

Israel E Wachs

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343
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ext. papers

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L-index

#	Paper	IF	Citations
343	Raman and IR studies of surface metal oxide species on oxide supports: Supported metal oxide catalysts. <i>Catalysis Today</i> , 1996 , 27, 437-455	5.3	668
342	Surface Chemistry and Spectroscopy of Chromium in Inorganic Oxides. <i>Chemical Reviews</i> , 1996 , 96, 3327-3350	6.3	637
341	Titania/Silica as catalysts: molecular structural characteristics and physico-chemical properties. <i>Catalysis Today</i> , 1999 , 51, 233-254	5.3	557
340	Structure and reactivity of surface vanadium oxide species on oxide supports. <i>Applied Catalysis A: General</i> , 1997 , 157, 67-90	5.1	549
339	Structural chemistry and Raman spectra of niobium oxides. <i>Chemistry of Materials</i> , 1991 , 3, 100-107	9.6	486
338	The selective oxidation of CH ₃ OH to H ₂ CO on a copper(110) catalyst. <i>Journal of Catalysis</i> , 1978 , 53, 208-217	7.3	465
337	Recent conceptual advances in the catalysis science of mixed metal oxide catalytic materials. <i>Catalysis Today</i> , 2005 , 100, 79-94	5.3	445
336	Reactivity of Supported Vanadium Oxide Catalysts: The Partial Oxidation of Methanol. <i>Journal of Catalysis</i> , 1994 , 146, 323-334	7.3	422
335	Determination of vanadium-oxygen bond distances and bond orders by Raman spectroscopy. <i>The Journal of Physical Chemistry</i> , 1991 , 95, 5031-5041		405
334	Spectroscopic Characterization of Mixed Fe/Ni Oxide Electrocatalysts for the Oxygen Evolution Reaction in Alkaline Electrolytes. <i>ACS Catalysis</i> , 2012 , 2, 1793-1801	13.1	362
333	Alumina-Supported Manganese Oxide Catalysts. <i>Journal of Catalysis</i> , 1994 , 150, 94-104	7.3	358
332	Critical Literature Review of the Kinetics for the Oxidative Dehydrogenation of Propane over Well-Defined Supported Vanadium Oxide Catalysts. <i>ACS Catalysis</i> , 2014 , 4, 3357-3380	13.1	343
331	Solid-state vanadium-51 NMR structural studies on supported vanadium(V) oxide catalysts: vanadium oxide surface layers on alumina and titania supports. <i>The Journal of Physical Chemistry</i> , 1989 , 93, 6796-6805		337
330	The oxidation of methanol on a silver (110) catalyst. <i>Surface Science</i> , 1978 , 76, 531-558	1.8	327
329	In situ Raman spectroscopy of alumina-supported metal oxide catalysts. <i>The Journal of Physical Chemistry</i> , 1992 , 96, 5008-5016		311
328	Surface Structures of Supported Molybdenum Oxide Catalysts: Characterization by Raman and Mo L3-Edge XANES. <i>The Journal of Physical Chemistry</i> , 1995 , 99, 10897-10910		304
327	Acidic properties of supported niobium oxide catalysts: An infrared spectroscopy investigation. <i>Journal of Catalysis</i> , 1992 , 135, 186-199	7.3	292

326	In Situ Spectroscopic Investigation of Molecular Structures of Highly Dispersed Vanadium Oxide on Silica under Various Conditions. <i>Journal of Physical Chemistry B</i> , 1998 , 102, 10842-10852	3.4	290
325	Molecular structures of supported metal oxide catalysts under different environments. <i>Journal of Raman Spectroscopy</i> , 2002 , 33, 359-380	2.3	288
324	Investigation of Surface Structures of Supported Vanadium Oxide Catalysts by UV-Vis-IR Diffuse Reflectance Spectroscopy. <i>Journal of Physical Chemistry B</i> , 2000 , 104, 1261-1268	3.4	288
