

# BongSoo Kim

## List of Publications by Year in descending order

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97  
papers

2,948  
citations

279798

23  
h-index

175258

52  
g-index

99  
all docs

99  
docs citations

99  
times ranked

4399  
citing authors

#	ARTICLE	IF	CITATIONS
1	Printable ion-gel gate dielectrics for low-voltage polymer thin-film transistors. <i>Nature Materials</i> , 2008, 7, 900-906.	27.5	1,077
2	Importance of Solubilizing Group and Backbone Planarity in Low Band Gap Polymers for High Performance Ambipolar field-effect Transistors. <i>Chemistry of Materials</i> , 2012, 24, 1316-1323.	6.7	168
3	A Highly Planar Fluorinated Benzothiadiazole-Based Conjugated Polymer for High-Performance Organic Thin-Film Transistors. <i>Advanced Materials</i> , 2015, 27, 3045-3052.	21.0	159
4	Solution processed WO <sub>3</sub> layer for the replacement of PEDOT:PSS layer in organic photovoltaic cells. <i>Organic Electronics</i> , 2012, 13, 959-968.	2.6	126
5	High-resolution patterning of colloidal quantum dots via non-destructive, light-driven ligand crosslinking. <i>Nature Communications</i> , 2020, 11, 2874.	12.8	114
6	Universal three-dimensional crosslinker for all-photopatterned electronics. <i>Nature Communications</i> , 2020, 11, 1520.	12.8	65
7	Highly Sensitive Flexible NH <sub>3</sub> Sensors Based on Printed Organic Transistors with Fluorinated Conjugated Polymers. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 7322-7330.	8.0	59
8	Transparent and Colorless Polyimides Containing Multiple Trifluoromethyl Groups as Gate Insulators for Flexible Organic Transistors with Superior Electrical Stability. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 18739-18747.	8.0	58
9	Nanoscale Management of Molecular Packing and Orientation of Small Molecules by a Combination of Linear and Branched Alkyl Side Chains. <i>ACS Nano</i> , 2014, 8, 5988-6003.	14.6	52
10	Degradation of a Thin Ag Layer Induced by Poly(3,4-ethylenedioxythiophene):Polystyrene Sulfonate in a Transmission Electron Microscopy Specimen of an Inverted Polymer Solar Cell. <i>ACS Applied Materials &amp; Interfaces</i> , 2012, 4, 5118-5124.	8.0	40
11	Effects of Backbone Planarity and Tightly Packed Alkyl Chains in the Donor-Acceptor Polymers for High Photostability. <i>Macromolecules</i> , 2016, 49, 7844-7856.	4.8	39
12	The mode coupling theory in the FDR-preserving field theory of interacting Brownian particles. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2007, 40, F33-F42.	2.1	33
13	Highly Stretchable, High-Mobility, Free-Standing All-Organic Transistors Modulated by Solid-State Elastomer Electrolytes. <i>Advanced Functional Materials</i> , 2019, 29, 1808909.	14.9	33
14	Crystallinity-Controlled Naphthalene-diketopyrrolopyrrole Copolymers for High-Performance Ambipolar Field Effect Transistors. <i>Journal of Physical Chemistry C</i> , 2012, 116, 26204-26213.	3.1	32
15	High Crystalline Dithienosilole-Cored Small Molecule Semiconductor for Ambipolar Transistor and Nonvolatile Memory. <i>ACS Applied Materials &amp; Interfaces</i> , 2014, 6, 6589-6597.	8.0	31
16	Structure-Property Relationships of Semiconducting Polymers for Flexible and Durable Polymer Field-Effect Transistors. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 40503-40515.	8.0	31
17	Equilibrium dynamics of the Dean-Kawasaki equation: Mode-coupling theory and its extension. <i>Physical Review E</i> , 2014, 89, 012150.	2.1	29
18	Impact of symmetry-breaking of non-fullerene acceptors for efficient and stable organic solar cells. <i>Chemical Science</i> , 2021, 12, 14083-14097.	7.4	27

