Toru Murayama

List of Publications by Year
in descending order

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Version: 2024-02-01

98 papers	3,263 citations	136950 32 h-index	175258 52 g-index
103 all docs	103 docs citations	103 times ranked	3220 citing authors

#	Article	IF	Citations
1	Importance of Size and Contact Structure of Gold Nanoparticles for the Genesis of Unique Catalytic Processes. Chemical Reviews, 2020, 120, 464-525.	47.7	386
2	Neutral H₂O₂ Synthesis by Electrolysis of Water and O₂. Angewandte Chemie - International Edition, 2008, 47, 1900-1902.	13.8	162
3	Hydrothermal synthesis of octahedra-based layered niobium oxide and its catalytic activity as a solid acid. Catalysis Science and Technology, 2014, 4, 4250-4257.	4.1	133
4	Bulk tungsten-substituted vanadium oxide for low-temperature NOx removal in the presence of water. Nature Communications, 2021, 12, 557.	12.8	92
5	An orthorhombic Mo₃VO_xcatalyst most active for oxidative dehydrogenation of ethane among related complex metal oxides. Catalysis Science and Technology, 2013, 3, 380-387.	4.1	90
6	Bulk Vanadium Oxide versus Conventional V₂O₅/TiO₂: NH₃â€“SCR Catalysts Working at a Low Temperature Below 150 Â°C. ACS Catalysis, 2019, 9, 9327-9331.	11.2	82
7	Facile Formation of Lactic Acid from a Triose Sugar in Water over Niobium Oxide with a Deformed Orthorhombic Phase. ACS Catalysis, 2018, 8, 283-290.	11.2	76
8	Electrosynthesis of Neutral H₂O₂ Solution from O₂ and Water at a Mixed Carbon Cathode Using an Exposed Solid-Polymer-Electrolyte Electrolysis Cell. Journal of Physical Chemistry C, 2011, 115, 5792-5799.	3.1	69
9	Role of the Acid Site for Selective Catalytic Oxidation of NH₃ over Au/Nb₂O₅. ACS Catalysis, 2019, 9, 1753-1756.	11.2	69
10	Identification of the catalytically active component of Cuâ€“Zrâ€“O catalyst for the hydrogenation of levulinic acid to Î³-valerolactone. Green Chemistry, 2017, 19, 225-236.	9.0	68
11	Low-Temperature CO Oxidation over Combustion Made Fe- and Cr-Doped Co₃O₄ Catalysts: Role of Dopantâ€™s Nature toward Achieving Superior Catalytic Activity and Stability. Journal of Physical Chemistry C, 2017, 121, 15256-15265.	3.1	67
12	Hydrothermal synthesis of Wâ€“Nb complex metal oxides and their application to catalytic dehydration of glycerol to acrolein. Catalysis Today, 2013, 201, 7-11.	4.4	65
13	Tetrahedral Connection of Îµ-Keggin-type Polyoxometalates To Form an All-Inorganic Octahedral Molecular Sieve with an Intrinsic 3D Pore System. Inorganic Chemistry, 2014, 53, 903-911.	4.0	65
14	Heptagonal channel micropore of orthorhombic Mo3VOx as catalysis field for the selective oxidation of ethane. Applied Catalysis A: General, 2014, 474, 10-17.	4.3	58
15	Catalysis field in orthorhombic Mo3VOx oxide catalyst for the selective oxidation of ethane, propane and acrolein. Catalysis Today, 2014, 238, 35-40.	4.4	57
16	Electrocatalysis of heat-treated cobalt-porphyrin/carbon for hydrogen peroxide formation. Electrochimica Acta, 2013, 108, 321-329.	5.2	53
17	Controlling the O-Vacancy Formation and Performance of Au/ZnO Catalysts in CO₂Reduction to Methanol by the ZnO Particle Size. ACS Catalysis, 2021, 11, 9022-9033.	11.2	53
18	Catalytic Synthesis of Neutral Hydrogen Peroxide at a CoN₂C_x Cathode of a Polymer Electrolyte Membrane Fuel Cell (PEMFC). ChemSusChem, 2010, 3, 59-62.	6.8	51

