchange. ACS Applied Polymer Materials, 2021, 3, 888-895.	2.0	12
57	Postmodification of Polymer Networks via the Freezing-Induced Generation of Radicals. ACS Applied Polymer Materials, 2021, 3, 594-598.	2.0	12
58	Plastics to fertilizers: chemical recycling of a bio-based polycarbonate as a fertilizer source. Green Chemistry, 2021, 23, 9030-9037.	4.6	12
59	Frequency-swept solid-state 33S NMR of an organosulfur compound in an extremely low magnetic field. Chemical Physics Letters, 2015, 630, 86-90.	1.2	10
60	Fusion of Different Crosslinked Polymers Based on Dynamic Disulfide Exchange. Angewandte Chemie, 2020, 132, 4324-4328.	1.6	10
61	Topology Transformation toward Cyclic, Figure-Eight-Shaped, and Cross-Linked Polymers Based on the Dynamic Behavior of a Bis(hindered amino)disulfide Linker. Macromolecules, 2021, 54, 9992-10000.	2.2	10
62	Topology-transformable block copolymers based on a rotaxane structure: change in bulk properties with same composition. Nature Communications, 2021, 12, 6175.	5.8	10
63	Effect of Component Mobility on the Properties of Macromolecular [2]Rotaxanes. Angewandte Chemie, 2016, 128, 2828-2831.	1.6	9
64	Which One is Bulkier: The 3,5â€Dimethylphenyl or the 2,6â€Dimethylphenyl Group? Development of Sizeâ€Complementary Molecular and Macromolecular [2]Rotaxanes. Chemistry - an Asian Journal, 2018, 13, 785-789.	1.7	9
65	Chemoselective Suzuki Coupling of Bromoarenes Catalysed by Palladium(II)â€Complexing Macrocycles in Aqueous Media. ChemistrySelect, 2018, 3, 446-450.	0.7	9
66	A Guiding Principle for Strengthening Crosslinked Polymers: Synthesis and Application of Mobilityâ€Controlling Rotaxane Crosslinkers. Angewandte Chemie, 2019, 131, 2791-2794.	1.6	9
67	A Diarylacetonitrile as a Molecular Probe for the Detection of Polymeric Mechanoradicals in the Bulk State through a Radical Chainâ€Transfer Mechanism. Angewandte Chemie, 2021, 133, 2712-2715.	1.6	9
68	Post-polymerization modification of polybenzoxazines with boronic acids supported by Bâ€“N interactions. Polymer Chemistry, 2021, 12, 5266-5270.	1.9	9
69	Network reorganization in cross-linked polymer/silica composites based on exchangeable dynamic covalent carbonâ€“carbon bonds. Polymer, 2019, 177, 10-18.	1.8	8
70	A Vinylic Rotaxane Crossâ€Linker Containing Crown Ether for Hydrophilic and Hard Rotaxaneâ€Networked Polymers. Macromolecular Symposia, 2019, 385, 1800186.	0.4	8
71	Photoinduced Regulation of the Heat Resistance in Polymer Networks with Diarylethene-Conjugated Reversible Covalent Cross-Links. ACS Macro Letters, 2019, 8, 1-6.	2.3	8
72	Characterization of N-phenylmaleimide-terminated poly(ethylene glycol)s and their application to a tetra-arm poly(ethylene glycol) gel. Soft Matter, 2020, 16, 10869-10875.	1.2	8

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73	Macromolecular [2]Rotaxanes Linked with Polystyrene: Properties and Nanoscale Film Morphologies. Macromolecules, 2019, 52, 5325-5336.	2.2	7
74	Maleimidophenyl isocyanates as postpolymerization modification agents and their applications in the synthesis of block copolymers. Journal of Polymer Science Part A, 2019, 57, 2396-2406.	2.5	7
75	A rational entry to cyclic polymers via spontaneous and selective cyclization reactions. Polymer Journal, 2021, 53, 257-269.	1.3	7
76	Mechanochromic cyclodextrins. Chemical Communications, 2022, 58, 3067-3070.	2.2	7
77	Decoupled Thermoâ€•and pHâ€Responsive Hydrogel Microspheres Crossâ€Linked by Rotaxane Networks. Angewandte Chemie, 2017, 129, 15595-15598.	1.6	6
