Roman Bulanek

List of Publications by Year in descending order

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Version: 2024-02-01

105	2,250	236925	254184
papers	citations	25 h-index	43 g-index

106	106	106	2223
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Reducibility and oxidation activity of Cu ions in zeolites. Applied Catalysis B: Environmental, 2001, 31, 13-25.	20.2	151
2	Effect of support-active phase interactions on the catalyst activity and selectivity in deoxygenation of triglycerides. Applied Catalysis B: Environmental, 2014, 145, 101-107.	20.2	115
3	Adsorption of CO2 in FAU zeolites: Effect of zeolite composition. Catalysis Today, 2014, 227, 50-56.	4.4	80
4	Single and Dual Cation Sites in Zeolites:Â Theoretical Calculations and FTIR Spectroscopic Studies on CO Adsorption on K-FER. Journal of Physical Chemistry B, 2006, 110, 22542-22550.	2.6	79
5	The vibrational dynamics of carbon monoxide in a confined spaceâ€”CO in zeolites. Physical Chemistry Chemical Physics, 2006, 8, 4849-4852.	2.8	74
6	DR UVâ€“vis Study of the Supported Vanadium Oxide Catalysts. Journal of Physical Chemistry C, 2011, 115, 12430-12438.	3.1	72
7	Characterization of the Cu+Sites in High-Silica Zeolites Interacting with the CO Molecule:Â Combined Computational and Experimental Study. Journal of Physical Chemistry B, 2003, 107, 2327-2332.	2.6	69
8	Oxidative dehydrogenation and ammoxidation of ethane and propane over pentasil ring Co-zeolites. Applied Catalysis A: General, 2002, 235, 181-191.	4.3	67
9	Oxidation of propane with oxygen and/or nitrous oxide over Fe-ZSM-5 with low iron concentrations. Applied Catalysis A: General, 2004, 264, 13-22.	4.3	66
10	Oxidative dehydrogenation of ethane over vanadium supported on mesoporous materials of M41S family. Applied Catalysis A: General, 2008, 342, 99-106.	4.3	65
11	Computational and Fourier Transform Infrared Spectroscopic Studies on Carbon Monoxide Adsorption on the Zeolites Na-ZSM-5 and K-ZSM-5:â€‰ Evidence of Dual-Cation Sites. Journal of Physical Chemistry C, 2008, 112, 4658-4666.	3.1	63
12	Measuring the BrÃ¸nsted acid strength of zeolites â€“ does it correlate with the Oâ€“H frequency shift probed by a weak base?. Physical Chemistry Chemical Physics, 2014, 16, 10129-10141.	2.8	62
13	Study of vanadium based mesoporous silicas for oxidative dehydrogenation of propane and n-butane. Catalysis Today, 2012, 179, 149-158.	4.4	60
14	Effect of preparation method on nature and distribution of vanadium species in vanadium-based hexagonal mesoporous silica catalysts: Impact on catalytic behavior in propane ODH. Applied Catalysis A: General, 2012, 415-416, 29-39.	4.3	55
15	Microcalorimetric and FTIR Study of the Adsorption of Carbon Dioxide on Alkali-Metal Exchanged FER Zeolites. Topics in Catalysis, 2010, 53, 1349-1360.	2.8	49
16	n-Butane oxidative dehydrogenation over VO -HMS catalyst. Journal of Molecular Catalysis A, 2011, 344, 1-10.	4.8	49
17	Periodic density functional and FTIR spectroscopic studies on CO adsorption on the zeolite Na-FER. Microporous and Mesoporous Materials, 2007, 106, 162-173.	4.4	44
18	Theoretical investigation of site-specific characteristics of CO adsorption complexes in the Li+-FER zeolite. Applied Catalysis A: General, 2006, 307, 118-127.	4.3	43

