Toru Wakihara

List of Publications by Year
in descending order

112 papers	3,024 citations	136740 32 h-index	197535 49 g-index
115 all docs	115 docs citations	115 times ranked	2642 citing authors

#	Article	IF	Citations
1	Revealing scenarios of interzeolite conversion from FAU to AEI through the variation of starting materials. Physical Chemistry Chemical Physics, 2022, 24, 4136-4146.	1.3	13
2	Broadening synthetic scope of SSZ-39 zeolite for NH3-SCR: A fast and direct route from amorphous starting materials. Microporous and Mesoporous Materials, 2022, 330, 111583.	2.2	9
3	Reduction of crystal size of silicalite-1 synthesized in fluoride-containing media via multi-stage heating with intermediate stirring. Journal of the Ceramic Society of Japan, 2022, 130, 187-194.	0.5	1
4	Exploring Hydrothermal Synthesis of SAPO-18 under High Hydrostatic Pressure. Nanomaterials, 2022, 12, 396.	1.9	4
5	Robust CON-type zeolite nanocatalyst in methanol-to-olefins reaction: downsizing, recrystallisation and defect-healing treatments toward prolonged lifetime. Materials Advances, 2022, 3, 5442-5450.	2.6	4
6	Dealumination of small-pore zeolites through pore-opening migration process with the aid of pore-filler stabilization. Science Advances, 2022, 8, .	4.7	9
7	Ultrafast dealumination of *BEA zeolite using a continuous-flow reactor. Advanced Powder Technology, 2022, 33, 103702.	2.0	1
8	Ultrafast and continuous-flow synthesis of AFX zeolite <i>via</i> interzeolite conversion of FAU zeolite. Reaction Chemistry and Engineering, 2021, 6, 74-81.	1.9	7
9	Synthetic and natural MOR zeolites as high-capacity adsorbents for the removal of nitrous oxide. Chemical Communications, 2021, 57, 1312-1315.	2.2	14
10	Tracking the crystallization behavior of high-silica FAU during AEI-type zeolite synthesis using acid treated FAU-type zeolite. RSC Advances, 2021, 11, 23082-23089.	1.7	10
11	Ultrafast surfactant-templating of *BEA zeolite: An efficient catalyst for the cracking of polyethylene pyrolysis vapours. Chemical Engineering Journal, 2021, 412, 128566.	6.6	16
12	Reconsideration of Viscosity Variation Mechanism in Calcium Ferrite Melt During Isothermal Melting Process. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2021, 52, 1945-1949.	1.0	2
13	Reaction Kinetics Regulated Formation of Short-Range Order in an Amorphous Matrix during Zeolite Crystallization. Journal of the American Chemical Society, 2021, 143, 10986-10997.	6.6	32
14	Aryl radical initiators accumulated within layered silicates realize polystyrene with directly and regioselectively bonded aryl-terminal groups. Dalton Transactions, 2021, 50, 835-839.	1.6	1
15	Recent progress in the improvement of hydrothermal stability of zeolites. Chemical Science, 2021, 12, 7677-7695.	3.7	49
16	Engineering Mesopore Formation in Hierarchical Zeolites under High Hydrostatic Pressure. Chemistry of Materials, 2021, 33, 8440-8446.	3.2	4
17	Testing the limits of zeolite structural flexibility: ultrafast introduction of mesoporosity in zeolites. Journal of Materials Chemistry A, 2020, 8, 735-742.	5.2	24
18	Optimized ultrafast flow synthesis of CON-type zeolite and improvement of its catalytic properties. Reaction Chemistry and Engineering, 2020, 5, 2260-2266.	1.9	5