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19	High Performance of Low Band Gap Polymer-Based Ambipolar Transistor Using Single-Layer Graphene Electrodes. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 6002-6012.	8.0	26
20	Improvement in performance of inverted organic solar cell by rare earth element lanthanum doped ZnO electron buffer layer. <i>Materials Chemistry and Physics</i> , 2020, 240, 122076.	4.0	26
21	Toward Perfect Light Trapping in Thin-Film Photovoltaic Cells: Full Utilization of the Dual Characteristics of Light. <i>Advanced Optical Materials</i> , 2015, 3, 1697-1702.	7.3	25
22	Simple Solvent Engineering for High-Mobility and Thermally Robust Conjugated Polymer Nanowire Field-Effect Transistors. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 29824-29830.	8.0	25
23	Structural fluctuation of protein in water around its native state: A new statistical mechanics formulation. <i>Journal of Chemical Physics</i> , 2013, 138, 054108.	3.0	24
24	Improvement in performance of inverted polymer solar cells by interface engineering of ALD ZnS on ZnO electron buffer layer. <i>Applied Surface Science</i> , 2019, 481, 1442-1448.	6.1	23
25	New Insights into the Photodegradation Mechanism of the PTB7-Th Film: Photooxidation of $\pi$ -Conjugated Backbone upon Sunlight Illumination. <i>Journal of Physical Chemistry C</i> , 2020, 124, 2762-2770.	3.1	23
26	Structural and morphological tuning of dithienobenzodithiophene-core small molecules for efficient solution processed organic solar cells. <i>Dyes and Pigments</i> , 2015, 115, 23-34.	3.7	22
27	Difluorobenzothiadiazole and Selenophene-Based Conjugated Polymer Demonstrating an Effective Hole Mobility Exceeding $5 \text{ cm}^2/\text{Vs}$ with Solid-State Electrolyte Dielectric. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 32492-32500.	8.0	22
28	A fluctuation-dissipation relationship-preserving field theory for interacting Brownian particles: one-loop theory and mode coupling theory. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2008, 2008, P02004.	2.3	21
29	A Nonchlorinated Solvent-Processable Fluorinated Planar Conjugated Polymer for Flexible Field-Effect Transistors. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 28817-28827.	8.0	20
30	Photoresponsive Transistors Based on a Dual Acceptor-Containing Low-Bandgap Polymer. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 19011-19020.	8.0	19
31	Dynamics of spin and chiral ordering in the two-dimensional fully frustrated XY model. <i>Physical Review E</i> , 1995, 51, R4-R7.	2.1	18
32	Ordering kinetics of two-dimensional O(2) models: Scaling and temperature dependence. <i>Physical Review E</i> , 1995, 52, 1550-1557.	2.1	17
33	pn-Heterojunction Effects of Perylene Tetracarboxylic Diimide Derivatives on Pentacene Field-Effect Transistor. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 2025-2031.	8.0	17
34	Synergistic effects of solvent and polymer additives on solar cell performance and stability of small molecule bulk heterojunction solar cells. <i>Journal of Materials Chemistry A</i> , 2016, 4, 18383-18391.	10.3	17
35	Functionalized Organic Material Platform for Realization of Ternary Logic Circuit. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 6119-6126.	8.0	17
36	Carrier Lifetime Extension via the Incorporation of Robust Hole/Electron Blocking Layers in Bulk Heterojunction Polymer Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2014, 6, 333-339.	8.0	16