323	Structural Determination of Bulk and Surface Tungsten Oxides with UV-Vis Diffuse Reflectance Spectroscopy and Raman Spectroscopy. <i>Journal of Physical Chemistry C</i> , 2007 , 111, 15089-15099	3.8	285
322	Preparation and in-Situ Spectroscopic Characterization of Molecularly Dispersed Titanium Oxide on Silica. <i>Journal of Physical Chemistry B</i> , 1998 , 102, 5653-5666	3.4	278
321	Predicting molecular structures of surface metal oxide species on oxide supports under ambient conditions. <i>The Journal of Physical Chemistry</i> , 1991 , 95, 5889-5895		274
320	Acidic properties of alumina-supported metal oxide catalysts: an infrared spectroscopy study. <i>The Journal of Physical Chemistry</i> , 1992 , 96, 5000-5007		256
319	Catalysis science of supported vanadium oxide catalysts. <i>Dalton Transactions</i> , 2013 , 42, 11762-9	4.3	255
318	Oxidation of sulfur dioxide to sulfur trioxide over supported vanadia catalysts. <i>Applied Catalysis B: Environmental</i> , 1998 , 19, 103-117	21.8	254
317	Catalysis. Identification of molybdenum oxide nanostructures on zeolites for natural gas conversion. <i>Science</i> , 2015 , 348, 686-90	33.3	242
316	Determination of molybdenum-oxygen bond distances and bond orders by Raman spectroscopy. <i>Journal of Raman Spectroscopy</i> , 1990 , 21, 683-691	2.3	242
315	In Situ Spectroscopic Investigation of the Molecular and Electronic Structures of SiO ₂ Supported Surface Metal Oxides. <i>Journal of Physical Chemistry C</i> , 2007 , 111, 14410-14425	3.8	234
314	Bonding states of surface vanadium(V) oxide phases on silica: structural characterization by vanadium-51 NMR and Raman spectroscopy. <i>The Journal of Physical Chemistry</i> , 1993 , 97, 8240-8243		232
313	Monitoring surface metal oxide catalytic active sites with Raman spectroscopy. <i>Chemical Society Reviews</i> , 2010 , 39, 5002-17	58.5	226
312	Reactivity of V ₂ O ₅ Catalysts for the Selective Catalytic Reduction of NO by NH ₃ : Influence of Vanadia Loading, H ₂ O, and SO ₂ . <i>Journal of Catalysis</i> , 1996 , 161, 247-253	7.3	226
311	Structural determination of supported vanadium pentoxide-tungsten trioxide-titania catalysts by in situ Raman spectroscopy and x-ray photoelectron spectroscopy. <i>The Journal of Physical Chemistry</i> , 1991 , 95, 9928-9937		209
310	Methanol: A Smart Chemical Probe Molecule. <i>Catalysis Letters</i> , 2001 , 75, 137-149	2.8	208
309	Selective Catalytic Reduction of NO with NH ₃ over Supported Vanadia Catalysts. <i>Journal of Catalysis</i> , 1996 , 161, 211-221	7.3	208

308	In situ IR, Raman, and UV-Vis DRS spectroscopy of supported vanadium oxide catalysts during methanol oxidation. <i>Topics in Catalysis</i> , 2000 , 11/12, 85-100	2.3	199
307	A Perspective on the Selective Catalytic Reduction (SCR) of NO with NH ₃ by Supported V ₂ O ₅ /WO ₃ /TiO ₂ Catalysts. <i>ACS Catalysis</i> , 2018 , 8, 6537-6551	13.1	197
306	The interaction of vanadium pentoxide with titania (anatase): Part I. Effect on o-xylene oxidation to phthalic anhydride. <i>Applied Catalysis</i> , 1985 , 15, 339-352		194
305	Olefin Metathesis by Supported Metal Oxide Catalysts. <i>ACS Catalysis</i> , 2014 , 4, 2505-2520	13.1	187
304	Iron-Based Catalysts for the High-Temperature Water-Gas Shift (HT-WGS) Reaction: A Review. <i>ACS Catalysis</i> , 2016 , 6, 722-732	13.1	181
303	Quantitative determination of the speciation of surface vanadium oxides and their catalytic activity. <i>Journal of Physical Chemistry B</i> , 2006 , 110, 9593-600	3.4	178