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19	Direct oxidative transformation of glycerol to acrylic acid over Nb-based complex metal oxide catalysts. Catalysis Today, 2016, 259, 205-212.	4.4	51
20	Ultrathin inorganic molecular nanowire based on polyoxometalates. Nature Communications, 2015, 6, 7731.	12.8	50
21	Redox Treatment of Orthorhombic Mo₂₉V₁₁O₁₁₂ and Relationships between Crystal Structure, Microporosity and Catalytic Performance for Selective Oxidation of Ethane. Journal of Physical Chemistry C, 2015, 119, 7195-7206.	3.1	49
22	Preparation, Structural Characterization, and Ion-Exchange Properties of Two New Zeolite-like 3D Frameworks Constructed by Îµ-Keggin-Type Polyoxometalates with Binding Metal Ions, H_{11.4}[ZnMo₁₂O₄₀Zn₂]^{1.5â€“} and H_{7.5}[Mn_{0.2}Mo₁₂O₄₀Mn₂]^{2.1â€“}. Inorganic Chemistry, 2014, 53, 7309-7318.	4.0	48
23	Catalytic Synthesis of Neutral H₂O₂ Solutions from O₂ and H₂ by a Fuel Cell Reaction. ChemSusChem, 2008, 1, 988-992.	6.8	47
24	CO₂Reduction to Methanol on Au/CeO₂Catalysts: Mechanistic Insights from Activation/Deactivation and SSITKA Measurements. ACS Catalysis, 2020, 10, 3580-3594.	11.2	47
25	Singleâ€Crystallineâ€Phase Mo₃VO_x: An Efficient Catalyst for the Partial Oxidation of Acrolein to Acrylic Acid. ChemCatChem, 2013, 5, 2869-2873.	3.7	44
26	CO Oxidation over Au/ZnO: Unprecedented Change of the Reaction Mechanism at Low Temperature Caused by a Different O₂ Activation Process. ACS Catalysis, 2019, 9, 8364-8372.	11.2	42
27	Ultra-Low-Temperature CO Oxidation Activity of Octahedral Site Cobalt Species in Co₃O₄ Based Catalysts: Unravelling the Origin of the Unique Catalytic Property. Journal of Physical Chemistry C, 2019, 123, 19557-19571.	3.1	41
28	Redox tunable reversible molecular sieves: orthorhombic molybdenum vanadium oxide. Chemical Communications, 2011, 47, 10812.	4.1	40
29	Selective carbon dioxide adsorption of Îµ-Keggin-type zincomolybdate-based purely inorganic 3D frameworks. Journal of Materials Chemistry A, 2015, 3, 746-755.	10.3	39
30	Crystalline Mo-Vâ€“W-mixed Oxide with Orthorhombic and Trigonal Structures as Highly Efficient Oxidation Catalysts of Acrolein to Acrylic Acid. Topics in Catalysis, 2014, 57, 1163-1170.	2.8	37
31	Assembly of a Pentagonal Polyoxomolybdate Building Block, [Mo6O21]6-, into Crystalline MoV Oxides. European Journal of Inorganic Chemistry, 2013, 2013, 1731-1736.	2.0	35
32	Synthesis of Novel Orthorhombic Mo and V Based Complex Oxides Coordinating Alkylammonium Cation in Its Heptagonal Channel and Their Application as a Catalyst. Chemistry of Materials, 2013, 25, 2211-2219.	6.7	34
33	Features of Nb2O5 as a metal oxide support of Pt and Pd catalysts for selective catalytic oxidation of NH3 with high N2 selectivity. Journal of Catalysis, 2020, 389, 366-374.	6.2	33
34	Analogous Mechanistic Features of NH₃-SCR over Vanadium Oxide and Copper Zeolite Catalysts. ACS Catalysis, 2021, 11, 11180-11192.	11.2	33
35	A Fuelâ€Cell Reactor for the Direct Synthesis of Hydrogen Peroxide Alkaline Solutions from H₂ and O₂. ChemSusChem, 2011, 4, 494-501.	6.8	31
36	Ag Size/Structure-Dependent Effect on Low-Temperature Selective Catalytic Oxidation of NH₃ over Ag/MnO₂. ACS Catalysis, 2021, 11, 8576-8584.	11.2	31

