Du Yeol Ryu

List of Publications by Year
in descending order

111 papers	4,388 citations	117453 34 h-index	114278 63 g-index
113 all docs	113 docs citations	113 times ranked	5071 citing authors

#	Article	IF	Citations
1	Photonic Crystal Palette of Binary Block Copolymer Blends for Full Visible Structural Color Encryption. Advanced Functional Materials, 2022, 32, 2103697.	7.8	21
2	Block copolymer gyroids for nanophotonics: significance of lattice transformations. Nanophotonics, 2022, 11, 2583-2615.	2.9	7
3	Photonic Crystal Palette of Binary Block Copolymer Blends for Full Visible Structural Color Encryption (Adv. Funct. Mater. 1/2022). Advanced Functional Materials, 2022, 32, .	7.8	1
4	Visualization of nonsingular defect enabling rapid control of structural color. Science Advances, 2022, 8, eabm5120.	4.7	12
5	Comb-type polymer-hybridized MXene nanosheets dispersible in arbitrary polar, nonpolar, and ionic solvents. Science Advances, 2022, 8, eabl5299.	4.7	27
6	In-depth probing of thermally-driven phase separation behavior of lamella-forming PS-b-PMMA films by infrared nanoscopy. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2022, 274, 121095.	2.0	4
7	Lowâ€Powered Eâ€Switching Block Copolymer Structural Color Display with Organohydrogel Humidity Controller. Advanced Materials Technologies, 2022, 7, .	3.0	8
8	Immobilization of Conjugated Polymer Domains for Highly Stable Non-Fullerene-Based Organic Solar Cells. ACS Applied Materials & Interfaces, 2022, 14, 23474-23486.	4.0	10
9	Thermoâ€Adaptive Block Copolymer Structural Color Electronics. Advanced Functional Materials, 2021, 31, 2008548.	7.8	39
10	Symmetry-breaking in double gyroid block copolymer films by non-affine distortion. Applied Materials Today, 2021, 23, 101006.	2.3	11
11	Mesoscale Frankâ€“Kasper Crystal Structures from Dendron Assembly by Controlling Core Apex Interactions. Journal of the American Chemical Society, 2021, 143, 17548-17556.	6.6	16
12	Various Low-Symmetry Phases in High-Ï‡ and Conformationally Asymmetric PDMS-b-PTFEA Copolymers. Macromolecules, 2021, 54, 9351-9360.	2.2	7
13	Microdomain homogeneity evaluation of perpendicular lamellar structures in block copolymer films: X-ray scattering and IR nanospectroscopy analyses. Polymer Testing, 2021, 104, 107409.	2.3	3
14	Optical Reflection from Unforbidden Diffraction of Block Copolymer Templated Gyroid Films. ACS Macro Letters, 2021, 10, 1609-1615.	2.3	6
15	Order-to-Disorder Transition of Cylinder-Forming Block Copolymer Films Confined within Neutral Interfaces. Macromolecules, 2021, 54, 11304-11315.	2.2	4
16	Molecular Engineering in Hole Transport Ï€â€Conjugated Polymers to Enable High Efficiency Colloidal Quantum Dot Solar Cells. Advanced Energy Materials, 2020, 10, 1902933.	10.2	36
17	PbS-Based Quantum Dot Solar Cells with Engineered Ï€-Conjugated Polymers Achieve 13% Efficiency. ACS Energy Letters, 2020, 5, 3452-3460.	8.8	32
18	Balanced Interfacial Interactions for Fluoroacrylic Block Copolymer Films and Fast Electric Field Directed Assembly. Chemistry of Materials, 2020, 32, 9633-9641.	3.2	14

