Kohzo Ito

List of Publications by Year
in descending order

91 papers	4,553 citations	109321 35 h-index	102487 66 g-index
91 all docs	91 docs citations	91 times ranked	3413 citing authors

#	Article	IF	Citations
1	Extremely stretchable thermosensitive hydrogels by introducing slide-ring polyrotaxane cross-linkers and ionic groups into the polymer network. Nature Communications, 2014, 5, 5124.	12.8	441
2	Tough hydrogels with rapid self-reinforcement. Science, 2021, 372, 1078-1081.	12.6	343
3	Recent advances in the preparation of cyclodextrin-based polyrotaxanes and their applications to soft materials. Soft Matter, 2007, 3, 1456.	2.7	280
4	Effective Production of Poly(3-alkylthiophene) Nanofibers by means of Whisker Method using Anisole Solvent: Structural, Optical, and Electrical Properties. Macromolecules, 2008, 41, 8000-8010.	4.8	255
5	Efficient Production of Polyrotaxanes fromÎ±-Cyclodextrin and Poly(ethylene glycol). Macromolecules, 2005, 38, 7524-7527.	4.8	166
6	From topological gels to slideâ€ring materials. Journal of Applied Polymer Science, 2014, 131, .	2.6	145
7	Slide-ring materials using topological supramolecular architecture. Current Opinion in Solid State and Materials Science, 2010, 14, 28-34.	11.5	144
8	SANS Studies on Deformation Mechanism of Slide-Ring Gel. Macromolecules, 2005, 38, 6161-6167.	4.8	131
9	Highly Stretchable and Instantly Recoverable Slide-Ring Gels Consisting of Enzymatically Synthesized Polyrotaxane with Low Host Coverage. Chemistry of Materials, 2018, 30, 5013-5019.	6.7	120
10	Atomic force microscopy observation of insulated molecular wire formed by conducting polymer and molecular nanotube. Journal of Chemical Physics, 2002, 116, 1753-1756.	3.0	114
11	Optically transparent, high-toughness elastomer using a polyrotaxane cross-linker as a molecular pulley. Science Advances, 2018, 4, eaat7629.	10.3	114
12	Novel entropic elasticity of polymeric materials: why is slide-ring gel so soft?. Polymer Journal, 2012, 44, 38-41.	2.7	109
13	Small-Angle X-ray Scattering Study of the Pulley Effect of Slide-Ring Gels. Macromolecules, 2006, 39, 7386-7391.	4.8	98
14	Dielectric elastomer actuator with excellent electromechanical performance using slide-ring materials/barium titanate composites. Journal of Materials Chemistry A, 2015, 3, 9468-9479.	10.3	94
15	Pressureâ€Responsive Polymer Membranes of Slideâ€Ring Gels with Movable Crossâ€Links. Advanced Materials, 2013, 25, 4636-4640.	21.0	93
16	Unusual Fracture Behavior of Slide-Ring Gels with Movable Cross-Links. ACS Macro Letters, 2017, 6, 1409-1413.	4.8	86
17	Thermally Healable and Reprocessable Bis(hindered amino)disulfide-Cross-Linked Polymethacrylate Networks. ACS Macro Letters, 2017, 6, 1280-1284.	4.8	83
18	Polyrotaxane derivatives. I. Preparation of modified polyrotaxanes with nonionic functional groups and their solubility in organic solvents. Journal of Polymer Science Part A, 2006, 44, 6312-6323.	2.3	79