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37	A zeolitic vanadotungstate family with structural diversity and ultrahigh porosity for catalysis. Nature Communications, 2018, 9, 3789.	12.8	30
38	Selective catalytic oxidation of ammonia to nitrogen over zeolite-supported Pt-Au catalysts: Effects of alloy formation and acid sites. Journal of Catalysis, 2021, 402, 101-113.	6.2	30
39	Defective NiO as a Stabilizer for Au Single-Atom Catalysts. ACS Catalysis, 2022, 12, 6149-6158.	11.2	30
40	Preparation of gold nanoparticles supported on Nb 2 O 5 by deposition precipitation and deposition reduction methods and their catalytic activity for CO oxidation. Chinese Journal of Catalysis, 2016, 37, 1694-1701.	14.0	29
41	Carbon Monoxide Oxidation by Polyoxometalateâ€Supported Gold Nanoparticulate Catalysts: Activity, Stability, and Temperatureâ€Dependent Activation Properties. Angewandte Chemie - International Edition, 2018, 57, 1523-1527.	13.8	29
42	Supported gold cluster catalysts prepared by solid grinding using a non-volatile organogold complex for low-temperature CO oxidation and the effect of potassium on gold particle size. Applied Catalysis B: Environmental, 2019, 241, 539-547.	20.2	27
43	NH3-efficient ammoxidation of toluene by hydrothermally synthesized layered tungsten-vanadium complex metal oxides. Journal of Catalysis, 2016, 344, 346-353.	6.2	24
44	Synthesis of Crystalline Microporous Moâ€“Vâ€“Bi Oxide for Selective (Amm)Oxidation of Light Alkanes. Chemistry of Materials, 2017, 29, 2939-2950.	6.7	24
45	Carbon Monoxide Oxidation by Polyoxometalateâ€Supported Gold Nanoparticulate Catalysts: Activity, Stability, and Temperatureâ€Dependent Activation Properties. Angewandte Chemie, 2018, 130, 1539-1543.	2.0	23
46	Redox-Active Zeolitic Transition Metal Oxides Based on Îµ-Keggin Units for Selective Oxidation. Inorganic Chemistry, 2019, 58, 6283-6293.	4.0	23
47	Direct Oxidative Transformation of Glycerol into Acrylic Acid over Phosphoric Acid-added Wâ€“Vâ€“Nb Complex Metal Oxide Catalysts. Chemistry Letters, 2014, 43, 435-437.	1.3	22
48	Correlation between catalytic activity of supported gold catalysts for carbon monoxide oxidation and metalâ€“oxygen binding energy of the support metal oxides. Chinese Journal of Catalysis, 2016, 37, 1651-1655.	14.0	22
49	Hydrothermal synthesis of a layered-type Wâ€“Tiâ€“O mixed metal oxide and its solid acid activity. Catalysis Science and Technology, 2017, 7, 243-250.	4.1	21
50	The Effects of Dopants on the Cuâ€“ZrO₂ Catalyzed Hydrogenation of Levulinic Acid. Journal of Physical Chemistry C, 2019, 123, 7879-7888.	3.1	21
51	Phosgene-Free Method for Diphenyl Carbonate Synthesis at the Pd⁰/Ketjenblack Anode. Journal of Physical Chemistry C, 2012, 116, 10607-10616.	3.1	20
52	Low-Temperature Propylene Epoxidation Activity of CuOâ€“CeO₂ Catalyst with CO + O₂: Role of Metalâ€“Support Interaction on the Reducibility and Catalytic Property of CuO_x Species. Journal of Physical Chemistry C, 2020, 124, 14131-14146.	3.1	20
53	Catalytic neutral hydrogen peroxide synthesis from O2 and H2 by PEMFC fuel. Catalysis Today, 2011, 164, 163-168.	4.4	19
54	Investigation of the formation process of zeolite-like 3D frameworks constructed with Îµ-Keggin-type polyoxovanadomolybdates with binding bismuth ions and preparation of a nano-crystal. Dalton Transactions, 2014, 43, 13584.	3.3	19