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19	Understanding the high hydrothermal stability and NH3-SCR activity of the fast-synthesized ERI zeolite. Journal of Catalysis, 2020, 391, 346-356.	3.1	27
20	Dense Integration of Stable Aromatic Radicals within the Two-Dimensional Interlayer Space of Clay Minerals via Clay-Catalyzed Deamination of Arylammoniums. Chemistry of Materials, 2020, 32, 9008-9015.	3.2	3
21	Ultrafast Encapsulation of Metal Nanoclusters into MFI Zeolite in the Course of Its Crystallization: Catalytic Application for Propane Dehydrogenation. Angewandte Chemie, 2020, 132, 19837-19842.	1.6	3
22	Toward Efficient Synthesis of Chiral Zeolites: A Rational Strategy for Fluorideâ€Free Synthesis of STWâ€Type Zeolite. Angewandte Chemie - International Edition, 2020, 59, 20099-20103.	7.2	9
23	Rational Manipulation of Stacking Arrangements in Threeâ€Dimensional Zeolites Built from Twoâ€Dimensional Zeolitic Nanosheets. Angewandte Chemie, 2020, 132, 20106-20111.	1.6	0
24	Toward Efficient Synthesis of Chiral Zeolites: A Rational Strategy for Fluorideâ€Free Synthesis of STWâ€Type Zeolite. Angewandte Chemie, 2020, 132, 20274-20278.	1.6	1
25	Rational Manipulation of Stacking Arrangements in Threeâ€Dimensional Zeolites Built from Twoâ€Dimensional Zeolitic Nanosheets. Angewandte Chemie - International Edition, 2020, 59, 19934-19939.	7.2	4
26	Observation of Liquid Phase Synthesis of Sulfide Solid Electrolytes Using Timeâ€Resolved Pair Distribution Function Analysis. Physica Status Solidi (B): Basic Research, 2020, 257, 2070041.	0.7	0
27	Understanding the Nucleation and Crystal Growth of Zeolites: A Case Study on the Crystallization of ZSM-5 from a Hydrogel System Under Ultrasonication. Journal of Physical Chemistry C, 2020, 124, 11516-11524.	1.5	15
28	Superior Ionâ€exchange Property of Amorphous Aluminosilicates Prepared by a Coâ€precipitation Method. Chemistry - an Asian Journal, 2020, 15, 2029-2034.	1.7	4
29	Observation of Liquid Phase Synthesis of Sulfide Solid Electrolytes Using Timeâ€Resolved Pair Distribution Function Analysis. Physica Status Solidi (B): Basic Research, 2020, 257, 2000106.	0.7	4
30	Ultrafast Encapsulation of Metal Nanoclusters into MFI Zeolite in the Course of Its Crystallization: Catalytic Application for Propane Dehydrogenation. Angewandte Chemie - International Edition, 2020, 59, 19669-19674.	7.2	63
31	Extremely Stable Zeolites Developed via Designed Liquid-Mediated Treatment. Journal of the American Chemical Society, 2020, 142, 3931-3938.	6.6	48
32	Non-precious molybdenum nanospheres as a novel cocatalyst for full-spectrum-driven photocatalytic CO2 reforming to CH4. Journal of Hazardous Materials, 2020, 393, 122324.	6.5	39
33	Cu-Erionite Zeolite Achieves High Yield in Direct Oxidation of Methane to Methanol by Isothermal Chemical Looping. Chemistry of Materials, 2020, 32, 1448-1453.	3.2	33
34	Water-Dispersible Tripletâ€"Triplet Annihilation Photon Upconversion Particle: Molecules Integrated in Hydrophobized Twoâ€"Dimensional Interlayer Space of Montmorillonite and Their Application for Photocatalysis in the Aqueous Phase. ACS Applied Materials & Interfaces, 2020, 12, 7021-7029.	4.0	14
35	Unique crystallization behavior in zeolite synthesis under external high pressures. Chemical Communications, 2020, 56, 2811-2814.	2.2	15
36	Rapid Synthesis of Hydrothermally Stable ZSM-5 in the Presence of 1-Butanol. Chemistry Letters, 2020, 49, 1006-1008.	0.7	5