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19	3D touchless multiorder reflection structural color sensing display. Science Advances, 2020, 6, eabb5769.	4.7	81
20	Lamellar Orientation and Transition Behavior of PS-b-P2VP Copolymers Supported on Physically Adsorbed Layers. Macromolecules, 2020, 53, 6213-6219.	2.2	4
21	Highâ€Efficiency Solutionâ€Processed Twoâ€Terminal Hybrid Tandem Solar Cells Using Spectrally Matched Inorganic and Organic Photoactive Materials. Advanced Energy Materials, 2020, 10, 2001188.	10.2	37
22	Nanoparticle-Induced Self-Assembly of Block Copolymers into Nanoporous Films at the Airâ€“Water Interface. ACS Nano, 2020, 14, 12203-12209.	7.3	20
23	Universal three-dimensional crosslinker for all-photopatterned electronics. Nature Communications, 2020, 11, 1520.	5.8	65
24	Shallow and Deep Trap State Passivation for Low-Temperature Processed Perovskite Solar Cells. ACS Energy Letters, 2020, 5, 1396-1403.	8.8	75
25	Quantum Dot Solar Cells: Molecular Engineering in Hole Transport Ï€â€Conjugated Polymers to Enable High Efficiency Colloidal Quantum Dot Solar Cells (Adv. Energy Mater. 8/2020). Advanced Energy Materials, 2020, 10, 2070035.	10.2	2
26	Stacked Layer to Gyroid Structures in Partially Fluorinated PS-b-PtBMA Copolymer Films. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2020, 33, 523-528.	0.1	0
27	Ultra-selective ferric ion-complexed membranes composed of water-based zwitterionic comb copolymers. Journal of Materials Chemistry A, 2019, 7, 20847-20853.	5.2	2
28	P (VDFâ€•co â€CTFE)â€•g â€P2VP amphiphilic graft copolymers: Synthesis, structure, and permeation properties. Polymers for Advanced Technologies, 2019, 30, 2707-2720.	1.6	2
29	Frankâ€“Kasper Phases Identified in PDMSâ€bâ€PTFEA Copolymers with High Conformational Asymmetry. Macromolecular Rapid Communications, 2019, 40, e1900259.	2.0	51
30	Nonvolatile, Multicolored Photothermal Writing of Block Copolymer Structural Color. Advanced Functional Materials, 2019, 29, 1904055.	7.8	30
31	Order-to-Disorder Transition of Lamella-Forming PS-b-P2VP Films Confined between the Preferential Surface and Neutral Substrate. Macromolecules, 2019, 52, 8672-8681.	2.2	9
32	Information Storage: Nonvolatile, Multicolored Photothermal Writing of Block Copolymer Structural Color (Adv. Funct. Mater. 42/2019). Advanced Functional Materials, 2019, 29, 1970295.	7.8	0
33	Instability of Polystyrene Film and Thermal Behaviors Mediated by Unfavorable Silicon Oxide Interlayer. Macromolecules, 2019, 52, 7524-7530.	2.2	9
34	Molecular Origin of the Induction Period in Photoinitiated Cationic Polymerization of Epoxies and Oxetanes. Macromolecules, 2019, 52, 1158-1165.	2.2	19
35	Performance Optimization of Parallelâ€Like Ternary Organic Solar Cells through Simultaneous Improvement in Charge Generation and Transport. Advanced Functional Materials, 2019, 29, 1808731.	7.8	37
36	Irreversible Physisorption of PS-b-PMMA Copolymers on Substrates for Balanced Interfacial Interactions as a Versatile Surface Modification. ACS Macro Letters, 2019, 8, 519-524.	2.3	14

