

Nagatoshi Koumura

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79 papers	7,555 citations	32 h-index	86 g-index
89 ext. papers	8,056 ext. citations	9.4 avg, IF	5.57 L-index

#	Paper	IF	Citations
79	Light-driven monodirectional molecular rotor. <i>Nature</i> , 1999 , 401, 152-5	50.4	1386
78	Chiroptical Molecular Switches. <i>Chemical Reviews</i> , 2000 , 100, 1789-1816	68.1	898
77	Alkyl-Functionalized organic dyes for efficient molecular photovoltaics. <i>Journal of the American Chemical Society</i> , 2006 , 128, 14256-7	16.4	793
76	Hexylthiophene-Functionalized Carbazole Dyes for Efficient Molecular Photovoltaics: Tuning of Solar-Cell Performance by Structural Modification. <i>Chemistry of Materials</i> , 2008 , 20, 3993-4003	9.6	582
75	Unidirectional molecular motor on a gold surface. <i>Nature</i> , 2005 , 437, 1337-40	50.4	455
74	Second generation light-driven molecular motors. Unidirectional rotation controlled by a single stereogenic center with near-perfect photoequilibria and acceleration of the speed of rotation by structural modification. <i>Journal of the American Chemical Society</i> , 2002 , 124, 5037-51	16.4	268
73	Interfacial electron-transfer kinetics in metal-free organic dye-sensitized solar cells: combined effects of molecular structure of dyes and electrolytes. <i>Journal of the American Chemical Society</i> , 2008 , 130, 17874-81	16.4	256
72	Visible-light-induced water splitting based on two-step photoexcitation between dye-sensitized layered niobate and tungsten oxide photocatalysts in the presence of a triiodide/iodide shuttle redox mediator. <i>Journal of the American Chemical Society</i> , 2013 , 135, 16872-84	16.4	203
71	Dye regeneration kinetics in dye-sensitized solar cells. <i>Journal of the American Chemical Society</i> , 2012 , 134, 16925-8	16.4	202
70	Unidirectional rotary motion in a liquid crystalline environment: color tuning by a molecular motor. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002 , 99, 4945-9	11.5	167
69	Light-Driven Molecular Rotor: Unidirectional Rotation Controlled by a Single Stereogenic Center. <i>Journal of the American Chemical Society</i> , 2000 , 122, 12005-12006	16.4	159
68	Substituted carbazole dyes for efficient molecular photovoltaics: long electron lifetime and high open circuit voltage performance. <i>Journal of Materials Chemistry</i> , 2009 , 19, 4829		121
67	Organic Sensitizers Based on Hexylthiophene-Functionalized Indolo[3,2-b]carbazole for Efficient Dye-Sensitized Solar Cells. <i>Journal of Physical Chemistry C</i> , 2009 , 113, 13409-13415	3.8	109
66	Aqueous dye-sensitized solar cell electrolytes based on the ferricyanide-ferrocyanide redox couple. <i>Advanced Materials</i> , 2012 , 24, 1222-5	24	105
65	Oligomeric electrolyte as a multifunctional gelator. <i>Journal of the American Chemical Society</i> , 2007 , 129, 11039-41	16.4	105
64	Photocontrolled gel-to-sol-to-gel phase transitioning of meta-substituted azobenzene bisurethanes through the breaking and reforming of hydrogen bonds. <i>Langmuir</i> , 2004 , 20, 9897-900	4	103
63	Long-term stability of organic dye-sensitized solar cells based on an alkyl-functionalized carbazole dye. <i>Energy and Environmental Science</i> , 2009 , 2, 1109	35.4	100