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37	Crucial Factors for Seed-Directed Synthesis of CON-type Aluminoborosilicate Zeolites Using Tetraethylammonium. Crystal Growth and Design, 2019, 19, 5283-5291.	1.4	6
38	Bridging the Gap between Structurally Distinct 2D Lamellar Zeolitic Precursors through a 3D Germanosilicate Intermediate. Angewandte Chemie - International Edition, 2019, 58, 14529-14533.	7.2	5
39	Nanoarchitectured Metal Phosphates and Phosphonates: A New Material Horizon toward Emerging Applications. Chemistry of Materials, 2019, 31, 5343-5362.	3.2	87
40	Zeolite Crystallization Triggered by Intermediate Stirring. Journal of Physical Chemistry C, 2019, 123, 20304-20313.	1.5	14
41	Synthesis and characterization of MFI-type zincosilicate zeolites with high zinc content using mechanochemically treated Siâ€“Zn oxide composite. Microporous and Mesoporous Materials, 2019, 288, 109594.	2.2	15
42	Structural Evolution of Amorphous Precursors toward Crystalline Zeolites Visualized by an in Situ X-ray Pair Distribution Function Approach. Journal of Physical Chemistry C, 2019, 123, 28419-28426.	1.5	23
43	Ultrafast synthesis of zeolites: breakthrough, progress and perspective. Inorganic Chemistry Frontiers, 2019, 6, 14-31.	3.0	72
44	Bridging the Gap between Structurally Distinct 2D Lamellar Zeolitic Precursors through a 3D Germanosilicate Intermediate. Angewandte Chemie, 2019, 131, 14671-14675.	1.6	2
45	Insights into the ion-exchange properties of Zn(<scp>ii</scp>)-incorporated MOR zeolites for the capture of multivalent cations. Physical Chemistry Chemical Physics, 2019, 21, 4015-4021.	1.3	14
46	Continuous flow synthesis of ordered porous materials: from zeolites to metalâ€“organic frameworks and mesoporous silica. Reaction Chemistry and Engineering, 2019, 4, 1699-1720.	1.9	48
47	Ultrafast synthesis of AFX-Type zeolite with enhanced activity in the selective catalytic reduction of NOx and hydrothermal stability. RSC Advances, 2019, 9, 16790-16796.	1.7	19
48	Identifying the Factors Governing the Early-Stage Degradation of Cu-Chabazite Zeolite for NH₃-SCR. ACS Omega, 2019, 4, 3653-3659.	1.6	13
49	Role of sodium cation during aging process in the synthesis of LEV-type zeolite. Microporous and Mesoporous Materials, 2019, 284, 82-89.	2.2	15
50	Ultrafast post-synthesis treatment to prepare ZSM-5@Silicalite-1 as a core-shell structured zeolite catalyst. Microporous and Mesoporous Materials, 2019, 277, 197-202.	2.2	22
51	Zeolites with isolated-framework and oligomeric-extraframework hafnium species characterized with pair distribution function analysis. Physical Chemistry Chemical Physics, 2018, 20, 7914-7919.	1.3	20
52	Concerted Bimetallic Nanocluster Synthesis and Encapsulation via Induced Zeolite Framework Demetallation for Shape and Substrate Selective Heterogeneous Catalysis. Angewandte Chemie - International Edition, 2018, 57, 6454-6458.	7.2	78
53	Concerted Bimetallic Nanocluster Synthesis and Encapsulation via Induced Zeolite Framework Demetallation for Shape and Substrate Selective Heterogeneous Catalysis. Angewandte Chemie, 2018, 130, 6564-6568.	1.6	9
54	Ultrafast synthesis of *BEA zeolite without the aid of aging pretreatment. Microporous and Mesoporous Materials, 2018, 268, 1-8.	2.2	24