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37	Ternary Organic Solar Cells: Performance Optimization of Parallelâ€Like Ternary Organic Solar Cells through Simultaneous Improvement in Charge Generation and Transport (Adv. Funct. Mater. 14/2019). Advanced Functional Materials, 2019, 29, 1970093.	7.8	0
38	Nanoporous Structures from PS-b-PMMA-b-PtBA Triblock Copolymer and Selective Modification for Ultrafiltration Membranes. ACS Applied Polymer Materials, 2019, 1, 584-592.	2.0	5
39	Side-Chain Fluorination Effects on Morphological Behavior of PS-b-PtBMA: Disorder to Order Structures. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2019, 32, 401-406.	0.1	1
40	Orientation of an Amphiphilic Copolymer to a Lamellar Structure on a Hydrophobic Surface and Implications for CO 2 Capture Membranes. Angewandte Chemie - International Edition, 2019, 58, 1143-1147.	7.2	19
41	Orientation of an Amphiphilic Copolymer to a Lamellar Structure on a Hydrophobic Surface and Implications for CO 2 Capture Membranes. Angewandte Chemie, 2019, 131, 1155-1159.	1.6	9
42	Near-Infrared Harvesting Fullerene-Free All-Small-Molecule Organic Solar Cells Based on Porphyrin Donors. ACS Sustainable Chemistry and Engineering, 2018, 6, 5306-5313.	3.2	34
43	Block copolymer structural color strain sensor. NPG Asia Materials, 2018, 10, 328-339.	3.8	97
44	Cumulative energy analysis of thermally-induced surface wrinkling of heterogeneously multilayered thin films. Soft Matter, 2018, 14, 704-710.	1.2	11
45	Composition Fluctuation Inhomogeneity of Symmetric Diblock Copolymers: Ï‡N Effects at Order-to-Disorder Transition. Macromolecules, 2018, 51, 282-288.	2.2	7
46	Ordering and Orientation of Giant Nanostructures from High-Molecular-Weight Block Copolymer via Solvent Vapor Annealing Process. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2018, 31, 479-482.	0.1	2
47	Preferential Wetting Effects on Order-to-Disorder Transition in Polystyrene-b-poly(2-vinylpyridine) Films: A Reconsideration on Thickness Dependence. Macromolecules, 2018, 51, 8550-8560.	2.2	12
48	Fluorine-Containing Styrenic Block Copolymers toward High Ï‡ and Perpendicular Lamellae in Thin Films. Macromolecules, 2018, 51, 7152-7159.	2.2	43
49	Direct measurement of crosslinked surface layer in superabsorbent poly(acrylic acid). Materials Letters, 2018, 228, 33-36.	1.3	10
50	Improved Processability and Efficiency of Colloidal Quantum Dot Solar Cells Based on Organic Hole Transport Layers. Advanced Energy Materials, 2018, 8, 1800572.	10.2	45
51	Multifunctional Amine-Containing PVA-g-POEM Graft Copolymer Membranes for CO₂ Capture. Macromolecules, 2018, 51, 5646-5655.	2.2	11
52	Nonmonotonic Glass Transition Temperature of Polymer Films Supported on Polymer Brushes. Macromolecules, 2018, 51, 4451-4461.	2.2	18
53	Artificial light-harvesting n-type porphyrin for panchromatic organic photovoltaic devices. Chemical Science, 2017, 8, 5095-5100.	3.7	50
54	Printable and Rewritable Full Block Copolymer Structural Color. Advanced Materials, 2017, 29, 1700084.	11.1	100

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55	Fullerene-Free Organic Solar Cells with an Efficiency of 10.2% and an Energy Loss of 0.59 eV Based on a Thieno[3,4-c]Pyrrole-4,6-dione-Containing Wide Band Gap Polymer Donor. ACS Applied Materials & Interfaces, 2017, 9, 32939-32945.	4.0	48
56	Effect of Grafting Density of Random Copolymer Brushes on Perpendicular Alignment in PS-b-PMMA Thin Films. Macromolecules, 2017, 50, 5858-5866.	2.2	26
57	Molecular Tailoring of Poly(styrene-b-methyl methacrylate) Block Copolymer Toward Perpendicularly Oriented Nanodomains with Sub-10 nm Features. ACS Macro Letters, 2017, 6, 1386-1391.	2.3	37
58	Gyroid Structures in Solvent Annealed PS-b-PMMA Films: Controlled Orientation by Substrate Interactions. Macromolecules, 2017, 50, 5033-5041.	2.2	26
59	Thermally Stable Bulk Heterojunction Prepared by Sequential Deposition of Nanostructured Polymer and Fullerene. Polymers, 2017, 9, 456.	2.0	22
60	Glass Transition and Thermal Expansion Behavior of Polystyrene Films Supported on Polystyrene-Grafted Substrates. Macromolecules, 2016, 49, 5291-5296.	2.2	12
61	Giant Gyroid and Templates from High-Molecular-Weight Block Copolymer Self-assembly. Scientific Reports, 2016, 6, 36326.	1.6	35
62	An amphiphilic blockâ€“graft copolymer electrolyte: synthesis, nanostructure, and use in solid-state flexible supercapacitors. Journal of Materials Chemistry A, 2016, 4, 7848-7858.	5.2	27
63	Improving thermal stability of organic photovoltaics via constructing interdiffused bilayer of polymer/fullerene. Polymer, 2016, 103, 132-139.	1.8	16
64	Toward high efficiency organic photovoltaic devices with enhanced thermal stability utilizing P3HT-b-P3PHT block copolymer additives. Journal of Materials Chemistry A, 2016, 4, 18432-18443.	5.2	31
65	Autophobic dewetting of polystyrenes on the substrates grafted with chemically identical polymers. Polymer Journal, 2016, 48, 503-507.	1.3	8
66	Amphiphilic Graft Copolymer Nanospheres: From Colloidal Self-Assembly to CO₂ Capture Membranes. ACS Applied Materials & Interfaces, 2016, 8, 9454-9461.	4.0	11
67	Optimized Solvent Vapor Annealing for Long-Range Perpendicular Lamellae in PS-b-PMMA Films. Macromolecules, 2016, 49, 1722-1730.	2.2	35
68	Single Step Process for Self-Assembled Block Copolymer Patterns via in Situ Annealing during Spin-Casting. ACS Macro Letters, 2015, 4, 656-660.	2.3	12
69	Transition behavior of asymmetric polystyrene- b -poly(2-vinylpyridine) films: A stable hexagonally modulated layer structure. Polymer, 2015, 60, 32-39.	1.8	26
70	Efficient Organic Photovoltaics Utilizing Nanoscale Heterojunctions in Sequentially Deposited Polymer/fullerene Bilayer. Scientific Reports, 2015, 5, 8373.	1.6	49
71	Electrically Tunable Soft-Solid Block Copolymer Structural Color. ACS Nano, 2015, 9, 12158-12167.	7.3	67
72	Interpenetration of chemically identical polymer onto grafted substrates. Polymer, 2015, 74, 70-75.	1.8	13

