Rajamani Gounder

List of Publications by Year
in descending order

84 papers	6,647 citations	76322 40 h-index	62593 80 g-index
90 all docs	90 docs citations	90 times ranked	3893 citing authors

#	Article	IF	Citations
1	Effect of Nickel Active Site Density on the Deactivation of Ni-Beta Zeolite Catalysts during Ethene Dimerization. ACS Engineering Au, 2022, 2, 12-16.	5.1	8
2	Effects of Ethene Pressure on the Deactivation of Niâ€Zeolites During Ethene Oligomerization at Subâ€ambient Temperatures. ChemCatChem, 2022, 14, .	3.7	6
3	Investigation of the modes of NO adsorption in Pd/H-CHA. Applied Catalysis B: Environmental, 2022, 304, 120992.	20.2	18
4	Kinetic Modeling of Ethene Oligomerization on Bifunctional Nickel and Acid Î² Zeolites. Industrial & Engineering Chemistry Research, 2022, 61, 3860-3876.	3.7	5
5	Quantifying Effects of Active Site Proximity on Rates of Methanol Dehydration to Dimethyl Ether over Chabazite Zeolites through Microkinetic Modeling. ACS Materials Au, 2022, 2, 163-175.	6.0	7
6	Kinetic and Thermodynamic Factors Influencing Palladium Nanoparticle Redispersion into Mononuclear Pd(II) Cations in Zeolite Supports. Journal of Physical Chemistry C, 2022, 126, 8337-8353.	3.1	12
7	Structural Interconversion between Agglomerated Palladium Domains and Mononuclear Pd(II) Cations in Chabazite Zeolites. Chemistry of Materials, 2021, 33, 1698-1713.	6.7	42
8	Propene oligomerization on Beta zeolites: Development of a microkinetic model and experimental validation. Journal of Catalysis, 2021, 395, 302-314.	6.2	7
9	Effects of BrÃ¸nsted acid site proximity in chabazite zeolites on OH infrared spectra and protolytic propane cracking kinetics. Journal of Catalysis, 2021, 395, 210-226.	6.2	27
10	Olefin oligomerization by main group Ga3+ and Zn2+ single site catalysts on SiO2. Nature Communications, 2021, 12, 2322.	12.8	26
11	Demonstrating Concepts in Catalysis, Renewable Energy, and Chemical Safety with the Catalytic Oxidation of Hydrogen. Journal of Chemical Education, 2021, 98, 2036-2041.	2.3	4
12	Dynamic Interconversion of Metal Active Site Ensembles in Zeolite Catalysis. Annual Review of Chemical and Biomolecular Engineering, 2021, 12, 115-136.	6.8	12
13	Developing quantitative synthesis-structure-function relations for framework aluminum arrangement effects in zeolite acid catalysis. Journal of Catalysis, 2021, 399, 75-85.	6.2	17
14	Temperature dependence of Cu(I) oxidation and Cu(II) reduction kinetics in the selective catalytic reduction of NOx with NH3 on Cu-chabazite zeolites. Journal of Catalysis, 2021, 404, 873-882.	6.2	12
15	Dioxygen Activation Kinetics over Distinct Cu Site Types in Cu-Chabazite Zeolites. ACS Catalysis, 2021, 11, 11873-11884.	11.2	27
16	Kinetic effects of molecular clustering and solvation by extended networks in zeolite acid catalysis. Chemical Science, 2021, 12, 4699-4708.	7.4	24
17	Effects of Treatment Conditions on Pd Speciation in CHA and Beta Zeolites for Passive NO_{<i>x</i>} Adsorption. ACS Omega, 2021, 6, 29471-29482.	3.5	12
18	Molecular water provides a channel for communication between BrÃ¸nsted acid sites in solid catalysts. Chem Catalysis, 2021, 1, 968-970.	6.1	0