302	New insights into the nature of the acidic catalytic active sites present in ZrO ₂ -supported tungsten oxide catalysts. <i>Journal of Catalysis</i> , 2008 , 256, 108-125	7.3	176
301	Raman spectroscopy of chromium oxide supported on Al ₂ O ₃ , TiO ₂ and SiO ₂ : a comparative study. <i>Journal of Molecular Catalysis</i> , 1988 , 46, 173-186		174
300	Molecular structure and reactivity of the Group V metal oxides. <i>Catalysis Today</i> , 2003 , 78, 13-24	5.3	171
299	The origin of the support effect in supported metal oxide catalysts: in situ infrared and kinetic studies during methanol oxidation. <i>Catalysis Today</i> , 1999 , 49, 467-484	5.3	171
298	A Raman and ultraviolet diffuse reflectance spectroscopic investigation of silica-supported molybdenum oxide. <i>The Journal of Physical Chemistry</i> , 1991 , 95, 8781-8791		170
297	Combined DRSEXAFS-XANES-TPR study of supported chromium catalysts. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1995 , 91, 3245-3253		167
296	The effect of metal oxide additives on the activity of V ₂ O ₅ /TiO ₂ catalysts for the selective catalytic reduction of nitric oxide by ammonia. <i>Applied Catalysis B: Environmental</i> , 1999 , 20, 111-122	21.8	166
295	The interaction of V ₂ O ₅ with TiO ₂ (anatase): Catalyst evolution with calcination temperature and O-xylene oxidation. <i>Journal of Catalysis</i> , 1986 , 98, 102-114	7.3	158
294	Catalysis Science of Bulk Mixed Oxides. <i>ACS Catalysis</i> , 2012 , 2, 1235-1246	13.1	157
293	Nature of Active Sites and Surface Intermediates during SCR of NO with NH ₃ by Supported V ₂ O ₅ /WO ₃ /TiO ₂ Catalysts. <i>Journal of the American Chemical Society</i> , 2017 , 139, 15624-15627	16.4	155
292	In Situ Raman Spectroscopy of SiO ₂ -Supported Transition Metal Oxide Catalysts: An Isotopic ¹⁸ O/ ¹⁶ O Exchange Study. <i>Journal of Physical Chemistry C</i> , 2008 , 112, 6487-6498	3.8	154
291	Effect of Additives on the Structure and Reactivity of the Surface Vanadium Oxide Phase in V ₂ O ₅ /TiO ₂ Catalysts. <i>Journal of Catalysis</i> , 1994 , 146, 335-345	7.3	154

290	Isopropanol oxidation by pure metal oxide catalysts: number of active surface sites and turnover frequencies. <i>Applied Catalysis A: General</i> , 2002 , 237, 121-137	5.1	150
289	Characterization of titania silicalites. <i>Zeolites</i> , 1993 , 13, 365-373		150
288	Oxidative dehydrogenation of ethane to ethylene over alumina-supported vanadium oxide catalysts: Relationship between molecular structures and chemical reactivity. <i>Catalysis Today</i> , 2006 , 118, 279-287	5.3	148
287	The molecular structures and reactivity of supported niobium oxide catalysts. <i>Catalysis Today</i> , 1990 , 8, 37-55	5.3	146
286	The effect of the phase composition of model VPO catalysts for partial oxidation of n-butane. <i>Catalysis Today</i> , 1996 , 28, 275-295	5.3	140
285	Molecular/electronic structure-surface acidity relationships of model-supported tungsten oxide catalysts. <i>Journal of Catalysis</i> , 2007 , 246, 370-381	7.3	139
284	Catalysis science of the solid acidity of model supported tungsten oxide catalysts. <i>Catalysis Today</i> , 2006 , 116, 162-168	5.3	136
283	The oxidation of ethanol on Cu(110) and Ag(110) catalysts. <i>Applications of Surface Science</i> , 1978 , 1, 303-328		136
282	Quantification of Active Sites for the Determination of Methanol Oxidation Turn-over Frequencies Using Methanol Chemisorption and in Situ Infrared Techniques. 1. Supported Metal Oxide Catalysts. <i>Langmuir</i> , 2001 , 17, 6164-6174	4	132