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19	Characterization of potassium-modified FAU zeolites and their performance in aldol condensation of furfural and acetone. Applied Catalysis A: General, 2018, 549, 8-18.	4.3	41
20	On the site-specificity of polycarbonyl complexes in Cu/zeolites: combined experimental and DFT study. Physical Chemistry Chemical Physics, 2006, 8, 5535-5542.	2.8	35
21	Oxidative dehydrogenation of ethane over vanadium-based hexagonal mesoporous silica catalysts. Catalysis Today, 2009, 141, 282-287.	4.4	32
22	Localization of Cu+sites and framework Al positions in high-silica zeolites: Combined experimental and theoretical study. Physical Chemistry Chemical Physics, 2004, 6, 2003-2007.	2.8	29
23	Vanadium supported on hexagonal mesoporous silica: active and stable catalysts in the oxidative dehydrogenation of alkanes. Topics in Catalysis, 2007, 45, 51-55.	2.8	28
24	Activity of the Niâ€“Al Mixed Oxides Prepared from Hydrotalcite-Like Precursors in the Oxidative Dehydrogenation of Ethane and Propane. Topics in Catalysis, 2011, 54, 1151-1162.	2.8	28
25	Investigation of IR vibrational band of Câ€“O bond of carbonyl species in Cu+-MFI zeolites. Physical Chemistry Chemical Physics, 2004, 6, 4208-4214.	2.8	25
26	SiO₂ Fibers by Centrifugal Spinning with Excellent Textural Properties and Water Adsorption Performance. ACS Omega, 2017, 2, 5052-5059.	3.5	25
27	Study of adsorption sites heterogeneity in zeolites by means of coupled microcalorimetry with volumetry. Journal of Thermal Analysis and Calorimetry, 2011, 105, 443-449.	3.6	24
28	Hexagonal mesoporous titanosilicates as support for vanadium oxideâ€”Promising catalysts for the oxidative dehydrogenation of n-butane. Catalysis Today, 2013, 204, 132-139.	4.4	23
29	Clinoptilolite foams prepared by alkali activation of natural zeolite and their post-synthesis modifications. Microporous and Mesoporous Materials, 2019, 282, 169-178.	4.4	23
30	FTIR Study of CO Interactions with Li⁺Ions in Micro- and Mesoporous Matrices:â€‰Coordination and Localization of Li⁺Ions. Journal of Physical Chemistry C, 2007, 111, 11353-11362.	3.1	22
31	Localization and Coordination of Mg²⁺Cations in Ferrierite: Combined FTIR Spectroscopic and Computation Investigation of CO Adsorption Complexes. Journal of Physical Chemistry C, 2009, 113, 11066-11076.	3.1	22
32	Possibility of VOx/SiO2 Complexes Speciation: Comparative Multi-wavelength Raman and DR UV-vis Study. Physics Procedia, 2013, 44, 195-205.	1.2	22
33	BrÃ¸nsted acidity of H-MCM-22 as probed by variable-temperature infrared spectroscopy of adsorbed CO and N2. Catalysis Today, 2014, 227, 45-49.	4.4	22
34	Activity of Molybdenum Oxide Catalyst Supported on Al2O3, TiO2, and SiO2 Matrix in the Oxidative Dehydrogenation of n-Butane. Topics in Catalysis, 2015, 58, 866-876.	2.8	22
35	Characterization of the Cu+ sites in MFI zeolites: combined computational and experimental study. Catalysis Today, 2005, 100, 385-389.	4.4	21
36	The BrÃ¸nsted acidity of three- and two-dimensional zeolites. Microporous and Mesoporous Materials, 2019, 282, 121-132.	4.4	21