78	Synthetic Strategy for Mechanically Interlocked Cyclic Polymers via the Ring-Expansion Polymerization of Macrocycles with a Bis(hindered amino)disulfide Linker. Macromolecules, 2021, 54, 8154-8163.	2.2	6
79	Structure Reconfigurable Mechanochromic Polymer with Shape Memory and Strain-Monitored Function Enabled by a Covalent Adaptable Network. Macromolecules, 2022, 55, 3948-3957.	2.2	6
80	Quantification for the Mixing of Polymers on Microspheres in Waterborne Latex Films. Langmuir, 2020, 36, 4855-4862.	1.6	5
81	Investigation of Mechanical Properties of Latex Films Prepared from Poly (Butyl) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 427 Td (A Gakkaishi, 2019, 47, 51-54.	0.2	4
82	A Strategy toward Cyclic Topologies Based on the Dynamic Behavior of a Bis(hindered amino)disulfide Linker. Angewandte Chemie, 2020, 132, 4299-4303.	1.6	4
83	Mechanochromic elastomers with different thermo- and mechano-responsive radical-type mechanophores. Soft Matter, 2022, 18, 3218-3225.	1.2	4
84	Phase Transition Behaviors and Nanoscale Film Morphologies of Poly(Î´â€valerolactone) Axles Bearing Movable and Fixed Rotaxane Wheels. Macromolecular Rapid Communications, 2019, 40, 1900334.	2.0	3
85	Synthesis of well-defined mechanochromic polymers based on a radical-type mechanochromophore by RAFT polymerization: living radical polymerization from a polymerization inhibitor. Polymer Chemistry, 2020, 11, 4290-4296.	1.9	3
86	Sulfur-33 NQR investigation of the electric-field-gradient tensor in an organosulfur compound. Zeitschrift Fur Naturforschung - Section B Journal of Chemical Sciences, 2019, 74, 421-425.	0.3	3
87	Reversible cyclic-linear topological transformation using a long-range rotaxane switch. Polymer Chemistry, 2021, 12, 6381-6385.	1.9	3
88	Enhancement of Mechanophore Activation by Electrostatic Interaction. Bulletin of the Chemical Society of Japan, 2022, 95, 646-651.	2.0	3
89	InnenrÃ¼cktitelbild: Segmented Polyurethane Elastomers with Mechanochromic and Selfâ€Strengthening Functions (Angew. Chem. 15/2021). Angewandte Chemie, 2021, 133, 8639-8639.	1.6	1
90	Toughening of Polymer Networks by Freezing-induced Monomer Insertion. Chemistry Letters, 2021, 50, 1223-1225.	0.7	1

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91	Cyclic Polymers Synthesized by Spontaneous Selective Cyclization Approaches. , 2022, , 319-334.		1
92	Isolation of hetero-telechelic polyethylene glycol with groups of different reactivity at the chain ends. Polymer Journal, 2022, 54, 1321-1329.	1.3	1
93	Branched/Linear Polymer Topology Transformation Facilitated by Mechanical Linking of Polymer Chains. Nippon Gomu Kyokaishi, 2017, 90, 283-289.	0.0	0
94	RÃ¼cktitelbild: Fusion of Different Crosslinked Polymers Based on Dynamic Disulfide Exchange (Angew.) Tj ETQq0 0 0 rgBT /Overlock 10	1.6	0
95	Design of Self-healing Polymers and High Value-added Urethane-containing Rubber Materials Based on Dynamic Covalent Chemistry. Nippon Gomu Kyokaishi, 2021, 94, 33-38.	0.0	0
96	Novel Topological Cross-Linkers Synthesized for Vinyl Polymer Systems. Kobunshi Ronbunshu, 2015, 72, 93-103.	0.2	0
97	Repairing and Reprocessing of Cross-linked Polymers Based on Thermally Exchangeable Disulfide Bond. The Proceedings of the Materials and Processing Conference, 2018, 2018.26, 815.	0.0	0
98	Syntheses and Property of Rotaxane-Cross-linked Polymers: Influence of Coexisted Covalent Cross-link on The Property. Nippon Gomu Kyokaishi, 2019, 92, 101-108.	0.0	0
99	Reactive Polyurethanes with Dynamic Covalent Linkages. Journal of the Adhesion Society of Japan, 2019, 55, 168-174.	0.0	0