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55	Deposition of Gold Nanoparticles on Niobium Pentoxide with Different Crystal Structures for Roomâ€Temperature Carbon Monoxide Oxidation. ChemCatChem, 2016, 8, 2620-2624.	3.7	19
56	Reduced Vanadium and Molybdenum Oxides Catalyze the Equivalent Formation of Ethane and Acetaldehyde from Ethanol. ChemCatChem, 2014, 6, 741-744.	3.7	18
57	Hydrothermal synthesis of microporous Wâ€“Vâ€“O as an efficient catalyst for ammoxidation of 3-picoline. Applied Catalysis A: General, 2016, 509, 118-122.	4.3	18
58	Preparation and formation mechanism of three-dimensionally ordered macroporous (3DOM) MgO, MgSO4, CaCO3, and SrCO3, and photonic stop band properties of 3DOM CaCO3. Journal of Solid State Chemistry, 2011, 184, 2299-2305.	2.9	17
59	Synthesis of Vanadiumâ€Incorporated, Polyoxometalateâ€Based Open Frameworks and Their Applications for Cathodeâ€Active Materials. European Journal of Inorganic Chemistry, 2016, 2016, 1242-1250.	2.0	17
60	Elucidation of Active Sites of Gold Nanoparticles on Acidic Ta₂O₅ Supports for CO Oxidation. ACS Catalysis, 2020, 10, 9328-9335.	11.2	17
61	Synthesis of Trigonal Moâ€“Vâ€“M3rdâ€“O (M3rdÂ=ÂFe, W) Catalysts by Using Structure-Directing Agent and Catalytic Performances for Selective Oxidation of Ethane. Topics in Catalysis, 2016, 59, 1477-1488.	2.8	15
62	Understanding the Distinct Effects of Ag Nanoparticles and Highly Dispersed Ag Species on N₂ Selectivity in NH₃â€“SCO Reaction. ACS Catalysis, 2022, 12, 6108-6118.	11.2	15
63	Synthesis of porous and acidic complex metal oxide catalyst based on group 5 and 6 elements. Catalysis Today, 2012, 185, 224-229.	4.4	14
64	True Catalytically Active Structure in Moâ€“V-Based Mixed Oxide Catalysts for Selective Oxidation of Acrolein. ACS Catalysis, 2021, 11, 10294-10307.	11.2	14
65	Role of Crystalline Structure in Allyl Alcohol Selective Oxidation over Mo₃VO_x Complex Metal Oxide Catalysts. ChemCatChem, 2016, 8, 2415-2420.	3.7	13
66	New crystalline complex metal oxides created by unit-synthesis and their catalysis based on porous and redox properties. Faraday Discussions, 2016, 188, 81-98.	3.2	13
67	Oxidative esterification of aliphatic aldehydes and alcohols with ethanol over gold nanoparticle catalysts in batch and continuous flow reactors. Applied Catalysis A: General, 2019, 585, 117169.	4.3	13
68	Seed-Assisted Synthesis of Crystalline Mo₃VO_x Oxides and Their Crystal Formation Mechanism. Crystal Growth and Design, 2014, 14, 4553-4561.	3.0	12
69	Direct synthesis of diphenyl carbonate by mediated electrocarbonylation of phenol at Pd2+-supported activated carbon anode. Electrochimica Acta, 2011, 56, 2926-2933.	5.2	11
70	Hydrothermal synthesis of Wâ€“Taâ€“O complex metal oxides by assembling MO6 (M = W or Ta) octahedra and creation of solid acid. Journal of Catalysis, 2016, 339, 143-152.	6.2	11
71	Synthesis of bulk vanadium oxide with a large surface area using organic acids and its low-temperature NH3-SCR activity. Catalysis Today, 2021, 376, 188-196.	4.4	11
72	Preparation of Polyaniline Microtubes as the Gold Catalyst Support with Improved Catalytic Performances for the Reduction of Nitrophenols. Topics in Catalysis, 2021, 64, 215-223.	2.8	11