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19	Mechanics of slide-ring gels: novel entropic elasticity of a topological network formed by ring and string. Soft Matter, 2012, 8, 8179.	2.7	79
20	Slide-Ring Cross-Links Mediated Tough Metallosupramolecular Hydrogels with Superior Self-Recoverability. Macromolecules, 2019, 52, 6748-6755.	4.8	68
21	Viscoelastic Properties of Slide-Ring Gels Reflecting Sliding Dynamics of Partial Chains and Entropy of Ring Components. Macromolecules, 2013, 46, 310-316.	4.8	67
22	A significant impact of hostâ€“guest stoichiometry on the extensibility of polyrotaxane gels. Chemical Communications, 2015, 51, 16180-16183.	4.1	63
23	New solvent for polyrotaxane. II. Dissolution behavior of polyrotaxane in ionic liquids and preparation of ionic liquid-containing slide-ring gels. Journal of Polymer Science, Part B: Polymer Physics, 2006, 44, 1985-1994.	2.1	59
24	Dynamic transition between rubber and sliding states attributed to slidable cross-links. Soft Matter, 2011, 7, 8737.	2.7	59
25	Poly(<i>N</i>-isopropylacrylamide) Gel Prepared Using a Hydrophilic Polyrotaxane-Based Movable Cross-Linker. Macromolecules, 2010, 43, 1975-1980.	4.8	57
26	New solvent for polyrotaxane. I. Dimethylacetamide/lithium chloride (DMAc/LiCl) system for modification of polyrotaxane. Journal of Polymer Science Part A, 2006, 44, 532-538.	2.3	55
27	Molecular Dynamics of Polyrotaxane in Solution Investigated by Quasi-Elastic Neutron Scattering and Molecular Dynamics Simulation: Sliding Motion of Rings on Polymer. Journal of the American Chemical Society, 2019, 141, 9655-9663.	13.7	50
28	Peculiar Nonlinear Elasticity of Polyrotaxane Gels with Movable Cross-Links Revealed by Multiaxial Stretching. Macromolecules, 2011, 44, 8661-8667.	4.8	49
29	Fabrication of mechanically improved hydrogels using a movable cross-linker based on vinyl modified polyrotaxane. Chemical Communications, 2008, , 5227.	4.1	48
30	Mechanical properties of supramolecular elastomers prepared from polymer-grafted polyrotaxane. Polymer, 2017, 128, 386-391.	3.8	48
31	Large increase in actuated strain of HNBR dielectric elastomer by controlling molecular interaction and dielectric filler network. RSC Advances, 2013, 3, 21896.	3.6	47
32	Direct Determination of Cross-Link Density and Its Correlation with the Elastic Modulus of a Gel with Slidable Cross-Links. ACS Macro Letters, 2019, 8, 700-704.	4.8	42
33	Molecular weight dependency of polyrotaxane-cross-linked polymer gel extensibility. Chemical Communications, 2016, 52, 13757-13759.	4.1	41
34	Anomaly in Stretching-Induced Swelling of Slide-Ring Gels with Movable Cross-Links. Macromolecules, 2009, 42, 8485-8491.	4.8	38
35	Highly Responsive Hydrogel Prepared Using Poly(<i>N</i>-isopropylacrylamide)-Grafted Polyrotaxane as a Building Block Designed by Reversible Deactivation Radical Polymerization and Click Chemistry. Macromolecules, 2017, 50, 364-374.	4.8	38
36	Polyrotaxane Glass: Peculiar Mechanics Attributable to the Isolated Dynamics of Different Components. Journal of Physical Chemistry Letters, 2015, 6, 4043-4048.	4.6	33

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37	Ordered and foam structures of semifluorinated block copolymers in supercritical carbon dioxide. Soft Matter, 2012, 8, 5811.	2.7	30
38	Peculiar elasticity and strain hardening attributable to counteractingÂentropy of chain and ring in slide-ring gels. Polymer, 2014, 55, 2614-2619.	3.8	29
39	Effect of Topological Constraint and Confined Motions on the Viscoelasticity of Polyrotaxane Glass with Different Interactions between Rings. Journal of Physical Chemistry C, 2017, 121, 1861-1869.	3.1	28
40	Orientational motions in mesogenic polyrotaxane and local mode relaxations of polymer segments in solid state polyrotaxane. Soft Matter, 2011, 7, 922-928.	2.7	27
41	Inclusion Complex of Î±-Cyclodextrin with Poly(ethylene glycol) Brush. Macromolecules, 2016, 49, 6947-6952.	4.8	27
42	Ductile Glass of Polyrotaxane Toughened by Stretch-Induced Intramolecular Phase Separation. ACS Applied Materials & Interfaces, 2017, 9, 32436-32440.	8.0	27
43	Prolonged Glass Transition due to Topological Constraints in Polyrotaxanes. Journal of the American Chemical Society, 2019, 141, 12502-12506.	13.7	27
44	Thermally conductive tough flexible elastomers as composite of slide-ring materials and surface modified boron nitride particles via plasma in solution. Applied Physics Letters, 2018, 112, .	3.3	26
45	Formation of Isolated Pseudo-Polyrotaxane Nanosheet Consisting of Î±-Cyclodextrin and Poly(ethylene) Tj ETQq1 1 0.784314 rgBT /Ov	4.8	26
46	Influence of Structural Characteristics on Stretching-Driven Swelling of Polyrotaxane Gels with Movable Cross Links. Macromolecules, 2012, 45, 6733-6740.	4.8	25
47	Softness, Elasticity, and Toughness of Polymer Networks with Slide-Ring Cross-Links. Gels, 2021, 7, 91.	4.5	24
48	Structure and dynamics of polyrotaxane-based sliding graft copolymers with alkyl side chains. Soft Matter, 2013, 9, 1895-1901.	2.7	22
49	Molecular Dynamics Simulation and Theoretical Model of Elasticity in Slide-Ring Gels. ACS Macro Letters, 2020, 9, 1280-1285.	4.8	22
50	Highly Transparent and Tough Filler Composite Elastomer Inspired by the Cornea. , 2020, 2, 325-330.		21
51	Applicability of a particularly simple model to nonlinear elasticity of slide-ring gels with movable cross-links as revealed by unequal biaxial deformation. Journal of Chemical Physics, 2014, 141, 134906.	3.0	19
52	Direct Observation of Large Deformation and Fracture Behavior at the Crack Tip of Slide-Ring Gel. Journal of the Electrochemical Society, 2019, 166, B3143-B3147.	2.9	19
53	Self-assembled Structure of Polyrotaxane Consisting of Î²-Cyclodextrin and Poly(ethylene) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 System. Chemistry Letters, 2016, 45, 991-993.	1.3	17
54	Autonomously isolated pseudo-polyrotaxane nanosheets fabricated <i>via</i> hierarchically ordered supramolecular self-assembly. Chemical Communications, 2019, 55, 4158-4161.	4.1	17