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73	Thickness-dependent ordering of perpendicularly oriented lamellae in PS-b-PMMA thin films. Polymer, 2015, 74, 63-69.	1.8	11
74	Nanoporous Block Copolymer Membranes for Ultrafiltration: A Simple Approach to Size Tunability. ACS Nano, 2014, 8, 11745-11752.	7.3	92
75	Multiscale Porous Interconnected Nanocolander Network with Tunable Transport Properties. Advanced Materials, 2014, 26, 7998-8003.	11.1	22
76	Enthalpic and Volumetric Changes at Phase Transitions of Polystyrene-b-poly(alkyl) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 622 Td (	2.2	6
77	Substrate-Independent Lamellar Orientation in High-Molecular-Weight Polystyrene-b-poly(methyl methacrylate) Films: Neutral Solvent Vapor and Thermal Annealing Effect. Macromolecules, 2014, 47, 3969-3977.	2.2	32
78	Directed Assembly of High Molecular Weight Block Copolymers: Highly Ordered Line Patterns of Perpendicularly Oriented Lamellae with Large Periods. ACS Nano, 2013, 7, 1952-1960.	7.3	113
79	Directed self-assembly of block copolymers in the extreme: guiding microdomains from the small to the large. Soft Matter, 2013, 9, 9059.	1.2	158
80	Substrate interaction effects on order to disorder transition behavior in block copolymer films. Journal of Polymer Science, Part B: Polymer Physics, 2013, 51, 567-573.	2.4	5
81	Micron-thick, worm-like, organized TiO2 films prepared using polystyrene-b-poly(2-vinyl pyridine) block copolymer and preformed TiO2 for solid-state dye-sensitized solar cells. Electrochimica Acta, 2013, 105, 15-22.	2.6	5
82	Liquid adsorption at surfaces patterned with cylindrical nano-cavities. Soft Matter, 2013, 9, 10550.	1.2	1
83	Rapid structural reorganization in thin films of block copolymer self-assembly. Soft Matter, 2012, 8, 3570.	1.2	17
84	Lamellar microdomain orientation and phase transition of polystyrene-b-poly(methyl methacrylate) films by controlled interfacial interactions. Soft Matter, 2012, 8, 3463.	1.2	29
85	Microdomain expansion and transition behavior of PS-b-PMMA/PS homopolymers by SAXS analysis. Polymer, 2012, 53, 5163-5169.	1.8	11
86	Perpendicular orientation of microdomains in PS-b-PMMA thin films on the PS brushed substrates. Soft Matter, 2011, 7, 6920.	1.2	36
87	Phase Behavior and Ionic Conductivity of Lithium Perchlorate-Doped Polystyrene-b-poly(2-vinylpyridine) Copolymer. Macromolecules, 2011, 44, 6085-6093.	2.2	48
88	Efficiency improvement of dye-sensitized solar cells using graft copolymer-templated mesoporous TiO2films as an interfacial layer. Journal of Materials Chemistry, 2011, 21, 1772-1779.	6.7	51
89	Enhanced Performance of I₂â€Free Solidâ€State Dyeâ€Sensitized Solar Cells with Conductive Polymer up to 6.8%. Advanced Functional Materials, 2011, 21, 4633-4639.	7.8	76
90	Solar Cells: Enhanced Performance of I2-Free Solid-State Dye-Sensitized Solar Cells with Conductive Polymer up to 6.8% (Adv. Funct. Mater. 24/2011). Advanced Functional Materials, 2011, 21, 4698-4698.	7.8	1