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73	Influence of the structure of trigonal Mo-V-M3rd oxides (M3rdâ€‰=â€‰-, Fe, Cu, W) on catalytic performances in selective oxidations of ethane, acrolein, and allyl alcohol. Applied Catalysis A: General, 2019, 584, 117151.	4.3	9
74	Gold Nanoparticles Supported on Nb2O5 for Low-Temperature CO Oxidation and as Cathode Materials for Li-ion Batteries. Applied Catalysis A: General, 2020, 603, 117747.	4.3	9
75	Insights into Au Nanoparticle Size and Chemical State of Au/ZSM-5 Catalyst for Catalytic Cracking of n-Octane to Increase Propylene Production. Journal of Physical Chemistry C, 2021, 125, 16013-16023.	3.1	9
76	Ligand effect of gold colloid in the preparation of Au/Nb2O5 for CO oxidation. Journal of Catalysis, 2020, 389, 9-18.	6.2	9
77	Hydrogen-transfer dehydration between alcohols over V 2 O 3 and MoO 2 catalysts for the formation of corresponding alkanes and aldehydes. Journal of Molecular Catalysis A, 2014, 394, 137-144.	4.8	8
78	Versatile etherification of alcohols with allyl alcohol by a titanium oxide-supported molybdenum oxide catalyst: gradual generation from titanium oxide and molybdenum oxide. Catalysis Science and Technology, 2018, 8, 4618-4625.	4.1	8
79	Synthesis of Zeolitic Mo-Doped Vanadotungstates and Their Catalytic Activity for Low-Temperature NH3-SCR. Inorganic Chemistry, 2021, 60, 5081-5086.	4.0	8
80	Direct Synthesis of Diphenyl Carbonate by Electrocarbonylation at a Pd2+-supported Anode. Chemistry Letters, 2010, 39, 418-419.	1.3	7
81	Dehydrative Allylation of Amine with Allyl Alcohol by Titanium Oxide Supported Molybdenum Oxide Catalyst. Synlett, 2019, 30, 287-292.	1.8	7
82	Catalytic Activities of Various Niobium Oxides for Hydrogen Absorption/Desorption Reactions of Magnesium. ACS Omega, 2021, 6, 23564-23569.	3.5	7
83	Synthesis of Zeolitic Ti, Zr-Substituted Vanadotungstates and Investigation of Their Catalytic Activities for Low Temperature NH₃-SCR. ACS Catalysis, 2021, 11, 14016-14025.	11.2	7
84	Low-temperature NH₃-SCR Activity of Nanoparticulate Gold Supported on a Metal Oxide. Journal of the Japan Petroleum Institute, 2019, 62, 234-243.	0.6	6
85	Multi-dimensional Crystal Structuring of Complex Metal Oxide Catalysts of Group V and VI Elements by Unit-Assembling. Topics in Catalysis, 2019, 62, 1157-1168.	2.8	6
86	High dimensionally structured W-V oxides as highly effective catalysts for selective oxidation of toluene. Catalysis Today, 2021, 363, 60-66.	4.4	6
87	The challenges of characterising nanoparticulate catalysts: general discussion. Faraday Discussions, 2018, 208, 339-394.	3.2	5
88	Quantitative Analysis of Coke Formation during Steam Reforming of Methane on a Nickelâ€“Hydrotalcite Catalyst under Practical Operation Conditions. Chemistry Letters, 2013, 42, 124-126.	1.3	4
89	Gold Nanoparticles Supported on Ceâ€“Zr Oxides for Selective Hydrogenation of Acetylene. Topics in Catalysis, 2021, 64, 206-214.	2.8	4
90	Transesterification of Ethyl-10-undecenoate Using a Cu-Deposited V2O5 Catalyst as a Model Reaction for Efficient Conversion of Plant Oils to Monomers and Fine Chemicals. ACS Omega, 2022, 7, 4372-4380.	3.5	4

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91	Synthesis of crystalline Moâ€“Vâ€“Wâ€“O complex oxides with orthorhombic and trigonal structures and their application as catalysts. Journal of Lithic Studies, 2015, 1, 71-77.	0.5	3
92	Control of catalytic nanoparticle synthesis: general discussion. Faraday Discussions, 2018, 208, 471-495.	3.2	3
93	Praseodymiaâ€“titania mixed oxide supported gold as efficient water gas shift catalyst: modulated by the mixing ratio of oxides. RSC Advances, 2022, 12, 5374-5385.	3.6	3
94	Neutral H2O2 Synthesis by Electrolysis of O2 and Water. ECS Transactions, 2009, 25, 19-24.	0.5	2
95	Study of the Electrochemical Carbonylation of Ethanol and Ethylene at Pd/C Anode. ECS Transactions, 2010, 25, 35-40.	0.5	2
96	Morphology-controlled preparation of iron-based oxides using a paper template. Materials Letters, 2012, 81, 80-83.	2.6	2
97	W-Ti-O Mixed Metal Oxide Catalyzed Dehydrative Cross-etherification of Alcohols. Chemistry Letters, 2018, 47, 447-449.	1.3	2
98	C, N Co-Decorated Alumina-Supported Au Nanoparticles: Enhanced Catalytic Performance for Selective Hydrogenation of Acetylene. Topics in Catalysis, 2021, 64, 197-205.	2.8	2