281	The molecular structure of bismuth oxide by Raman spectroscopy. <i>Journal of Solid State Chemistry</i> , 1992 , 97, 319-331	3.3	131
280	Characterization of chromium oxide supported on Al ₂ O ₃ , ZrO ₂ , TiO ₂ , and SiO ₂ under dehydrated conditions. <i>Journal of Molecular Catalysis</i> , 1993 , 80, 209-227		131
279	Monolayer V ₂ O ₅ /TiO ₂ and MoO ₃ /TiO ₂ catalysts prepared by different methods. <i>Applied Catalysis</i> , 1991 , 70, 115-128		128
278	Surface structures of supported tungsten oxide catalysts under dehydrated conditions. <i>Journal of Molecular Catalysis A</i> , 1996 , 106, 93-102		127
277	Structural and Reactivity Properties of Nb ⁵⁺ /MCM-41: Comparison with That of Highly Dispersed Nb ₂ O ₅ /SiO ₂ Catalysts. <i>Journal of Catalysis</i> , 2001 , 203, 18-24	7.3	124
276	Identification of active Zr-WO(x) clusters on a ZrO ₂ support for solid acid catalysts. <i>Nature Chemistry</i> , 2009 , 1, 722-8	17.6	123
275	Oxidative dehydrogenation of propane over V/MCM-41 catalysts: comparison of O ₂ and N ₂ O as oxidants. <i>Journal of Catalysis</i> , 2005 , 234, 131-142	7.3	123
274	Effect of water vapor on the molecular structures of supported vanadium oxide catalysts at elevated temperatures. <i>Journal of Molecular Catalysis A</i> , 1996 , 110, 41-54		123
273	Catalytic Properties of Supported Molybdenum Oxide Catalysts: In Situ Raman and Methanol Oxidation Studies. <i>The Journal of Physical Chemistry</i> , 1995 , 99, 10911-10922		120

272	Comparison of UV and visible Raman spectroscopy of bulk metal molybdate and metal vanadate catalysts. <i>Journal of Physical Chemistry B</i> , 2005 , 109, 23491-9	3.4	119
271	Molecular Structures and Reactivity of Supported Molybdenum Oxide Catalysts. <i>Journal of Catalysis</i> , 1994 , 149, 268-277	7.3	117
270	Molecular Structural Determination of Molybdena in Different Environments: Aqueous Solutions, Bulk Mixed Oxides, and Supported MoO ₃ Catalysts. <i>Journal of Physical Chemistry C</i> , 2010 , 114, 14110-14120	3.8	115
269	Molecular structure and reactivity of the group V metal oxides. <i>Catalysis Today</i> , 2000 , 57, 323-330	5.3	115
268	In Situ Vibrational Spectroscopy Studies of Supported Niobium Oxide Catalysts. <i>Journal of Physical Chemistry B</i> , 1999 , 103, 6015-6024	3.4	115
267	Determination of the molecular structures of tungstates by Raman spectroscopy. <i>Journal of Raman Spectroscopy</i> , 1995 , 26, 397-405	2.3	115
266	In Situ UV-Vis-NIR Diffuse Reflectance and Raman Spectroscopic Studies of Propane Oxidation over ZrO ₂ -Supported Vanadium Oxide Catalysts. <i>Journal of Catalysis</i> , 2002 , 209, 43-50	7.3	113
265	Interaction of Polycrystalline Silver with Oxygen, Water, Carbon Dioxide, Ethylene, and Methanol: In Situ Raman and Catalytic Studies. <i>Journal of Physical Chemistry B</i> , 1999 , 103, 5645-5656	3.4	111
264	Physical and chemical characterization of surface vanadium oxide supported on titania: influence of the titania phase (anatase, rutile, brookite and B). <i>Applied Catalysis A: General</i> , 1992 , 91, 27-42	5.1	110
263	A Raman and ultraviolet diffuse reflectance spectroscopic investigation of alumina-supported molybdenum oxide. <i>The Journal of Physical Chemistry</i> , 1991 , 95, 8791-8797		109
262	Molecular structure of molybdenum oxide in bismuth molybdates by Raman spectroscopy. <i>The Journal of Physical Chemistry</i> , 1991 , 95, 10763-10772		109