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37	Super-antireflective Structure Films with Precisely Controlled Refractive Index Profile. <i>Advanced Optical Materials</i> , 2017, 5, 1600616.	7.3	16
38	Universal Route to Impart Orthogonality to Polymer Semiconductors for Sub-micrometer Tandem Electronics. <i>Advanced Materials</i> , 2019, 31, e1901400.	21.0	16
39	Nonequilibrium mode-coupling theory for uniformly sheared systems. <i>Physical Review E</i> , 2009, 79, 021203.	2.1	15
40	A new rigid planar low band gap PTTDPP-DT-DTT polymer for organic transistors and performance improvement through the use of a binary solvent system. <i>Dyes and Pigments</i> , 2016, 126, 138-146.	3.7	15
41	Low-Band-Gap Polymer-Based Ambipolar Transistors and Inverters Fabricated Using a Flow-Coating Method. <i>Journal of Physical Chemistry C</i> , 2016, 120, 13865-13872.	3.1	15
42	Bar-coated high-performance organic thin-film transistors based on ultrathin PDFDT polymer with molecular weight independence. <i>Organic Electronics</i> , 2016, 29, 88-93.	2.6	15
43	Correlation between Polymer Structure and Polymer:Fullerene Blend Morphology and Its Implications for High Performance Polymer Solar Cells. <i>Journal of Physical Chemistry C</i> , 2014, 118, 2237-2244.	3.1	14
44	A dynamic mean-field glass model with reversible mode coupling and a trivial Hamiltonian. <i>Journal of Physics Condensed Matter</i> , 2002, 14, 2265-2273.	1.8	13
45	Orientation Control of Semiconducting Polymers Using Microchannel Molds. <i>ACS Nano</i> , 2020, 14, 12951-12961.	14.6	13
46	Impact of Molecular Weight on Molecular Doping Efficiency of Conjugated Polymers and Resulting Thermoelectric Performances. <i>Advanced Functional Materials</i> , 2022, 32, .	14.9	13
47	Nonequilibrium critical relaxation of the order parameter and energy in the two-dimensional ferromagnetic Potts model. <i>Physical Review E</i> , 2008, 77, 056104.	2.1	11
48	Vortex jamming in superconductors and granular rheology. <i>New Journal of Physics</i> , 2009, 11, 013010.	2.9	11
49	High performance inverted polymer solar cells using ultrathin atomic layer deposited TiO <sub>2</sub> films. <i>Synthetic Metals</i> , 2015, 207, 31-34.	3.9	11
50	Influence of 3D morphology on the performance of all-polymer solar cells processed using environmentally benign nonhalogenated solvents. <i>Nano Energy</i> , 2020, 77, 105106.	16.0	11
51	Effect of asymmetric solubility of diketopyrrolopyrrole-based polymers and PC71BMs in a binary solvent system on the performance of bulk heterojunction solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2014, 124, 232-240.	6.2	10
52	Well-Balanced Carrier Mobilities in Ambipolar Transistors Based on Solution-Processable Low Band Gap Small Molecules. <i>Journal of Physical Chemistry C</i> , 2015, 119, 16414-16423.	3.1	10
53	Low-voltage, high-performance polymeric field-effect transistors based on self-assembled monolayer-passivated HfO <sub>x</sub> dielectrics: Correlation between trap density, carrier mobility, and operation voltage. <i>Organic Electronics</i> , 2019, 74, 135-143.	2.6	10
54	Tetrabranch Photo-Crosslinker Enables Micrometer-Scale Patterning of Light-Emitting Super Yellow for High-Resolution OLEDs. <i>ACS Photonics</i> , 2021, 8, 2519-2528.	6.6	10