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55	Formation of a dense non-crystalline layer on the surface of zeolite Y crystals under high-temperature steaming conditions. Microporous and Mesoporous Materials, 2018, 268, 77-83.	2.2	13
56	Fast Synthesis of SSZ-24: A Pure Silica Zeolite with AFI Framework. Chemistry Letters, 2018, 47, 654-656.	0.7	9
57	Crystallization of Ti-Rich *BEA Zeolites by the Combined Strategy of Using Tiâ€"Si Mixed Oxide Composites and Intentional Aluminum Addition/Post-Synthesis Dealumination. Crystal Growth and Design, 2018, 18, 2180-2188.	1.4	5
58	Preparation of nanosized SSZ-13 zeolite with enhanced hydrothermal stability by a two-stage synthetic method. Microporous and Mesoporous Materials, 2018, 255, 192-199.	2.2	45
59	Addressing the viscosity challenge: ultrafast, stable-flow synthesis of zeolites with an emulsion method. Reaction Chemistry and Engineering, 2018, 3, 844-848.	1.9	8
60	Time-resolved pair distribution function analysis ofÂdisordered materials on beamlines BL04B2 and BL08W at SPring-8. Journal of Synchrotron Radiation, 2018, 25, 1627-1633.	1.0	39
61	Temperature-controlled, two-stage synthesis of ZSM-5 zeolite nanoparticles with Al atoms tetrahedrally coordinated in the framework. Microporous and Mesoporous Materials, 2018, 270, 200-203.	2.2	16
62	Comparative study of aluminosilicate glass and zeolite precursors in terms of Na environment and network structure. Microporous and Mesoporous Materials, 2018, 271, 33-40.	2.2	14
63	RÃ¼cktitelbild: A 3D Organically Synthesized Porous Carbon Material for Lithium-Ion Batteries (Angew.) Tj ETQq1 1 0.784314 rgBT /Ov	1.6	0
64	Improve the Hydrothermal Stability of Cu-SSZ-13 Zeolite Catalyst by Loading a Small Amount of Ce. ACS Catalysis, 2018, 8, 9165-9173.	5.5	102
65	A 3D Organically Synthesized Porous Carbon Material for Lithiumâ€Ion Batteries. Angewandte Chemie - International Edition, 2018, 57, 11952-11956.	7.2	75
66	A 3D Organically Synthesized Porous Carbon Material for Lithiumâ€Ion Batteries. Angewandte Chemie, 2018, 130, 12128-12132.	1.6	5
67	Rational seed-directed synthesis of MSE-type zeolites using a simple organic structure-directing agent by extending the composite building unit hypothesis. Microporous and Mesoporous Materials, 2017, 245, 1-7.	2.2	14
68	Ultrafast synthesis of high-silica erionite zeolites with improved hydrothermal stability. Chemical Communications, 2017, 53, 6796-6799.	2.2	24
69	Ultrafast, OSDA-free synthesis of mordenite zeolite. CrystEngComm, 2017, 19, 632-640.	1.3	35
70	Comparative Study on the Different Interaction Pathways between Amorphous Aluminosilicate Species and Organic Structure-Directing Agents Yielding Different Zeolite Phases. Journal of Physical Chemistry C, 2017, 121, 24324-24334.	1.5	26
71	Encapsulation of Molybdenum Carbide Nanoclusters inside Zeolite Micropores Enables Synergistic Bifunctional Catalysis for Anisole Hydrodeoxygenation. ACS Catalysis, 2017, 7, 8147-8151.	5.5	56
72	Preparation and Gas Permeation Properties of Fluorineâ€"Silica Membranes with Controlled Amorphous Silica Structures: Effect of Fluorine Source and Calcination Temperature on Network Size. ACS Applied Materials & Interfaces, 2017, 9, 24625-24633.	4.0	18

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73	Synthesis of Zeolite from Waste Perlite by Hydrothermal Treatment. Journal of MMIJ, 2017, 133, 182-187.	0.4	1