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91	Ordering and microdomain orientation in block copolymer films by thermal deprotection. Polymer, 2011, 52, 2677-2684.	1.8	8
92	Luminescent iron oxide nanoparticles prepared by one-pot aphen-functionalization. Macromolecular Research, 2010, 18, 1109-1114.	1.0	10
93	Transition behavior of PS-b-PMMA films on the balanced interfacial interactions. Polymer, 2010, 51, 6313-6318.	1.8	29
94	Polymer Brush As a Facile Dielectric Surface Treatment for High-Performance, Stable, Soluble Acene-Based Transistors. Chemistry of Materials, 2010, 22, 5377-5382.	3.2	41
95	Preparation of TiO2 spheres with hierarchical pores via grafting polymerization and solâ€“gel process for dye-sensitized solar cells. Journal of Materials Chemistry, 2010, 20, 8521.	6.7	91
96	Glass Transition Behavior of PS Films on Grafted PS Substrates. Macromolecules, 2010, 43, 9892-9898.	2.2	38
97	Transition Behavior of Hydrogen-Bonding-Mediated Block Copolymer Mixtures. Macromolecules, 2010, 43, 6120-6126.	2.2	7
98	On the synergistic coupling properties of composite CdS/TiO₂nanoparticle arrays confined in nanopatterned hybrid thin films. Journal of Materials Chemistry, 2010, 20, 677-682.	6.7	80
99	Luminescent goldâ€“poly(thiophene) nanoaggregates prepared by one-step oxidative polymerization. Journal of Materials Chemistry, 2010, 20, 9770.	6.7	11
100	Block Copolymer Nanolithography: Translation of Molecular Level Control to Nanoscale Patterns. Advanced Materials, 2009, 21, 4769-4792.	11.1	637
101	Phase Behavior of a Weakly Interacting Polystyrene and Poly(nâ€hexyl methacrylate) System: Evidence for the Coexistence of UCST and LCST. Macromolecular Rapid Communications, 2009, 30, 469-474.	2.0	10
102	Transition behavior and ionic conductivity of lithium perchlorate-doped polystyrene-b-poly(2-vinylpyridine). Polymer, 2009, 50, 3822-3827.	1.8	15
103	Dewetting of PMMA on PSâ˜Brush Substrates. Macromolecules, 2009, 42, 7919-7923.	2.2	41
104	Phase Behavior of Polystyrene-b-poly(methyl methacrylate) Diblock Copolymer. Macromolecules, 2009, 42, 7897-7902.	2.2	51
105	Transition Behavior of Weakly Interacting PS-b-PMMA Films on Preferential Surfaces: A Direct Observation by GISAXS. Macromolecules, 2009, 42, 8385-8391.	2.2	27
106	Cylindrical Microdomain Orientation of PS-b-PMMA on the Balanced Interfacial Interactions: Composition Effect of Block Copolymers. Macromolecules, 2009, 42, 4902-4906.	2.2	65
107	A versatile approach to the fabrication of TiO2 nanostructures with reverse morphology and mesoporous Ag/TiO2 thin films via cooperative PS-b-PEO self-assembly and a sol-gel process. Journal of Materials Chemistry, 2009, 19, 7245.	6.7	30
108	Microdomain Orientation of PS-b-PMMA by Controlled Interfacial Interactions. Macromolecules, 2008, 41, 6431-6437.	2.2	211

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109	Size control and registration of nano-structured thin films by cross-linkable units. Soft Matter, 2008, 4, 475.	1.2	34
110	Transition Behavior of Block Copolymer Thin Films on Preferential Surfaces. Macromolecules, 2008, 41, 9140-9145.	2.2	45
111	A Generalized Approach to the Modification of Solid Surfaces. Science, 2005, 308, 236-239.	6.0	500