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55	Immobilization of Conjugated Polymer Domains for Highly Stable Non-Fullerene-Based Organic Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 23474-23486.	8.0	10
56	Organic Semiconductor-Containing Supramolecules: Effect of Small Molecule Crystallization and Molecular Packing. <i>Macromolecules</i> , 2016, 49, 833-843.	4.8	9
57	Brownian dynamics: From glassy to trivial. <i>Physical Review E</i> , 2015, 91, 022130.	2.1	8
58	$\text{pCuInS}_2$ /Polymer Semiconductor Heterojunction for Photoelectrochemical Hydrogen Evolution. <i>ChemSusChem</i> , 2020, 13, 6651-6659.	6.8	8
59	Impact of Aryl End Group Engineering of Donor Polymers on the Morphology and Efficiency of Halogen-Free Solvent-Processed Nonfullerene Organic Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 10616-10626.	8.0	8
60	Infinite ground state degeneracy and glassy dynamics in the frustrated XY model and lattice Coulomb gas with. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2002, 315, 314-320.	2.6	7
61	Processing temperature control of a diketopyrrolopyrrole-alt-thieno[2,3-b]thiophene polymer for high-mobility thin-film transistors and polymer solar cells with high open-circuit voltages. <i>Polymer</i> , 2016, 105, 79-87.	3.8	7
62	Multi-scale dynamics simulation of protein based on the generalized Langevin equation combined with 3D-RISM theory. <i>Journal of Molecular Liquids</i> , 2016, 217, 23-28.	4.9	7
63	High-Performance Polymer Semiconductor-Based Nonvolatile Memory Cells with Nondestructive Read-Out. <i>Journal of Physical Chemistry C</i> , 2017, 121, 24352-24357.	3.1	7
64	The 3D morphological stability of P3HT nanowire-based bulk heterojunction thin films against light irradiation quantitatively resolved by TEM tomography. <i>Journal of Materials Chemistry A</i> , 2019, 7, 2027-2033.	10.3	7
65	Unprecedented Long-Term Thermal Stability of 1D/2A Terpolymer-Based Polymer Solar Cells Processed with Nonhalogenated Solvent. <i>Solar Rrl</i> , 2021, 5, 2100513.	5.8	7
66	Coarsening kinetics of a two-dimensional $O(2)$ Ginzburg-Landau model: the effect of reversible mode coupling. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2011, 2011, P03013.	2.3	6
67	Balancing intermolecular interactions by variation of pendent alkyl chains for high performance organic photovoltaics. <i>Dyes and Pigments</i> , 2017, 137, 445-455.	3.7	6
68	Wafer-scale and patternable synthesis of $\text{NbS}_2$ for electrodes of organic transistors and logic gates. <i>Journal of Materials Chemistry C</i> , 2019, 7, 8599-8606.	5.5	6
69	Poly( <i>N</i> -isopropylacrylamide- <i>co</i> -methacrylic acid) Interfacial Layer for Efficient and Stable Inverted Organic Solar Cells. <i>Journal of Physical Chemistry C</i> , 2019, 123, 2755-2765.	3.1	6
70	Modeling ligand crosslinking for interlocking quantum dots in thin-films. <i>Journal of Materials Chemistry C</i> , 2022, 10, 7132-7140.	5.5	6
71	Nonequilibrium relaxations within the ground-state manifold in the antiferromagnetic Ising model on a triangular lattice. <i>Physical Review E</i> , 2007, 75, 021106.	2.1	5
72	Modulation of optical and electronic properties of quinoxaline-based conjugated polymers for organic photovoltaic cells. <i>Journal of Polymer Science Part A</i> , 2015, 53, 1904-1914.	2.3	5