62	Highly stable sensitizer dyes for dye-sensitized solar cells: role of the oligothiophene moiety. <i>Energy and Environmental Science</i> , 2009 , 2, 542	35.4	98
61	Organic Dyes Containing Thieno[3,2-b]indole Donor for Efficient Dye-Sensitized Solar Cells. <i>Journal of Physical Chemistry C</i> , 2010 , 114, 18283-18290	3.8	91
60	Flow fine synthesis with heterogeneous catalysts. <i>Tetrahedron</i> , 2018 , 74, 1705-1730	2.4	86
59	A donor-acceptor substituted molecular motor: unidirectional rotation driven by visible light. <i>Organic and Biomolecular Chemistry</i> , 2003 , 1, 33-5	3.9	83
58	Light-driven molecular switches and motors. <i>Applied Physics A: Materials Science and Processing</i> , 2002 , 75, 301-308	2.6	78
57	Exploitation of Ionic Liquid Electrolyte for Dye-Sensitized Solar Cells by Molecular Modification of Organic-Dye Sensitizers. <i>Chemistry of Materials</i> , 2009 , 21, 2810-2816	9.6	75
56	Chemistry of Unique Chiral Olefins. 3. Synthesis and Absolute Stereochemistry of trans- and cis-1,1[2,2],3,3,4,4-Octahydro-3,3-dimethyl-4,4-biphenanthrylidene. <i>Journal of the American Chemical Society</i> , 1997 , 119, 7256-7264	16.4	75
55	Stepwise construction of head-to-tail-type oligothiophenes via iterative palladium-catalyzed CH arylation and halogen exchange. <i>Organic Letters</i> , 2009 , 11, 2297-300	6.2	67
54	Chemistry of Unique Chiral Olefins. 1. Synthesis, Enantioresolution, Circular Dichroism, and Theoretical Determination of the Absolute Stereochemistry of trans- and cis-1,1[2,2],3,3,4,4-Octahydro-4,4-biphenanthrylidene. <i>Journal of the American Chemical Society</i> , 1997 , 119, 7241-7248	16.4	43
53	Structural effect of donor in organic dye on recombination in dye-sensitized solar cells with cobalt complex electrolyte. <i>Langmuir</i> , 2014 , 30, 2274-9	4	42
52	Light-driven rotary molecular motors on gold nanoparticles. <i>Chemistry - A European Journal</i> , 2008 , 14, 11610-22	4.8	40
51	Recombination inhibitive structure of organic dyes for cobalt complex redox electrolytes in dye-sensitized solar cells. <i>Journal of Materials Chemistry A</i> , 2013 , 1, 792-798	13	38
50	Chemistry of Unique Chiral Olefins. 2. Unexpected Thermal Racemization of cis-1,1[2,2],3,3,4,4-Octahydro-4,4-biphenanthrylidene. <i>Journal of the American Chemical Society</i> , 1997 , 119, 7249-7255	16.4	38
49	Improvement of TiO ₂ /dye/electrolyte interface conditions by positional change of alkyl chains in modified panchromatic Ru complex dyes. <i>Chemistry - A European Journal</i> , 2013 , 19, 1028-34	4.8	35
48	Alkyl-Functionalized Organic Dyes for Efficient Molecular Photovoltaics [J. Am. Chem. Soc. 2006, 128, 14256-14257]. <i>Journal of the American Chemical Society</i> , 2008 , 130, 4202-4203	16.4	33
47	Organic dyes with oligo-n-hexylthiophene for dye-sensitized solar cells: Relation between chemical structure of donor and photovoltaic performance. <i>Dyes and Pigments</i> , 2012 , 92, 1250-1256	4.6	32
46	Carbazole Dyes with Alkyl-functionalized Thiophenes for Dye-sensitized Solar Cells: Relation between Alkyl Chain Length and Photovoltaic Performance. <i>Chemistry Letters</i> , 2011 , 40, 872-873	1.7	32
45	Hydrogels Based on Surfactant-Free Ionene Polymers with N,N'-(p-Phenylene)dibenzamide Linkages. <i>Macromolecules</i> , 2008 , 41, 8841-8846	5.5	32

