Toshiaki Taniike

List of Publications by Year
in descending order

87 papers	1,804 citations	279798 23 h-index	330143 37 g-index
88 all docs	88 docs citations	88 times ranked	1197 citing authors

#	Article	IF	Citations
1	Effect of Internal Donors on Raman and IR Spectroscopic Fingerprints of MgCl2/TiCl4 Nanoclusters Determined by Machine Learning and DFT. Materials, 2022, 15, 909.	2.9	4
2	High-throughput screening and literature data-driven machine learning-assisted investigation of multi-component La₂O₃-based catalysts for the oxidative coupling of methane. Catalysis Science and Technology, 2022, 12, 2766-2774.	4.1	6
3	Dielectric Properties of Biaxially Oriented Polypropylene Nanocomposites Prepared Based on Reactor Granule Technology. ACS Applied Electronic Materials, 2022, 4, 1257-1265.	4.3	6
4	Machine Learning-Aided Catalyst Modification in Oxidative Coupling of Methane via Manganese Promoter. Industrial & Engineering Chemistry Research, 2022, 61, 8462-8469.	3.7	4
5	Structure Determination of the Î´-MgCl₂ Support in Ziegler-Natta Catalysts. Journal of the Japan Petroleum Institute, 2022, 65, 88-96.	0.6	0
6	Exploring stabilizer formulations for light-induced yellowing of polystyrene by high-throughput experimentation and machine learning. Polymer Degradation and Stability, 2022, 201, 109967.	5.8	4
7	Tailoring Graphene Oxide Framework with N- and S- Containing Organic Ligands for the Confinement of Pd Nanoparticles Towards Recyclable Catalyst Systems. Catalysis Letters, 2021, 151, 247-254.	2.6	3
8	Understanding chemiluminescence in catalytic oxidation of CO and hydrocarbons. Catalysis Today, 2021, 375, 56-63.	4.4	4
9	Direct Design of Catalysts in Oxidative Coupling of Methane via Highâ€Throughput Experiment and Deep Learning. ChemCatChem, 2021, 13, 952-957.	3.7	13
10	Dataset of energetically accessible structures of MgCl2/TiCl4 clusters for Ziegler-Natta catalysts. Data in Brief, 2021, 34, 106654.	1.0	1
11	Constructing catalyst knowledge networks from catalyst big data in oxidative coupling of methane for designing catalysts. Chemical Science, 2021, 12, 12546-12555.	7.4	13
12	Representing Catalytic and Processing Space in Methane Oxidation Reaction via Multioutput Machine Learning. Journal of Physical Chemistry Letters, 2021, 12, 808-814.	4.6	9
13	Solution-state NMR study of organic components of industrial Ziegler-Natta catalysts: Effect of by-products on catalyst performance. Applied Catalysis A: General, 2021, 611, 117971.	4.3	9
14	Insight into structural distribution of heterogeneous Zieglerâ€“Natta catalyst from non-empirical structure determination. Journal of Catalysis, 2021, 394, 299-306.	6.2	15
15	Less Entangled Ultrahigh-Molecular-Weight Polyethylene Produced by Nano-Dispersed Zieglerâ€“Natta Catalyst. Industrial & Engineering Chemistry Research, 2021, 60, 2818-2827.	3.7	10
16	Unveiling gasâ€phase oxidative coupling of methane via data analysis. Journal of Computational Chemistry, 2021, 42, 1447-1451.	3.3	4
17	Extraction of Catalyst Design Heuristics from Random Catalyst Dataset and their Utilization in Catalyst Development for Oxidative Coupling of Methane. ChemCatChem, 2021, 13, 3262-3269.	3.7	14
18	Electronic Properties of Ti Sites in Zieglerâ€“Natta Catalysts. ACS Catalysis, 2021, 11, 9949-9961.	11.2	32