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55	Swelling measurement of polymers in high pressure carbon dioxide using a spectroscopic reflectometer. Journal of Supercritical Fluids, 2014, 95, 553-559.	3.2	16
56	Synthesis, structure, and mechanical properties of silica nanocomposite polyrotaxane gels. Beilstein Journal of Organic Chemistry, 2015, 11, 2194-2201.	2.2	16
57	Miscibility, intramolecular specific interactions and mechanical properties of a DGEBA based epoxy resin toughened with a sliding graft copolymer. Chinese Journal of Polymer Science (English Edition), 2015, 33, 433-443.	3.8	15
58	Tunable Thermoresponsive Mesoporous Block Copolymer Membranes. Macromolecules, 2016, 49, 7886-7896.	4.8	15
59	New solvent for polyrotaxane. III. Dissolution of a poly(ethylene glycol)/cyclodextrin polyrotaxane in a calcium thiocyanate aqueous solution orN-methylmorpholine-N-oxide monohydrate. Journal of Applied Polymer Science, 2007, 105, 2265-2270.	2.6	14
60	Viscoelastic relaxation attributed to the molecular dynamics of polyrotaxane confined in an epoxy resin network. Polymer Journal, 2020, 52, 1211-1221.	2.7	14
61	Drastic Change of Mechanical Properties of Polyrotaxane Bulk: ABAâ€“BAB Sequence Change Depending on Ring Position. ACS Macro Letters, 2019, 8, 140-144.	4.8	13
62	Molecular Recognition of Fluorescent Probe Molecules with a Pseudopolyrotaxane Nanosheet. ACS Macro Letters, 2021, 10, 237-242.	4.8	13
63	Boron nitride with high zeta potential via plasma processing in solution for preparation of polyrotaxane composite. Journal Physics D: Applied Physics, 2021, 54, 425202.	2.8	11
64	Preparation and study of alkyl carbamylated polyrotaxanes with large hysteresis during solâ€“gel phase transition. Polymer Chemistry, 2011, 2, 1797.	3.9	10
65	Synthesis of graft polyrotaxane by simultaneous capping of backbone and grafting from rings of pseudo-polyrotaxane. Beilstein Journal of Organic Chemistry, 2014, 10, 2573-2579.	2.2	10
66	Synthesis and surface characterization of well-defined amphiphilic block copolymers composed of polydimethylsiloxane and poly[oligo(ethylene glycol) methacrylate]. RSC Advances, 2017, 7, 25199-25207.	3.6	10
67	Efficient mechanical toughening of polylactic acid without substantial decreases in stiffness and transparency by the reactive grafting of polyrotaxanes. Journal of Inclusion Phenomena and Macrocyclic Chemistry, 2019, 93, 107-116.	1.6	10
68	Effects of Ring Size on the Dynamics of Polyrotaxane Glass. Macromolecules, 2020, 53, 8910-8917.	4.8	10
69	Anisotropic Amorphous X-ray Diffraction Attributed to the Orientation of Cyclodextrin. Journal of Physical Chemistry Letters, 2020, 11, 6201-6205.	4.6	10
70	Formation of well-defined supramolecular microstructures consisting of Î³-cyclodextrin and polyether â€"rods, cubes, plates, and nanosheetsâ€"guided by guest polymer structure. Polymer, 2019, 179, 121689.	3.8	9
71	Crack velocity dependent toughness of polyrotaxane networks: The sliding dynamics of rings on polymer under stretching. Mechanics of Materials, 2021, 156, 103784.	3.2	9
72	Retrograde orderâ€“disorder transition of a semi-fluorinated block copolymer induced by supercritical carbon dioxide. Soft Matter, 2013, 9, 10689.	2.7	8