44	Alternation of Charge Injection and Recombination in Dye-Sensitized Solar Cells by the Addition of Nonconjugated Bridge to Organic Dyes. <i>Journal of Physical Chemistry C</i> , 2013 , 117, 2024-2031	3.8	31
43	Chemistry of Unique Chiral Olefins. 4. Theoretical Studies of the Racemization Mechanism of trans- and cis-1,1R ² ,2R ³ ,3R ⁴ ,4ROctahydro-4,4Rbiphenanthrylidenes. <i>Journal of Organic Chemistry</i> , 1999 , 64, 1667-1674	4.2	31
42	Synthesis and Properties of Seleno-analog MK-organic Dye for Photovoltaic Cells Prepared by C-H Functionalization Reactions of Selenophene Derivatives. <i>Chemistry Letters</i> , 2011 , 40, 922-924	1.7	30
41	Development of Carbazole Dyes for Efficient Molecular Photovoltaics. <i>Heterocycles</i> , 2013 , 87, 275	0.8	29
40	In control of the speed of rotation in molecular motors. Unexpected retardation of rotary motion. <i>Chemical Communications</i> , 2002 , 2962-3	5.8	29
39	Development of Next-Generation Organic-Based Solar Cells: Studies on Dye-Sensitized and Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2019 , 9, 1802967	21.8	29
38	Concerted effect of large molecular dyes and bulky cobalt complex redox couple to retard recombination in dye-sensitized solar cells. <i>Electrochemistry Communications</i> , 2011 , 13, 778-780	5.1	26
37	Carbazole dye with phosphonic acid anchoring groups for long-term heat stability of dye-sensitized solar cells. <i>Electrochimica Acta</i> , 2014 , 131, 174-183	6.7	25
36	Photo-induced oxidation of polythiophene derivatives: Dependence on side chain structure. <i>Polymer Degradation and Stability</i> , 2013 , 98, 899-903	4.7	22
35	Iterative Extension of Thiophene Ring Leading to Head-to-Tail-Type Oligothiophenes via Stepwise C-H Arylation and Halogen Exchange Sequence. <i>Heterocycles</i> , 2010 , 82, 505	0.8	19
34	An Alkylxyphenyl Group as a Sterically Hindered Substituent on a Triphenylamine Donor Dye for Effective Recombination Inhibition in Dye-Sensitized Solar Cells. <i>Langmuir</i> , 2016 , 32, 1178-83	4	18
33	Influence of the non-conjugated 5-position substituent of 1,3,5-triaryl-2-pyrazoline-based photosensitizers on the photophysical properties and performance of a dye-sensitized solar cell. <i>RSC Advances</i> , 2016 , 6, 13964-13970	3.7	17
32	Structural Effects of the Donor Moiety on Reduction Kinetics of Oxidized Dye in Dye-Sensitized Solar Cells. <i>Journal of Physical Chemistry C</i> , 2016 , 120, 3612-3618	3.8	16
31	Crown Ether-Substituted Carbazole Dye for Dye-Sensitized Solar Cells: Controlling the Local Ion Concentration at the TiO ₂ /Dye/Electrolyte Interface. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 16749-16759	3.8	16
30	Discovery of S ^{III} C ^{II} N Intramolecular Bonding in a Thiophenylcyanoacrylate-Based Dye: Realizing Charge Transfer Pathways and Dye ^{III} TiO Anchoring Characteristics for Dye-Sensitized Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 25952-25961	9.5	16
29	Synthesis and Properties of 9,10-Anthrylene-substituted Phenyleneethynylene Dyes for Dye-sensitized Solar Cell. <i>Chemistry Letters</i> , 2011 , 40, 620-622	1.7	14
28	Selective encapsulation of cesium ions using the cyclic peptide moiety of surfactin: Highly efficient removal based on an aqueous giant micellar system. <i>Colloids and Surfaces B: Biointerfaces</i> , 2015 , 134, 59-64	6	13
27	Synthesis and Properties of Anthrylene-Substituted Phenyleneethynylene Dyes Having Amino/Cyano Group(s) and Their Application to Dye-Sensitized Solar Cells. <i>Bulletin of the Chemical Society of Japan</i> , 2012 , 85, 687-697	5.1	13