#	Article	IF	Citations
19	Catalysis Gene Expression Profiling: Sequencing and Designing Catalysts. Journal of Physical Chemistry Letters, 2021, 12, 7335-7341.	4.6	8
20	Spectroscopic Fingerprints of MgCl2/TiCl4 Nanoclusters Determined by Machine Learning and DFT. Journal of Physical Chemistry C, 2021, 125, 20048-20058.	3.1	9
21	Bottom-Up Synthesis of Multi-Grained Zieglerâ€"Natta Catalyst Based on MgO/MgCl2/TiCl4 Coreâ€"Shell Catalyst. Catalysts, 2021, 11, 1092.	3.5	1
22	Particle engineering of magnesium ethoxide-based Ziegler-Natta catalyst through post-modification of magnesium ethoxide. Applied Catalysis A: General, 2021, 626, 118337.	4.3	3
23	Learning Catalyst Design Based on Bias-Free Data Set for Oxidative Coupling of Methane. ACS Catalysis, 2021, 11, 1797-1809.	11.2	31
24	Solvent screening for efficient chemical exfoliation of graphite. 2D Materials, 2021, 8, 015019.	4.4	8
25	Formation of Highly Active Zieglerâ€"Natta Catalysts Clarified by a Multifaceted Characterization Approach. ACS Catalysis, 2021, 11, 13782-13796.	11.2	23
26	Factors to influence low-temperature performance of supported Mnâ€"Na2WO4 in oxidative coupling of methane. Molecular Catalysis, 2021, 516, 111976.	2.0	6
27	High-Throughput Experimentation and Catalyst Informatics for Oxidative Coupling of Methane. ACS Catalysis, 2020, 10, 921-932.	11.2	117
28	Structural Disorder of Mechanically Activated Î´-MgCl2 Studied by Synchrotron X-ray Total Scattering and Vibrational Spectroscopy. Catalysts, 2020, 10, 1089.	3.5	14
29	Multidimensional Classification of Catalysts in Oxidative Coupling of Methane through Machine Learning and High-Throughput Data. Journal of Physical Chemistry Letters, 2020, 11, 6819-6826.	4.6	18
30	Microwave-assisted polycondensation for screening of organically-modified TiO2/SiO2 catalysts. Applied Catalysis A: General, 2020, 595, 117508.	4.3	15
31	Structure-performance relationship of Mg(OEt)2-based Ziegler-Natta catalysts. Journal of Catalysis, 2020, 389, 525-532.	6.2	23
32	Stabilizer Formulation Based on High-Throughput Chemiluminescence Imaging and Machine Learning. ACS Applied Polymer Materials, 2020, 2, 3319-3326.	4.4	7
33	Design of continuous segregated polypropylene/Al2O3 nanocomposites and impact of controlled Al2O3 distribution on thermal conductivity. Composites Part A: Applied Science and Manufacturing, 2020, 131, 105825.	7.6	27
34	Revisiting the identity of Î´-MgCl2: Part II. Morphology and exposed surfaces studied by vibrational spectroscopies and DFT calculation. Journal of Catalysis, 2020, 387, 1-11.	6.2	25
35	Revisiting the identity of Î´-MgCl2: Part I. Structural disorder studied by synchrotron X-ray total scattering. Journal of Catalysis, 2020, 385, 76-86.	6.2	51
36	Cooperative influences of nanoparticle localization and phase coarsening on thermal conductivity of polypropylene/polyolefin elastomer blends. Composites Part A: Applied Science and Manufacturing, 2019, 126, 105602.	7.6	10

#	Article	IF	Citations
37	Development of Large-Scale Stopped-Flow Technique and its Application in Elucidation of Initial Zieglerâ€“Natta Olefin Polymerization Kinetics. Polymers, 2019, 11, 1012.	4.5	12
38	Cooperative Catalysis by Multiple Active Centers of a Half-Titanocene Catalyst Integrated in Polymer Random Coils. ACS Catalysis, 2019, 9, 3648-3656.	11.2	16
39	Machine Learning-Aided Structure Determination for TiCl₄â€“Capped MgCl₂ Nanoplate of Heterogeneous Zieglerâ€“Natta Catalyst. ACS Catalysis, 2019, 9, 2599-2609.	11.2	46
40	The Rise of Catalyst Informatics: Towards Catalyst Genomics. ChemCatChem, 2019, 11, 1146-1152.	3.7	72
41	Selective localization of aluminum oxide at interface and its effect on thermal conductivity in polypropylene/polyolefin elastomer blends. Composites Part B: Engineering, 2019, 162, 662-670.	12.0	32
42	Synthesis of Ultrahigh Molecular Weight Polyethylene Using MgO/MgCl₂/TiCl₄ Coreâ€“Shell Catalysts. Macromolecular Chemistry and Physics, 2018, 219, 1800011.	2.2	7
43	Stabilization of recombinant spider silk in thermo-oxidative degradation: High-throughput screening for antioxidants. Polymer Degradation and Stability, 2018, 153, 37-46.	5.8	4
44	Truxillic and truxinic acid-based, bio-derived diesters as potent internal donor in Ziegler-Natta catalyst for propylene polymerization. Applied Catalysis A: General, 2018, 554, 80-87.	4.3	18
45	One-pot synthesis of TiO2/graphene nanocomposites for excellent visible light photocatalysis based on chemical exfoliation method. Carbon, 2018, 133, 109-117.	10.3	69
46	Design of Pd@Graphene oxide framework nanocatalyst with improved activity and recyclability in Suzuki-Miyaura cross-coupling reaction. Applied Catalysis A: General, 2018, 549, 60-67.	4.3	36
47	Synthesis of aryloxide-containing half-titanocene catalysts grafted to soluble polynorbornene chains and their application in ethylene polymerization: Integration of multiple active centres in a random coil. Journal of Catalysis, 2018, 357, 69-79.	6.2	8
48	Nano-Dispersed Ziegler-Natta Catalysts for 1 Î¼m-Sized Ultra-High Molecular Weight Polyethylene Particles. Frontiers in Chemistry, 2018, 6, 524.	3.6	10
49	Synthesis of polypropylene functionalized with a trace amount of reactive functional groups and its utilization in graft-type nanocomposites. Polymer, 2018, 158, 46-52.	3.8	9
50	Thermal conductivity of polypropylene/aluminum oxide nanocomposites prepared based on reactor granule technology. Composites Science and Technology, 2018, 165, 259-265.	7.8	34
51	High-precision Molecular Modelling for Ziegler-Natta Catalysts. Journal of the Japan Petroleum Institute, 2018, 61, 182-190.	0.6	9
52	Stabilization of polypropylene-based materials via molecular retention with hyperbranched polymer. Polymer Degradation and Stability, 2017, 142, 50-54.	5.8	5
53	High-Throughput Synthesis of Support Materials for Olefin Polymerization Catalyst. ACS Combinatorial Science, 2017, 19, 331-342.	3.8	23
54	Reactor granule technology for fabrication of functionally advantageous polypropylene nanocomposites with oxide nanoparticles. Composites Science and Technology, 2017, 144, 151-159.	7.8	13