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37	Combined Experimental and Theoretical Investigations of Heterogeneous Dual Cation Sites in Cu,M-FER Zeolites. Journal of Physical Chemistry C, 2011, 115, 13312-13321.	3.1	20
38	10-Vertex closo-carborane: a unique ligand platform for porous coordination polymers. CrystEngComm, 2016, 18, 2036-2040.	2.6	20
39	Crystallization kinetics of glassy materials: the ultimate kinetic complexity?. Journal of Thermal Analysis and Calorimetry, 2018, 134, 825-834.	3.6	20
40	Experimental and Theoretical Study of Propene Adsorption on K-FER Zeolites: New Evidence of Bridged Complex Formation. Journal of Physical Chemistry C, 2018, 122, 6128-6136.	3.1	18
41	Surfactant templated synthesis of porous VO x -ZrO 2 catalysts for ethanol conversion to acetaldehyde. Catalysis Today, 2018, 304, 64-71.	4.4	18
42	Facile synthesis of WO3 fibers via centrifugal spinning as an efficient UV- and VIS-light-driven photocatalyst. Ceramics International, 2021, 47, 35361-35365.	4.8	17
43	The effect of vanadium content and speciation on the activity of VOx/ZrO2 catalysts in the conversion of ethanol to acetaldehyde. Applied Catalysis A: General, 2018, 564, 208-217.	4.3	16
44	Carbon monoxide adsorption on alkali-metal exchanged BEA zeolite: IR and thermodynamics study. Microporous and Mesoporous Materials, 2012, 151, 149-156.	4.4	15
45	Energetic heterogeneity of Cu+-carbonyl complexes in Y zeolites: Kinetics of CO desorption studied by FTIR combined with CO adsorption microcalorimetry. Microporous and Mesoporous Materials, 2013, 171, 185-195.	4.4	14
46	Application of trypsin Fe 3 O 4 @SiO 2 core/shell nanoparticles for protein digestion. Process Biochemistry, 2015, 50, 2088-2098.	3.7	14
47	BrÃ¸nsted acidity in zeolites measured by deprotonation energy. Scientific Reports, 2022, 12, 7301.	3.3	14
48	Temperature Dependence of Carbon Monoxide Adsorption on a High-Silica H-FER Zeolite. Journal of Physical Chemistry C, 2018, 122, 26088-26095.	3.1	13
49	Tuning the CHA framework composition by isomorphous substitution for CO2/CH4 separation. Chemical Engineering Journal, 2022, 429, 131277.	12.7	12
50	Oxidative dehydrogenation of propane by nitrous oxide and/or oxygen over Co beta zeolite. Reaction Kinetics and Catalysis Letters, 2003, 80, 337-343.	0.6	11
51	Oxidation of propane with oxygen, nitrous oxide and oxygen/nitrous oxide mixture over Co- and Fe-zeolites. Catalysis Today, 2005, 100, 315-319.	4.4	11
52	Theoretical and experimental study of CO adsorption on Ca-FER zeolite. Catalysis Today, 2015, 243, 53-61.	4.4	11
53	The Feasibility of Ni-Alumina Catalysts in Oxidative Dehydrogenation of Ethane. Collection of Czechoslovak Chemical Communications, 2008, 73, 1177-1191.	1.0	10
54	Improvement of the conventional preparation methods in Co/BEA zeolites: Characterization and ethane ammoxidation. Solid State Sciences, 2019, 93, 13-23.	3.2	10