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73	Mechanical and scratch behaviors of <scp>polyrotaxaneâ€modified</scp> poly(methyl methacrylate). Journal of Applied Polymer Science, 2021, 138, 51237.	2.6	8
74	Slide-Ring Material/Highly Dispersed Graphene Oxide Composite with Mechanical Strength and Tunable Electrical Conduction as a Stretchable-Base Substrate. ACS Applied Materials & Interfaces, 2020, 12, 47911-47920.	8.0	7
75	Fracture Behavior of Polyrotaxane-Toughened Poly(Methyl Methacrylate). Langmuir, 2022, 38, 2335-2345.	3.5	7
76	Volume Phase Transitions of Slide-Ring Gels. Polymers, 2016, 8, 217.	4.5	6
77	Fabrication of polyrotaxane and graphene nanoplate composites with high thermal conductivities. Polymer Composites, 2021, 42, 5556-5563.	4.6	6
78	Pronounced effects of the densities of threaded rings on the strain-dependent Poisson's ratio of polyrotaxane gels with movable cross-links. Soft Matter, 2018, 14, 2808-2815.	2.7	5
79	Precise control of cyclodextrin-based pseudo-polyrotaxane lamellar structure<i>via</i>axis polymer composition. Soft Matter, 2020, 16, 9035-9041.	2.7	5
80	Freestanding Tough Glassy Membranes Produced by Simple Solvent Casting of Polyrotaxane Derivatives. ACS Applied Polymer Materials, 2021, 3, 4177-4183.	4.4	5
81	Adhesion Force Analysis of Dynamic Polymer Brushes. Langmuir, 2020, 36, 6210-6215.	3.5	4
82	Facile synthesis of sliding poly(NIPA) gels using a vinyl modified polyrotaxane as a cross-linker. Transactions of the Materials Research Society of Japan, 2010, 35, 841-844.	0.2	3
83	Synthesis of Poly(Methyl Methacrylate)-Based Polyrotaxane via Reversible Additionâ€"Fragmentation Chain Transfer Polymerization. ACS Macro Letters, 2020, 9, 1853-1857.	4.8	3
84	Direct enhancement of intercomponent interactions in polyrotaxane and its pronounced effects on glass state properties. Chemical Communications, 2021, 57, 12472-12475.	4.1	3
85	Hydrophobic and hydrophilic polyrotaxane based movable cross-linkers for thermo-sensitive poly(<i>N</i>-isopropylacrylamide) gels. Transactions of the Materials Research Society of Japan, 2010, 35, 291-297.	0.2	2
86	Polymer Brush Formation Assisted by the Hierarchical Self-Assembly of Topological Supramolecules. ACS Applied Materials & Interfaces, 2021, 13, 60446-60453.	8.0	2
87	Surface Modification of Slide-Ring Gel by Strip-line Microwave Micro Atmospheric Plasma. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2010, 23, 535-540.	0.3	1
88	Mechanical and Fracture Properties of Dynamically Cross-Linked Polymer Gels and Elastomers with Molecular Necklaces. Nihon Reoroji Gakkaishi, 2019, 47, 43-49.	1.0	1
89	Hydrogen-Bonded Structure of Water in the Loop of Anchored Polyrotaxane Chain Controlled by Anchoring Density. Frontiers in Chemistry, 2021, 9, 743255.	3.6	1
90	Dynamic Light Scattering Study on Particle Diffusion in Slide-Ring Gels: Enhanced Fluctuation of Sliding Networks. Nihon Reoroji Gakkaishi, 2020, 48, 161-168.	1.0	1

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91	Thermally induced disassembly mechanism of pseudo-polyrotaxane nanosheet consisting of Î²-CD and poly(ethylene oxide)-b-poly(propylene oxide)-b-poly(ethylene oxide) triblock copolymer. Polymer Chemistry, 0, , .	3.9	1