26	Photochemistry and Absolute Stereochemistry of Unique Chiral Olefins, trans- and cis-1,1?,2,2?,3,3?,4,4?-Octahydro-3,3?-dimethyl-4,4?-biphenanthrylidenes. <i>Chemistry Letters</i> , 1998 , 27, 1151-1152	1.7	13
25	Exploiting Intermolecular Interactions between Alkyl-Functionalized Redox-Active Molecule Pairs to Enhance Interfacial Electron Transfer. <i>Journal of the American Chemical Society</i> , 2018 , 140, 13935-13944	16.4	12
24	Readily Available Immobilized Pd Catalysts for Suzuki-Miyaura Coupling under Continuous-flow Conditions. <i>ChemCatChem</i> , 2019 , 11, 2427-2431	5.2	11
23	An Increase in Energy Conversion Efficiency by Decreasing Cobalt Redox Electrolyte Diffusion Resistance in Dye-sensitized Solar Cells. <i>Chemistry Letters</i> , 2013 , 42, 453-454	1.7	10
22	Cosensitization of Cyclometalated Ruthenium Complex and Organic Dyes for High-efficiency Dye-sensitized Solar Cells. <i>Chemistry Letters</i> , 2013 , 42, 1371-1373	1.7	9
21	Tuning of solubility and gelation ability of oligomeric electrolyte by anion exchange. <i>Polymer Journal</i> , 2010 , 42, 759-765	2.7	9
20	Continuous Synthesis of Aryl Amines from Phenols Utilizing Integrated Packed-Bed Flow Systems. <i>Angewandte Chemie - International Edition</i> , 2020 , 59, 15891-15896	16.4	8
19	Intermolecular interactions between a Ru complex and organic dyes in cosensitized solar cells: a computational study. <i>Physical Chemistry Chemical Physics</i> , 2014 , 16, 16166-75	3.6	8
18	Deceleration of dye cation reduction kinetics by adding alkyl chains to the π -conjugated linker of dye molecules. <i>Japanese Journal of Applied Physics</i> , 2014 , 53, 127301	1.4	7
17	Chiral overcrowded alkenes; asymmetric synthesis of (3S,3B)-(M, M)-(E)-(+)-1,1R,2,2B,3,3R,4,4R-octahydro-3,3R,7,7R-tetramethyl-4,4R-biphenanthrylidenes. <i>Chirality</i> , 2000 , 12, 734-41	2.1	7
16	Zirconium Oxide-Catalyzed Direct Amidation of Unactivated Esters under Continuous-Flow Conditions. <i>Advanced Synthesis and Catalysis</i> , 2021 , 363, 2529-2535	5.6	7
15	Synthesis of Oligo(thienylene-vinylene) by Regiocontrolled Deprotonative Cross-Coupling. <i>Organic Letters</i> , 2016 , 18, 650-3	6.2	6
14	The Effect of the Dielectric Environment on Electron Transfer Reactions at the Interfaces of Molecular Sensitized Semiconductors in Electrolytes. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 6979-6992	3.8	4
13	Ph ₂ P(O) Group for Protection of Terminal Acetylenes. <i>Synlett</i> , 2011 , 2011, 2402-2406	2.2	4
12	Robust Organic Photosensitizers Immobilized on a Vinylimidazolium Functionalized Support for Singlet Oxygen Generation under Continuous-Flow Conditions. <i>Synlett</i> , 2020 , 31, 497-501	2.2	2
11	Carbazole Dyes with Ether Groups for Dye-Sensitized Solar Cells: Effect of Negative Charges in Dye Molecules on Electron Lifetime. <i>Japanese Journal of Applied Physics</i> , 2012 , 51, 10NE14	1.4	2
10	Development of Carbazole Dyes for Efficient Molecular Photovoltaics. <i>Yuki Gosei Kagaku Kyokaiishi/Journal of Synthetic Organic Chemistry</i> , 2010 , 68, 399-408	0.2	2
9	Carbazole Dyes with Ether Groups for Dye-Sensitized Solar Cells: Effect of Negative Charges in Dye Molecules on Electron Lifetime. <i>Japanese Journal of Applied Physics</i> , 2012 , 51, 10NE14	1.4	2

8	Efficient Organic-Dye-Sensitized Nanocrystalline TiO ₂ Solar Cells 2006 ,		1
7	Synthetic Molecular Motors559-577		1
6	Continuous Synthesis of Aryl Amines from Phenols Utilizing Integrated Packed-Bed Flow Systems. <i>Angewandte Chemie</i> , 2020 , 132, 16025-16030	3.6	1
5	Stereoretentive N-Arylation of Amino Acid Esters with Cyclohexanones Utilizing a Continuous-Flow System. <i>Chemistry - A European Journal</i> , 2021 , 27, 10844-10848	4.8	1
4	Two-Step Continuous-Flow Synthesis of Fungicide Metalaxyl through Catalytic C-N Bond-Formation Processes. <i>Advanced Synthesis and Catalysis</i> ,	5.6	0
3	Development of highly efficient Friedel-Crafts alkylations with alcohols using heterogeneous catalysts under continuous-flow conditions.. <i>RSC Advances</i> , 2021 , 11, 24424-24428	3.7	0
2	Chemistry of Unique Chiral Olefins. A Light-Powered Chiral Molecular Motor with Monodirectional Rotation.. <i>Nippon Kagaku Kaishi / Chemical Society of Japan - Chemistry and Industrial Chemistry Journal</i> , 2000 , 2000, 591-603		
1	Aerobic Dehydrogenative Coupling of Naphthols and Phenols with a Ru(OH) _x /Al ₂ O ₃ Catalyst under Continuous-Flow Conditions. <i>ChemistrySelect</i> , 2021 , 6, 10106-10110	1.8	