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55	H/D reactivity and acidity of BrÃ¸nsted acid sites of MWW zeolites: Comparison with MFI zeolite. Applied Catalysis A: General, 2019, 575, 180-186.	4.3	10
56	Direct ammoxidation of propane over zeolites with traces of iron. Topics in Catalysis, 2007, 45, 233-237.	2.8	9
57	Coordination of extraframework Li+ cation in the MCM-22 and MCM-36 zeolite: FTIR study of CO adsorbed. Adsorption, 2013, 19, 455-463.	3.0	9
58	The effect of the zeolite pore size on the Lewis acid strength of extra-framework cations. Physical Chemistry Chemical Physics, 2016, 18, 18063-18073.	2.8	9
59	Overâ€“ and lowâ€“exchanged Co/BEA catalysts: General characterization and catalytic behaviour in ethane ammoxidation. Catalysis Today, 2018, 304, 103-111.	4.4	9
60	Crystal formation in vanadium-doped zirconia ceramics. CrystEngComm, 2018, 20, 3105-3116.	2.6	9
61	Efficient oxidative dehydrogenation of ethanol by VOx@MIL-101: On par with VOx/ZrO2 and much better than MIL-47(V). Catalysis Today, 2019, 324, 106-114.	4.4	9
62	Cobalt Based Catalysts on Alkali-Activated Zeolite Foams for N2O Decomposition. Catalysts, 2020, 10, 1398.	3.5	9
63	Evidence of heterogeneous dual cation sites in zeolites by combined IR and DFT investigation. Studies in Surface Science and Catalysis, 2008, , 1005-1008.	1.5	8
64	Study of thermodynamic characteristics of CO adsorption on Li exchanged zeolites. Adsorption, 2013, 19, 381-389.	3.0	8
65	Porous 10- and 12-vertex (bi)-p-dicarba-closo-boranedicarboxylates of cobalt and their gas adsorptive properties. Microporous and Mesoporous Materials, 2018, 271, 284-294.	4.4	8
66	Experimental and theoretical study of propene adsorption on alkali metal exchanged FER zeolites. Microporous and Mesoporous Materials, 2019, 280, 203-210.	4.4	8
67	The quantity of Cu+ ions forming isolated and bridged carbonyl complexes in FER zeolites determined by IR spectroscopy. Vibrational Spectroscopy, 2012, 58, 146-152.	2.2	7
68	Combined Oxidative and Non-oxidative Dehydrogenation of n-Butane Over VOX Species Supported on HMS. Topics in Catalysis, 2013, 56, 662-671.	2.8	7
69	One-pot synthesis of iron doped mesoporous silica catalyst for propane ammoxidation. Dalton Transactions, 2014, 43, 3897.	3.3	7
70	Comparative Study of Vanadium Supported on MCM-36 and MCM-22 and Their Catalytic Perfomance in C3-ODH. Industrial & Engineering Chemistry Research, 2015, 54, 2030-2039.	3.7	7
71	Infrared spectroscopic and thermodynamic assessment of extraframework cationic adsorption sites in the zeolite K-L by using CO as probe molecule. Chemical Physics Letters, 2015, 639, 195-198.	2.6	7
72	Study on thermal stabilities and symmetries of chemisorbed species formed on K-zeolites upon CO2 adsorption by TPD and in situ IR spectroscopy. Journal of Thermal Analysis and Calorimetry, 2018, 133, 355-364.	3.6	7

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73	Thermodynamics of CO probe molecule adsorption on Cuâ€“FER-zeolite comparison of TPD, FTIR, and microcalorimetry results. Journal of Thermal Analysis and Calorimetry, 2011, 105, 837-844.	3.6	6
74	Effect of the pretreatment of Fe-silicalite on its activity in the ammoxidation of propane. Catalysis Today, 2012, 179, 73-77.	4.4	6
75	Combined microcalorimetric and IR spectroscopic study on carbon dioxide adsorption in H-MCM-22. Applied Surface Science, 2014, 316, 532-536.	6.1	6
76	Solidâ€“state ion exchange of CoCl 2 Â·6H 2 O into NH 4 + â€“Beta zeolite: Pathway analysis. Microporous and Mesoporous Materials, 2018, 264, 218-229.	4.4	6
77	VOx/Zrâ€“SBA-15 catalysts for selective oxidation of ethanol to acetaldehyde. Chemical Papers, 2018, 72, 937-946.	2.2	6
78	Bismuth Oxychloride Nanoplatelets by Breakdown Anodization. ChemElectroChem, 2019, 6, 336-341.	3.4	6
79	Interaction of CO probe molecules with Cu(+) in MCM-22 zeolite. Microporous and Mesoporous Materials, 2014, 186, 37-45.	4.4	5
80	Ammoxidation of propane over Fe-zeolites: effect of reaction variables, catalyst composition and catalyst structure. Studies in Surface Science and Catalysis, 2008, 174, 1151-1154.	1.5	4
81	CO and NO adsorption on VO x /SBA-15 catalysts: an FT-IR spectroscopic study. Adsorption, 2013, 19, 339-347.	3.0	4
82	High temperature pretreatment of Fe-silicalite for the ammoxidation of propane. Catalysis Today, 2013, 204, 54-59.	4.4	4
83	Vanadium Mesoporous Silica Catalyst Prepared by Direct Synthesis as High Performing Catalyst in Oxidative Dehydrogenation of n-Butane. Catalysis Letters, 2014, 144, 50-55.	2.6	4
84	Study of BrÃ¸nsted acid site in H-MCM-22 zeolite by temperature-programmed desorption of ammonia. Journal of Thermal Analysis and Calorimetry, 2016, 125, 1217-1224.	3.6	4
85	Textural and morphology changes of mesoporous SBA-15 silica due to introduction of guest phase. Pure and Applied Chemistry, 2017, 89, 481-491.	1.9	4
86	Adsorption and separation of the C3 hydrocarbons on cationic FER zeolites: Effect of dual sites existence. Microporous and Mesoporous Materials, 2019, 279, 416-422.	4.4	4
87	Occurrence of Fe species in Fe-zeolites active in propane oxidation with N2O to propene and propanal. Studies in Surface Science and Catalysis, 2005, 158, 1977-1984.	1.5	3
88	Combined TPD and theoretical investigation of CO desorption from Cu-K-FER zeolite. Studies in Surface Science and Catalysis, 2008, , 893-896.	1.5	3
89	Effect of the nature and the distribution of vanadium Species on the catalytic behavior of vanadium-based silica catalysts. Studies in Surface Science and Catalysis, 2008, , 1295-1298.	1.5	3
90	Ammoxidation of propane over Fe-zeolites: Effect of reaction variables and catalyst composition and structure. Catalysis Today, 2009, 141, 254-259.	4.4	3