261	How strain affects the reactivity of surface metal oxide catalysts. <i>Angewandte Chemie - International Edition</i> , 2013 , 52, 13553-7	16.4	107
260	Catalysis Science of Methanol Oxidation over Iron Vanadate Catalysts: Nature of the Catalytic Active Sites. <i>ACS Catalysis</i> , 2011 , 1, 54-66	13.1	107
259	Fundamental Studies of Butane Oxidation over Model-Supported Vanadium Oxide Catalysts: Molecular Structure-Reactivity Relationships. <i>Journal of Catalysis</i> , 1997 , 170, 75-88	7.3	107
258	Remarkable spreading behavior of molybdena on silica catalysts. An in situ EXAFS-Raman study. <i>Catalysis Letters</i> , 1991 , 11, 227-239	2.8	107
257	Oxidative Dehydrogenation of Propane over Supported Chromia Catalysts: Influence of Oxide Supports and Chromia Loading. <i>Journal of Catalysis</i> , 2002 , 211, 482-495	7.3	105
256	In Situ Raman Spectroscopy of Supported Transition Metal Oxide Catalysts: ¹⁸ O/ ¹⁶ O Isotopic Labeling Studies. <i>Journal of Physical Chemistry B</i> , 2000 , 104, 7382-7387	3.4	105
255	Oxidation of sulfur dioxide over supported vanadia catalysts: molecular structure-reactivity relationships and reaction kinetics. <i>Catalysis Today</i> , 1999 , 51, 301-318	5.3	105

254	Determination of niobium-oxygen bond distances and bond orders by Raman spectroscopy. <i>Solid State Ionics</i> , 1991 , 45, 201-213	3-3	105
253	CH ₃ OH oxidation over well-defined supported V ₂ O ₅ /Al ₂ O ₃ catalysts: Influence of vanadium oxide loading and surface vanadium-oxygen functionalities. <i>Journal of Catalysis</i> , 2008 , 255, 197-205	7-3	104
252	Surface oxide-support interaction (SOSI) for surface redox sites. <i>Journal of Catalysis</i> , 1991 , 129, 307-312	7-3	104
251	The dynamic states of silica-supported metal oxide catalysts during methanol oxidation. <i>Catalysis Today</i> , 1996 , 28, 335-350	5-3	102
250	Dynamic behavior of supported vanadia catalysts in the selective oxidation of ethane: In situ Raman, UV-Vis DRS and reactivity studies. <i>Catalysis Today</i> , 2000 , 61, 295-301	5-3	101
249	Molybdena on Silica Catalysts: Role of Preparation Methods on the Structure-Selectivity Properties for the Oxidation of Methanol. <i>Journal of Catalysis</i> , 1994 , 150, 407-420	7-3	101
248	The oxidation of H ₂ CO on a copper(110) surface. <i>Surface Science</i> , 1979 , 84, 375-386	1-8	101
247	Structural determination of surface rhenium oxide on various oxide supports (Al ₂ O ₃ , ZrO ₂ , TiO ₂ and SiO ₂). <i>Journal of Molecular Catalysis</i> , 1992 , 76, 263-285		100
246	Photo-oxidation of methanol using : Catalyst structure and reaction selectivity. <i>Journal of Catalysis</i> , 1985 , 94, 108-119	7-3	100
245	Determination of the chemical nature of active surface sites present on bulk mixed metal oxide catalysts. <i>Journal of Physical Chemistry B</i> , 2005 , 109, 2275-84	3-4	99
244	Structural Characteristics and Reactivity/Reducibility Properties of Dispersed and Bilayered V ₂ O ₅ /TiO ₂ /SiO ₂ Catalysts. <i>Journal of Physical Chemistry B</i> , 1999 , 103, 618-629	3-4	99
243	Surface structures of supported molybdenum oxide catalysts under ambient conditions. <i>Journal of Catalysis</i> , 1992 , 136, 539-553	7-3	99
242	Ethane and n-Butane Oxidation over Supported Vanadium Oxide Catalysts: An in Situ UV-Visible Diffuse Reflectance Spectroscopic Investigation. <i>Journal of Catalysis</i> , 1999 , 188, 325-331	7-3	98
241	Origin of the synergistic interaction between MoO ₃ and iron molybdate for the selective oxidation of methanol to formaldehyde. <i>Journal of Catalysis</i> , 2010 , 275, 84-98	7-3	96