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19	Mechanistic studies of NH₃-assisted reduction of mononuclear Cu(<scp>ii</scp>) cation sites in Cu-CHA zeolites. Catalysis Science and Technology, 2021, 11, 7932-7942.	4.1	5
20	Experimental and Theoretical Assessments of Aluminum Proximity in MFI Zeolites and Its Alteration by Organic and Inorganic Structure-Directing Agents. Chemistry of Materials, 2020, 32, 9277-9298.	6.7	55
21	Opportunities in Catalysis over Metal-Zeotypes Enabled by Descriptions of Active Centers Beyond Their Binding Site. ACS Catalysis, 2020, 10, 9476-9495.	11.2	34
22	Rigid Arrangements of Ionic Charge in Zeolite Frameworks Conferred by Specific Aluminum Distributions Preferentially Stabilize Alkanol Dehydration Transition States. Angewandte Chemie - International Edition, 2020, 59, 18686-18694.	13.8	29
23	Clustering of alkanols confined in chabazite zeolites: Kinetic implications for dehydration of methanol-ethanol mixtures. Journal of Catalysis, 2020, 390, 178-183.	6.2	12
24	Solvation and Mobilization of Copper Active Sites in Zeolites by Ammonia: Consequences for the Catalytic Reduction of Nitrogen Oxides. Accounts of Chemical Research, 2020, 53, 1881-1892.	15.6	78
25	Mechanistic insights into alkene chain growth reactions catalyzed by nickel active sites on ordered microporous and mesoporous supports. Catalysis Science and Technology, 2020, 10, 7101-7123.	4.1	31
26	Rigid Arrangements of Ionic Charge in Zeolite Frameworks Conferred by Specific Aluminum Distributions Preferentially Stabilize Alkanol Dehydration Transition States. Angewandte Chemie, 2020, 132, 18845-18853.	2.0	22
27	Tighter Confinement Increases Selectivity of d â€Glucose Isomerization Toward l â€Sorbose in Titanium Zeolites. Angewandte Chemie, 2020, 132, 19264-19269.	2.0	1
28	Quantification of Intraporous Hydrophilic Binding Sites in Lewis Acid Zeolites and Consequences for Sugar Isomerization Catalysis. ACS Catalysis, 2020, 10, 12197-12211.	11.2	34
29	Effects of dioxygen pressure on rates of NOx selective catalytic reduction with NH3 on Cu-CHA zeolites. Journal of Catalysis, 2020, 389, 140-149.	6.2	44
30	Parallel Alkane Dehydrogenation Routes on BrÃ¸nsted Acid and Reaction-Derived Carbonaceous Active Sites in Zeolites. Journal of Physical Chemistry C, 2020, 124, 15839-15855.	3.1	7
31	Combining Kinetics and <i>Operando</i> Spectroscopy to Interrogate the Mechanism and Active Site Requirements of NO_{<i>x</i>} Selective Catalytic Reduction with NH₃ on Cu-Zeolites. Journal of Physical Chemistry Letters, 2020, 11, 5029-5036.	4.6	24
32	Tighter Confinement Increases Selectivity of <scp>d</scp>â€Glucose Isomerization Toward <scp>l</scp>â€Sorbose in Titanium Zeolites. Angewandte Chemie - International Edition, 2020, 59, 19102-19107.	13.8	13
33	Structure and solvation of confined water and waterâ€“ethanol clusters within microporous BrÃ¸nsted acids and their effects on ethanol dehydration catalysis. Chemical Science, 2020, 11, 7102-7122.	7.4	68
34	Cooperative and Competitive Occlusion of Organic and Inorganic Structure-Directing Agents within Chabazite Zeolites Influences Their Aluminum Arrangement. Journal of the American Chemical Society, 2020, 142, 4807-4819.	13.7	97
35	Initiating a researchâ€focused academic career in chemical engineering: Perspectives from faculty at different career stages. AIChE Journal, 2020, 66, e16927.	3.6	1
36	Microkinetic Model of Propylene Oligomerization on BrÃ¸nsted Acidic Zeolites at Low Conversion. ACS Catalysis, 2019, 9, 8996-9008.	11.2	31