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91	Determination of adsorption heats of individual adsorption complex by combination of microcalorimetry and FTIR spectroscopy. Journal of Thermal Analysis and Calorimetry, 2013, 113, 97-103.	3.6	3
92	Quantitative analysis of IR spectra of carbonylic species in alkaliâ€“metal exchanged ZSM-5 and FER zeolites. Catalysis Today, 2015, 243, 62-68.	4.4	3
93	Ligand Excess â€œInverse-Defectedâ€•Zr‹sub›6‹/sub› Tetrahedral Tetracarboxylate Framework and Its Thermal Transformation. Inorganic Chemistry, 2019, 58, 12786-12797.	4.0	3
94	Re-examining the interpretation of CO adsorbed on Lewis acid sites of alkali metal-exchanged MOR zeolite. Microporous and Mesoporous Materials, 2020, 296, 110007.	4.4	3
95	Chiral Templating of Polycarbonate Membranes by Pinene Using the Modified Atomic Layer Deposition Approach. Langmuir, 2020, 36, 12723-12734.	3.5	3
96	The analysis of the BAS OH band in zeolites. Microporous and Mesoporous Materials, 2022, 341, 112052.	4.4	3
97	Vibrational dynamics of small molecules adsorbed on cation sites in zeolite channel systems: IR and DFT investigation. Studies in Surface Science and Catalysis, 2008, , 869-872.	1.5	2
98	Kinetics of Reduction of Cu Ions in MFI Zeolite Investigated by H2-TPR Method. Collection of Czechoslovak Chemical Communications, 2008, 73, 1132-1148.	1.0	2
99	Analysis of the BAS OH band reveals a non-statistical incorporation of Al into the MOR framework. Microporous and Mesoporous Materials, 2021, 317, 110994.	4.4	2
100	Influence of Substrate Concentration on Kinetic Parameters of Ethanol Dehydration in MFI and CHA Zeolites and Relation of These Kinetic Parameters to Acidâ€“Base Properties. Catalysts, 2022, 12, 51.	3.5	2
101	Structural changes in FeMFI during its activation for the direct ammoxidation of propane. Catalysis Science and Technology, 2013, 3, 1634-1643.	4.1	1
102	Answer to the comment by O. Cairon on â€œBrÃ¸nsted acidity of H-MCM-22 as probed by variable-temperature infrared spectroscopy of adsorbed CO and N2â€• Catalysis Today, 2015, 252, 214-216.	4.4	1
103	Physico-Chemical Changes in the KCl-MgCl2/La-FAU Composite Catalyst Induced by Oxidative Dehydrogenation of Ethane. Catalysts, 2021, 11, 392.	3.5	1
104	Reactivity of internal vs. external BrÃ¸nsted acid sites in nanosponge MFI: H/D exchange kinetic study. Microporous and Mesoporous Materials, 2022, 332, 111717.	4.4	1
105	Catalysis in Zeolites and Zeotypesâ€”Cornerstone of Chemical Industry and Permanent Subject of Research. Catalysts, 2022, 12, 53.	3.5	0