74	Continuous flow synthesis of ZSM-5 zeolite on the order of seconds. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14267-14271.	3.3	59
75	Downsizing AFX Zeolite Crystals to Nanoscale by a Postmilling Recrystallization Method. Crystal Growth and Design, 2016, 16, 3389-3394.	1.4	29
76	Pioneering In Situ Recrystallization during Bead Milling: A Top-down Approach to Prepare Zeolite A Nanocrystals. Scientific Reports, 2016, 6, 29210.	1.6	15
77	Ultrafast and Continuous Flow Synthesis of Silicoaluminophosphates. Chemistry of Materials, 2016, 28, 4840-4847.	3.2	32
78	Tailoring the Subnano Silica Structure via Fluorine Doping for Development of Highly Permeable CO₂ Separation Membranes. ChemNanoMat, 2016, 2, 264-267.	1.5	24
79	Downsizing the K-CHA zeolite by a postmilling-recrystallization method for enhanced base-catalytic performance. New Journal of Chemistry, 2016, 40, 492-496.	1.4	13
80	Improvement in the catalytic properties of ZSM-5 zeolite nanoparticles via mechanochemical and chemical modifications. Catalysis Science and Technology, 2016, 6, 2598-2604.	2.1	35
81	Ultrafast synthesis of silicalite-1 using a tubular reactor with a feature of rapid heating. Microporous and Mesoporous Materials, 2016, 223, 140-144.	2.2	36
82	Mechanochemical Preparation of Compounded Particles of ZSM-5 Zeolite and Cerium Oxides Using Powder Composer. Journal of the Society of Powder Technology, Japan, 2016, 53, 810-819.	0.0	0
83	Synthesis of (Silico)aluminophosphate Molecular Sieves Using an Alkanolamine as a Novel Organic Structure-directing Agent. Chemistry Letters, 2015, 44, 1300-1302.	0.7	1
84	Snâ€Beta Zeolite Catalysts with High Sn Contents Prepared from Snâ€“Si Mixed Oxide Composites. ChemNanoMat, 2015, 1, 155-158.	1.5	28
85	A top-down methodology for ultrafast tuning of nanosized zeolites. Chemical Communications, 2015, 51, 12567-12570.	2.2	49
86	Preparation and characterization of Silicalite-1 zeolites with high manganese contents from mechanochemically pretreated reactants. Journal of Materials Chemistry A, 2015, 3, 6215-6222.	5.2	19
87	Widening Synthesis Bottlenecks: Realization of Ultrafast and Continuousâ€Flow Synthesis of Highâ€Silica Zeolite SSZâ€13 for NO_{<i>x</i>} Removal. Angewandte Chemie - International Edition, 2015, 54, 5683-5687.	7.2	121
88	Structure-Directing Behaviors of Tetraethylammonium Cations toward Zeolite Beta Revealed by the Evolution of Aluminosilicate Species Formed during the Crystallization Process. Journal of the American Chemical Society, 2015, 137, 14533-14544.	6.6	140
89	Highly Crystallized Nanometerâ€Sized Zeolite A with Large Cs Adsorption Capability for the Decontamination of Water. Chemistry - an Asian Journal, 2014, 9, 759-763.	1.7	34
90	One-minute synthesis of crystalline microporous aluminophosphate (AlPO4-5) by combining fast heating with a seed-assisted method. Chemical Communications, 2014, 50, 2526.	2.2	56

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91	Ultrafast Continuous-Flow Synthesis of Crystalline Microporous Aluminophosphate AlPO₄-5. Chemistry of Materials, 2014, 26, 2327-2331.	3.2	46
92	Broadening the Applicable Scope of Seed-Directed, Organic Structure-Directing Agent-Free Synthesis of Zeolite to Zincosilicate Components: A Case of VET-Type Zincosilicate Zeolites. Chemistry of Materials, 2014, 26, 1957-1966.	3.2	29