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37	Consequences of exchange-site heterogeneity and dynamics on the UV-visible spectrum of Cu-exchanged SSZ-13. Chemical Science, 2019, 10, 2373-2384.	7.4	80
38	Defectâ€Mediated Ordering of Condensed Water Structures in Microporous Zeolites. Angewandte Chemie, 2019, 131, 16574-16578.	2.0	11
39	Defectâ€Mediated Ordering of Condensed Water Structures in Microporous Zeolites. Angewandte Chemie - International Edition, 2019, 58, 16422-16426.	13.8	38
40	Distinct Catalytic Reactivity of Sn Substituted in Framework Locations and at Defect Grain Boundaries in Sn-Zeolites. ACS Catalysis, 2019, 9, 6146-6168.	11.2	52
41	Influence of the <i>N</i>,<i>N</i>,<i>N</i>-Trimethyl-1-adamantyl Ammonium Structure-Directing Agent on Al Substitution in SSZ-13 Zeolite. Journal of Physical Chemistry C, 2019, 123, 17454-17458.	3.1	20
42	Influence of Tetrapropylammonium and Ethylenediamine Structure-Directing Agents on the Framework Al Distribution in Bâ€“Alâ€“MFI Zeolites. Industrial & Engineering Chemistry Research, 2019, 58, 11849-11860.	3.7	24
43	Automotive NOx abatement using zeolite-based technologies. Reaction Chemistry and Engineering, 2019, 4, 966-968.	3.7	14
44	Deactivation of Sn-Beta zeolites caused by structural transformation of hydrophobic to hydrophilic micropores during aqueous-phase glucose isomerization. Catalysis Science and Technology, 2019, 9, 1654-1668.	4.1	40
45	Mechanistic origins of the high-pressure inhibition of methanol dehydration rates in small-pore acidic zeolites. Journal of Catalysis, 2019, 380, 161-177.	6.2	40
46	Cooperative Effects between Hydrophilic Pores and Solvents: Catalytic Consequences of Hydrogen Bonding on Alkene Epoxidation in Zeolites. Journal of the American Chemical Society, 2019, 141, 7302-7319.	13.7	142
47	Spectroscopic and kinetic responses of Cu-SSZ-13 to SO2 exposure and implications for NOx selective catalytic reduction. Applied Catalysis A: General, 2019, 574, 122-131.	4.3	48
48	Ammonia Titration Methods To Quantify BrÃ¸nsted Acid Sites in Zeolites Substituted with Aluminum and Boron Heteroatoms. Industrial & Engineering Chemistry Research, 2018, 57, 6673-6683.	3.7	11
49	Consideration of the Aluminum Distribution in Zeolites in Theoretical and Experimental Catalysis Research. ACS Catalysis, 2018, 8, 770-784.	11.2	161
50	First-Principles Comparison of Proton and Divalent Copper Cation Exchange Energy Landscapes in SSZ-13 Zeolite. Journal of Physical Chemistry C, 2018, 122, 23564-23573.	3.1	35
51	Dominant Role of Entropy in Stabilizing Sugar Isomerization Transition States within Hydrophobic Zeolite Pores. Journal of the American Chemical Society, 2018, 140, 14244-14266.	13.7	83
52	Evidence for the Coordinationâ€“Insertion Mechanism of Ethene Dimerization at Nickel Cations Exchanged onto Beta Molecular Sieves. ACS Catalysis, 2018, 8, 11407-11422.	11.2	66
53	Influence of confining environment polarity on ethanol dehydration catalysis by Lewis acid zeolites. Journal of Catalysis, 2018, 365, 213-226.	6.2	44
54	First principles, microkinetic, and experimental analysis of Lewis acid site speciation during ethanol dehydration on Sn-Beta zeolites. Journal of Catalysis, 2018, 365, 261-276.	6.2	49