#	Article	IF	Citations
55	Templated synthesis of nano-sized silica in confined amorphous space of polypropylene. Composites Science and Technology, 2017, 140, 1-7.	7.8	5
56	Preparation and characterization of polypropylene/noble metal nanocomposites based on reactor granule technology. Polymer, 2017, 127, 251-258.	3.8	7
57	Chemiluminescence from recombinant spider silk under thermo-oxidative degradation. Polymer Degradation and Stability, 2017, 144, 264-269.	5.8	8
58	Chemisorption-Induced Activation of MgCl₂ Film as Realistic Route for Heterogeneous Zieglerâ€"Natta Surfaces under Ultrahigh Vacuum. Journal of Physical Chemistry C, 2017, 121, 24085-24092.	3.1	2
59	Well-Defined Polypropylene/Polypropylene-Grafted Silica Nanocomposites: Roles of Number and Molecular Weight of Grafted Chains on Mechanistic Reinforcement. Polymers, 2016, 8, 300.	4.5	28
60	Alternation of Pore Architecture of Zieglerâ€"Natta Catalysts through Modification of Magnesium Ethoxide. Macromolecular Reaction Engineering, 2015, 9, 325-332.	1.5	26
61	New Reactor Granule Technology for Highly Filled Nanocomposites: Effective Flame Retardation of Polypropylene/Magnesium Hydroxide Nanocomposites. Macromolecular Materials and Engineering, 2015, 300, 679-683.	3.6	20
62	Development of high-throughput chemiluminescence imaging instrument for parallel evaluation of polymer lifetime. Polymer Degradation and Stability, 2015, 121, 340-347.	5.8	17
63	New Quenching Method for Improving Largeâ€Scale Stoppedâ€Flow Technique. Macromolecular Reaction Engineering, 2014, 8, 766-770.	1.5	8
64	Multilateral characterization for industrial Zieglerâ€"Natta catalysts toward elucidation of structureâ€"performance relationship. Journal of Catalysis, 2014, 311, 33-40.	6.2	61
65	Polypropylene-grafted nanoparticles as a promising strategy for boosting physical properties of polypropylene-based nanocomposites. Polymer, 2014, 55, 1012-1019.	3.8	57
66	Versatile strategy for fabrication of polypropylene nanocomposites with inorganic network structures based on catalyzed in-situ solâ€"gel reaction during melt mixing. Composites Science and Technology, 2014, 102, 120-125.	7.8	17
67	MgO/MgCl2/TiCl4 Coreâ€"Shell Catalyst for Establishing Structureâ€"Performance Relationship in Zieglerâ€"Natta Olefin Polymerization. Topics in Catalysis, 2014, 57, 911-917.	2.8	20
68	Structureâ€"Performance Relationship for Dialkyldimethoxysilane as an External Donor in Stoppedâ€Flow Propylene Polymerization Using a Zieglerâ€"Natta Catalyst. Macromolecular Chemistry and Physics, 2014, 215, 1721-1727.	2.2	13
69	The Use of Donors to Increase the Isotacticity of Polypropylene. Advances in Polymer Science, 2013, , 81-97.	0.8	37
70	Precise Active Site Analysis for TiCl3/MgCl2 Ziegler-Natta Model Catalyst Based on Fractionation and Statistical Methods. Catalysts, 2013, 3, 137-147.	3.5	15
71	Dualâ€Activeâ€Site Nature of Magnesium Dichlorideâ€Supported Cyclopentadienyl Titanium Chloride Catalysts Switched by an Activator in Propylene Polymerization. Macromolecular Chemistry and Physics, 2013, 214, 1011-1018.	2.2	2
72	Validation of BET specific surface area for heterogeneous Ziegler-Natta catalysts based on Î±S-plot. Applied Catalysis A: General, 2012, 437-438, 24-27.	4.3	25