240	A Comparison of Ultraviolet and Visible Raman Spectra of Supported Metal Oxide Catalysts. <i>Journal of Physical Chemistry B</i> , 2001 , 105, 8600-8606	3-4	96
239	Oxidation of SO ₂ over Supported Metal Oxide Catalysts. <i>Journal of Catalysis</i> , 1999 , 181, 233-243	7-3	96
238	In Situ Raman Spectroscopy of Supported Chromium Oxide Catalysts: Reactivity Studies with Methanol and Butane. <i>The Journal of Physical Chemistry</i> , 1996 , 100, 14437-14442		96
237	Molecular structures of supported niobium oxide catalysts under in situ conditions. <i>The Journal of Physical Chemistry</i> , 1991 , 95, 7373-7379		96

236	Vanadium(V) environments in bismuth vanadates: A structural investigation using Raman spectroscopy and solid state 51V NMR. <i>Journal of Solid State Chemistry</i> , 1991 , 90, 194-210	3.3	95
235	Laser Raman characterization of tungsten oxide supported on alumina: Influence of calcination temperatures. <i>Journal of Catalysis</i> , 1985 , 92, 1-10	7.3	95
234	Characterization of $\text{CrO}_3/\text{Al}_2\text{O}_3$ catalysts under ambient conditions: Influence of coverage and calcination temperature. <i>Journal of Molecular Catalysis</i> , 1993 , 84, 193-205		94
233	Probing Metal/Support Interactions under Oxidizing and Reducing Conditions: In Situ Raman and Infrared Spectroscopic and Scanning Transmission Electron Microscopic X-ray Energy-Dispersive Spectroscopic Investigation of Supported Platinum Catalysts. <i>Journal of Physical Chemistry C</i> , 2008 , 112, 5942-5951	3.8	93
232	Surface Chemistry of Supported Chromium Oxide Catalysts. <i>Journal of Catalysis</i> , 1993 , 142, 166-171	7.3	93
231	Influence of catalyst synthesis method on selective catalytic reduction (SCR) of NO by NH_3 with $\text{V}_2\text{O}_5\text{-WO}_3/\text{TiO}_2$ catalysts. <i>Applied Catalysis B: Environmental</i> , 2016 , 193, 141-150	21.8	93
230	A decade+ of operando spectroscopy studies. <i>Catalysis Today</i> , 2017 , 283, 27-53	5.3	90
229	Combined Raman and IR study of $\text{MO}_x/\text{V}_2\text{O}_5/\text{Al}_2\text{O}_3$ ($\text{MO}_x = \text{MoO}_3, \text{WO}_3, \text{NiO}, \text{CoO}$) catalysts under dehydrated conditions. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1996 , 92, 3259-3265		90
228	In situ Raman spectroscopy studies of catalysts. <i>Topics in Catalysis</i> , 1999 , 8, 57-63	2.3	89
227	Surface structure and reactivity of $\text{CrO}_3/\text{SiO}_2$ catalysts. <i>Journal of Catalysis</i> , 1992 , 136, 209-221	7.3	89
226	The structure of surface rhenium oxide on alumina from laser raman spectroscopy and x-ray absorption near-edge spectroscopy. <i>Journal of Molecular Catalysis</i> , 1988 , 46, 15-36		89
225	Oxidative Coupling of Methane (OCM) by SiO_2 -Supported Tungsten Oxide Catalysts Promoted with Mn and Na. <i>ACS Catalysis</i> , 2019 , 9, 5912-5928	13.1	86
224	Supported Tantalum Oxide Catalysts: Synthesis, Physical Characterization, and Methanol Oxidation Chemical Probe Reaction. <i>Journal of Physical Chemistry B</i> , 2003 , 107, 5243-5250	3.4	86
223	Structural Characteristics and Catalytic Properties of Highly Dispersed $\text{ZrO}_2/\text{SiO}_2$ and $\text{V}_2\text{O}_5/\text{ZrO}_2/\text{SiO}_2$ Catalysts. <i>Langmuir</i> , 1999 , 15, 3169-3178	4	86
222	Comparison of Silica-Supported MoO_3 and V_2O_5 Catalysts in the Selective Partial Oxidation of Methane. <i>Journal of Catalysis</i> , 1996 , 160, 214-221	7.3	86