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55	Structural and kinetic changes to small-pore Cu-zeolites after hydrothermal aging treatments and selective catalytic reduction of NO_x with ammonia. Reaction Chemistry and Engineering, 2017, 2, 168-179.	3.7	54
56	Molecular Structure and Confining Environment of Sn Sites in Single-Site Chabazite Zeolites. Chemistry of Materials, 2017, 29, 8824-8837.	6.7	44
57	Introducing Catalytic Diversity into Single-Site Chabazite Zeolites of Fixed Composition via Synthetic Control of Active Site Proximity. ACS Catalysis, 2017, 7, 6663-6674.	11.2	117
58	Dynamic multinuclear sites formed by mobilized copper ions in NO <i> _x </i> selective catalytic reduction. Science, 2017, 357, 898-903.	12.6	667
59	A transmission infrared cell design for temperature-controlled adsorption and reactivity studies on heterogeneous catalysts. Review of Scientific Instruments, 2016, 87, 103101.	1.3	20
60	Catalysis in a Cage: Condition-Dependent Speciation and Dynamics of Exchanged Cu Cations in SSZ-13 Zeolites. Journal of the American Chemical Society, 2016, 138, 6028-6048.	13.7	588
61	Using a Hands-On Hydrogen Peroxide Decomposition Activity To Teach Catalysis Concepts to Kâ€“12 Students. Journal of Chemical Education, 2016, 93, 1406-1410.	2.3	7
62	Controlled insertion of tin atoms into zeolite framework vacancies and consequences for glucose isomerization catalysis. Journal of Catalysis, 2016, 344, 108-120.	6.2	86
63	Identifying Sn Site Heterogeneities Prevalent Among Snâ€Beta Zeolites. Helvetica Chimica Acta, 2016, 99, 916-927.	1.6	44
64	Titration and quantification of open and closed Lewis acid sites in Sn-Beta zeolites that catalyze glucose isomerization. Journal of Catalysis, 2016, 335, 141-154.	6.2	223
65	Controlling the Isolation and Pairing of Aluminum in Chabazite Zeolites Using Mixtures of Organic and Inorganic Structure-Directing Agents. Chemistry of Materials, 2016, 28, 2236-2247.	6.7	240
66	Solid State NMR Characterization of Sn-Beta Zeolites that Catalyze Glucose Isomerization and Epimerization. Topics in Catalysis, 2015, 58, 435-440.	2.8	40
67	The Dynamic Nature of BrÃ¸nsted Acid Sites in Cuâ€“Zeolites During NOx Selective Catalytic Reduction: Quantification by Gas-Phase Ammonia Titration. Topics in Catalysis, 2015, 58, 424-434.	2.8	91
68	Isolation of the Copper Redox Steps in the Standard Selective Catalytic Reduction on Cuâ€SSZâ€13. Angewandte Chemie - International Edition, 2014, 53, 11828-11833.	13.8	305
69	Methods for NH3 titration of BrÃ¸nsted acid sites in Cu-zeolites that catalyze the selective catalytic reduction of NOx with NH3. Journal of Catalysis, 2014, 312, 26-36.	6.2	103
70	Hydrophobic microporous and mesoporous oxides as BrÃ¸nsted and Lewis acid catalysts for biomass conversion in liquid water. Catalysis Science and Technology, 2014, 4, 2877-2886.	4.1	94
71	Challenges of and Insights into Acid-Catalyzed Transformations of Sugars. Journal of Physical Chemistry C, 2014, 118, 22815-22833.	3.1	88
72	Active Sites in Sn-Beta for Glucose Isomerization to Fructose and Epimerization to Mannose. ACS Catalysis, 2014, 4, 2288-2297.	11.2	254

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73	Beyond shape selective catalysis with zeolites: Hydrophobic void spaces in zeolites enable catalysis in liquid water. AICHE Journal, 2013, 59, 3349-3358.	3.6	120
74	Monosaccharide and disaccharide isomerization over Lewis acid sites in hydrophobic and hydrophilic molecular sieves. Journal of Catalysis, 2013, 308, 176-188.	6.2	150
75	The catalytic diversity of zeolites: confinement and solvation effects within voids of molecular dimensions. Chemical Communications, 2013, 49, 3491.	4.1	219
76	Titanium-Beta Zeolites Catalyze the Stereospecific Isomerization of <scp>d</scp>-Glucose to <scp>l</scp>-Sorbose via Intramolecular C5â€“C1 Hydride Shift. ACS Catalysis, 2013, 3, 1469-1476.	11.2	60
77	Framework and Extraframework Tin Sites in Zeolite Beta React Glucose Differently. ACS Catalysis, 2012, 2, 2705-2713.	11.2	274
78	The Roles of Entropy and Enthalpy in Stabilizing Ion-Pairs at Transition States in Zeolite Acid Catalysis. Accounts of Chemical Research, 2012, 45, 229-238.	15.6	197
79	Solvation and acid strength effects on catalysis by faujasite zeolites. Journal of Catalysis, 2012, 286, 214-223.	6.2	127
80	Catalytic hydrogenation of alkenes on acidic zeolites: Mechanistic connections to monomolecular alkane dehydrogenation reactions. Journal of Catalysis, 2011, 277, 36-45.	6.2	63
81	Catalytic Alkylation Routes via Carboniumâ€•Ionâ€•Like Transition States on Acidic Zeolites. ChemCatChem, 2011, 3, 1134-1138.	3.7	8
82	Effects of Partial Confinement on the Specificity of Monomolecular Alkane Reactions for Acid Sites in Side Pockets of Mordenite. Angewandte Chemie - International Edition, 2010, 49, 808-811.	13.8	105
83	Catalytic Consequences of Spatial Constraints and Acid Site Location for Monomolecular Alkane Activation on Zeolites. Journal of the American Chemical Society, 2009, 131, 1958-1971.	13.7	277
84	Entropy considerations in monomolecular cracking of alkanes on acidic zeolites. Journal of Catalysis, 2008, 253, 221-224.	6.2	112