#	Article	IF	Citations
73	Coadsorption model for first-principle description of roles of donors in heterogeneous Zieglerâ€“Natta propylene polymerization. Journal of Catalysis, 2012, 293, 39-50.	6.2	102
74	Structureâ€“performance relationship in Zieglerâ€“Natta olefin polymerization with novel coreâ€“shell MgO/MgCl2/TiCl4 catalysts. Catalysis Communications, 2012, 27, 13-16.	3.3	19
75	Development of a Largeâ€Scale Stoppedâ€Flow System for Heterogeneous Olefin Polymerization Kinetics. Macromolecular Reaction Engineering, 2012, 6, 275-279.	1.5	16
76	Kinetic elucidation of comonomerâ€induced chemical and physical activation in heterogeneous zieglerâ€natta propylene polymerization. Journal of Polymer Science Part A, 2011, 49, 4005-4012.	2.3	19
77	Initial Particle Morphology Development in Zieglerâ€Natta Propylene Polymerization Tracked with Stoppedâ€Flow Technique. Macromolecular Chemistry and Physics, 2011, 212, 723-729.	2.2	31
78	Similarities and Differences of the Active Sites in Basic and Advanced MgCl₂â€Supported Zieglerâ€Natta Propylene Polymerization Catalysts. Macromolecular Reaction Engineering, 2010, 4, 510-515.	1.5	22
79	A Density Functional Study on the Influence of the Molecular Flexibility of Donors on the Insertion Barrier and Stereoselectivity of Zieglerâ€Natta Propylene Polymerization. Macromolecular Chemistry and Physics, 2009, 210, 2188-2193.	2.2	19
80	Propylene Polymerization Performance of Isolated and Aggregated Ti Species Studied Using a Wellâ€Designed TiCl₃/MgCl₂ Zieglerâ€Natta Model Catalyst. Macromolecular Rapid Communications, 2009, 30, 887-891.	3.9	48
81	Kinetic and morphological study of a magnesium ethoxideâ€based Zieglerâ€“Natta catalyst for propylene polymerization. Polymer International, 2009, 58, 40-45.	3.1	41
82	New Quenching Procedure for Preservation of Initial Polymer/Catalyst Particle Morphology in Zieglerâ€“Natta Olefin Polymerization. Macromolecular Reaction Engineering, 2009, 3, 467-472.	1.5	11
83	Reductive Formation of Isospecific Ti Dinuclear Species on a MgCl₂ (110) Surface in Heterogeneous Zieglerâ€Natta Catalysts. Macromolecular Rapid Communications, 2008, 29, 1472-1476.	3.9	49
84	Coadsorption and Supportâ€Mediated Interaction of Ti Species with Ethyl Benzoate in MgCl₂â€Supported Heterogeneous Zieglerâ€Natta Catalysts Studied by Density Functional Calculations. Macromolecular Rapid Communications, 2007, 28, 1918-1922.	3.9	66
85	Density Functional Theoretical Calculations for a Co2/Î³-Al2O3Model Catalyst:Â Structures of the Î³-Al2O3Bulk and Surface and Attachment Sites for Co2+Ions. Journal of Physical Chemistry B, 2006, 110, 4929-4936.	2.6	22
86	Physical Properties of Isotactic Polypropylene Blended with Less Crystalline Polypropylene. Macromolecular Reaction Engineering, 0, , 2200022.	1.5	0
87	Graphene oxide framework-confined Ru (Ru@GOF) as recyclable catalyst for hydrogenation of levulinic acid into Î³-valerolactone with formic acid. Journal of Materials Science, 0, , .	3.7	1