93	Crystal Growth Kinetics as a Tool for Controlling the Catalytic Performance of a FAU-Type Basic Catalyst. ACS Catalysis, 2014, 4, 2333-2341.	5.5	38
94	Synthesis of MCM-41 with High Manganese Content by Mechanochemical Pretreatment of the Starting Materials. Chemistry Letters, 2014, 43, 1346-1348.	0.7	3
95	Rapid Synthesis of an Aluminumâ€Rich MSEâ€Type Zeolite by the Hydrothermal Conversion of an FAUâ€Type Zeolite. Chemistry - A European Journal, 2013, 19, 7780-7786.	1.7	38
96	Top-down Tuning of Nanosized Zeolites by Bead-milling and Recrystallization. Journal of the Japan Petroleum Institute, 2013, 56, 206-213.	0.4	21
97	Synthesis of pure-silica ZSM-48 zeolite under mild hydrothermal condition with conventional amphiphilic cation by tuning the reactant gel composition. Journal of the Ceramic Society of Japan, 2013, 121, 575-577.	0.5	6
98	Development of Zeolite Catalyst Which has High Selectivity by Mechanochemical Treatment. Hosokawa Powder Technology Foundation ANNUAL REPORT, 2013, 21, 86-89.	0.0	0
99	Preparation of nano-zeolite X by bead-milling and post-milling recrystallization. Journal of the Ceramic Society of Japan, 2012, 120, 341-343.	0.5	15
100	Mechanistic Study on the Synthesis of a Porous Zincosilicate VPI-7 Containing Three-Membered Rings. Journal of Physical Chemistry C, 2011, 115, 443-446.	1.5	19
101	Bead-Milling and Postmilling Recrystallization: An Organic Template-free Methodology for the Production of Nano-zeolites. Crystal Growth and Design, 2011, 11, 955-958.	1.4	74
102	Effect of the atomic arrangement of amorphized zeolite on the recrystallization behavior to crystalline zeolite. Journal of the Ceramic Society of Japan, 2011, 119, 605-608.	0.5	8
103	Crystallization Behavior of Zeolite Beta in OSDA-Free, Seed-Assisted Synthesis. Journal of Physical Chemistry C, 2011, 115, 744-750.	1.5	172
104	Changes in the medium-range order of zeolite A by mechanical and thermal amorphization. Microporous and Mesoporous Materials, 2010, 136, 92-96.	2.2	9
105	Fabrication of Fine Zeolite with Improved Catalytic Properties by Bead Milling and Alkali Treatment. ACS Applied Materials & Interfaces, 2010, 2, 2715-2718.	4.0	42
106	Cooperative Effect of Sodium and Potassium Cations on Synthesis of Ferrierite. Topics in Catalysis, 2009, 52, 67-74.	1.3	39
107	Changes in the medium-range order during crystallization of aluminosilicate zeolites characterized by high-energy X-ray diffraction technique. Journal of the Ceramic Society of Japan, 2009, 117, 277-282.	0.5	20
108	A new approach to the determination of atomic-architecture of amorphous zeolite precursors by high-energy X-ray diffraction technique. Physical Chemistry Chemical Physics, 2006, 8, 224-227.	1.3	88

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109	Hydrothermal Synthesis and Characterization of Zeolites. Chemistry Letters, 2005, 34, 276-281.	0.7	66
110	Investigation of the surface structure of zeolite A. Physical Chemistry Chemical Physics, 2005, 7, 3416.	1.3	28
111	Crystal Growth Behavior of Zeolites Elucidated by Atomic Force Microscopy. Journal of Chemical Engineering of Japan, 2004, 37, 669-674.	0.3	11
112	Heteroepitaxial Growth of a Zeolite Film with a Patterned Surface-Texture. Journal of the American Chemical Society, 2003, 125, 12388-12389.	6.6	49