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73	Positional Effect of the 2-Ethylhexyl Carboxylate Side Chain on the Thiophene $\pi$ -Bridge of Nonfullerene Acceptors for Efficient Organic Solar Cells. <i>ACS Applied Energy Materials</i> , 2021, 4, 11675-11683.	5.1	5
74	Two-Color Strip-Patterned White OLEDs: Tunable Color-Temperature via Pattern Dimension Control. <i>Advanced Optical Materials</i> , 2022, 10, .	7.3	5
75	Kinetically driven glassy transition in an exactly solvable toy model with a reversible mode coupling mechanism and trivial statics. <i>Journal of Physics Condensed Matter</i> , 2002, 14, 1627-1636.	1.8	4
76	Vortex Solid Phase with Frozen Undulations in Superconducting Josephson-Junction Arrays in External Magnetic Fields. <i>Physical Review Letters</i> , 2010, 105, 257004.	7.8	4
77	Coarsening of two-dimensional XY model with Hamiltonian dynamics: logarithmically divergent vortex mobility. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2012, 2012, P11023.	2.3	4
78	Nonequilibrium kinetics of excess defect generation and dynamic scaling in the Ising spin chain under slow cooling. <i>Physical Review E</i> , 2020, 102, 012114.	2.1	4
79	Regio-regular alternating diketopyrrolopyrrole-based $D_{1/2}$ - $A_{2/2}$ terpolymers for the enhanced performance of polymer solar cells. <i>RSC Advances</i> , 2019, 9, 42096-42109.	3.6	3
80	Out of Equilibrium Dynamics of the Toy Model with Mode Coupling and Trivial Hamiltonian. <i>Journal of Statistical Physics</i> , 2002, 109, 591-606.	1.2	2
81	Slow Dynamics in the Relaxation of an Irrationally Frustrated XY Model in Two Dimensions: Analogy to Supercooled Liquids. <i>Progress of Theoretical Physics Supplement</i> , 1997, 126, 349-354.	0.1	2
82	A FDR-Preserving Field Theory for Interacting Brownian Particles: One-Loop Theory and MCT. <i>AIP Conference Proceedings</i> , 2008, . .	0.4	1
83	An FDR-Consistent Field Theory for the Stochastic Dynamic Density Functional Model. <i>Progress of Theoretical Physics Supplement</i> , 2009, 178, 123-132.	0.1	1
84	Coarsening of a nonequilibrium kinetic Ising chain with absorbing transitions: spatial correlation of the order parameters and their dynamic scalings. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2010, 2010, P08013.	2.3	1
85	Double transitions, non-Ising criticality and the critical absorbing phase in an interacting monomer-dimer model on a square lattice. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2011, 2011, L06001.	2.3	1
86	Quantum mechanical/molecular mechanical approach for the simulation of UV-Vis absorption spectra of $\pi$ -conjugated oligomers. <i>Journal of Molecular Liquids</i> , 2021, 341, 117406.	4.9	1
87	Highly Sensitive and Durable Organic Photodiodes Based on Long-Term Storable $NiO$ Nanoparticles. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 14410-14421.	8.0	1
88	Optical Conductivity in a Two Dimensional Quantum Well System with Impurity Scattering. <i>Journal of the Physical Society of Japan</i> , 2002, 71, 2980-2982.	1.6	0
89	Equilibrium Dynamics of the Toy Model of Dense Fluid: The Infinite Damping Limit. <i>Journal of Physical Chemistry B</i> , 2005, 109, 21389-21398.	2.6	0
90	Relaxation dynamics and interrupted coarsening in irrationally frustrated superconducting arrays. <i>Physical Review B</i> , 2008, 78, .	3.2	0

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91	Coarsening dynamics of an antiferromagnetic XY model on the kagome lattice: Breakdown of critical dynamic scaling. <i>Physical Review B</i> , 2009, 79, .	3.2	0
92	Sliding of a vortex solid with self-generated randomness in a frustrated Josephson junction array. <i>Journal of Physics: Conference Series</i> , 2011, 320, 012024.	0.4	0
93	Transition by breaking of analyticity in the ground state of Josephson junction arrays as a static signature of the vortex jamming transition. <i>Physical Review E</i> , 2012, 85, 051132.	2.1	0
94	Nonequilibrium critical dynamics of two dimensional interacting monomer-dimer model: non-Ising criticality. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2014, 2014, P08011.	2.3	0
95	Light Trapping: Toward Perfect Light Trapping in Thin-Film Photovoltaic Cells: Full Utilization of the Dual Characteristics of Light ( <i>Advanced Optical Materials</i> 12/2015). <i>Advanced Optical Materials</i> , 2015, 3, 1656-1656.	7.3	0
96	Organic Electronics: Universal Route to Impart Orthogonality to Polymer Semiconductors for Sub-Micrometer Tandem Electronics ( <i>Adv. Mater.</i> 28/2019). <i>Advanced Materials</i> , 2019, 31, 1970204.	21.0	0
97	Surface and Interfacial Morphology of Bulk Heterojunction Layers in Organic Solar Cells with Solvent Additive. <i>Journal of the Korean Physical Society</i> , 2019, 75, 498-502.	0.7	0