221	Quantitative determination of the number of active surface sites and the turnover frequencies for methanol oxidation over metal oxide catalysts. <i>Catalysis Today</i> , 2000 , 62, 219-229	5.3	85
220	The formation of titanium oxide monolayer coatings on silica surfaces. <i>Journal of Catalysis</i> , 1991 , 131, 260-275	7.3	85
219	Relating n-pentane isomerization activity to the tungsten surface density of $\text{WO}(x)/\text{ZrO}_2$. <i>Journal of the American Chemical Society</i> , 2010 , 132, 13462-71	16.4	84

218	Reaction-Induced Spreading of Metal Oxides onto Surfaces of Oxide Supports during Alcohol Oxidation: Phenomenon, Nature, and Mechanisms. <i>Langmuir</i> , 1999 , 15, 1223-1235	4	83
217	Anomalous reactivity of supported V ₂ O ₅ nanoparticles for propane oxidative dehydrogenation: influence of the vanadium oxide precursor. <i>Dalton Transactions</i> , 2013 , 42, 12644-53	4.3	81
216	Quantitative determination of the number of surface active sites and the turnover frequency for methanol oxidation over bulk metal vanadates. <i>Catalysis Today</i> , 2003 , 78, 257-268	5.3	81
215	The Origin of the Ligand Effect in Metal Oxide Catalysts: Novel Fixed-Bed in Situ Infrared and Kinetic Studies during Methanol Oxidation. <i>Journal of Catalysis</i> , 2001 , 203, 104-121	7.3	81
214	Redox properties of niobium oxide catalysts. <i>Catalysis Today</i> , 1996 , 28, 199-205	5.3	79
213	Oxidative dehydrogenation of propane over niobia supported vanadium oxide catalysts. <i>Catalysis Today</i> , 1996 , 28, 139-145	5.3	78
212	In situ Raman spectroscopy studies of bulk and surface metal oxide phases during oxidation reactions. <i>Catalysis Today</i> , 1996 , 32, 47-55	5.3	77
211	In situ laser Raman spectroscopy of nickel oxide supported on γ -Al ₂ O ₃ . <i>Journal of Catalysis</i> , 1987 , 103, 224-227	7.3	77
210	Surface and bulk aspects of mixed oxide catalytic nanoparticles: oxidation and dehydration of CH ₃ OH by polyoxometallates. <i>Journal of the American Chemical Society</i> , 2009 , 131, 15544-54	16.4	75
209	Physicochemical properties of MoO ₃ ?TiO ₂ prepared by an equilibrium adsorption method. <i>Journal of Catalysis</i> , 1989 , 120, 325-336	7.3	75
208	Promotion Mechanisms of Iron Oxide-Based High Temperature Water-Gas Shift Catalysts by Chromium and Copper. <i>ACS Catalysis</i> , 2016 , 6, 4455-4464	13.1	74
207	Development of active oxide catalysts for the direct oxidation of methane to formaldehyde. <i>Catalysis Today</i> , 1997 , 37, 1-14	5.3	72
206	Selective oxidation of propylene to acrolein over supported V ₂ O ₅ /Nb ₂ O ₅ catalysts: An in situ Raman, IR, TPSR and kinetic study. <i>Catalysis Today</i> , 2006 , 118, 332-343	5.3	72
205	Characterization of supported rhenium oxide catalysts: effect of loading, support and additives. <i>Physical Chemistry Chemical Physics</i> , 2001 , 3, 1144-1152	3.6	72
204	Relative raman cross-sections of tungsten oxides: 6WO ₃ , Al ₂ (WO ₄) ₃ and WO ₃ /Al ₂ O ₃ . <i>Journal of Catalysis</i> , 1984 , 90, 150-155	7.3	72
203	Characterization of Vanadia Sites in V-Silicalite, Vanadia-Silica Cogel, and Silica-Supported Vanadia Catalysts: X-Ray Powder Diffraction, Raman Spectroscopy, Solid-State ⁵¹ V NMR, Temperature-Programmed Reduction, and Methanol Oxidation Studies. <i>Journal of Catalysis</i> , 1998 , 173, 110-118	7.3	71
202	Quantification of Active Sites for the Determination of Methanol Oxidation Turn-over Frequencies Using Methanol Chemisorption and in Situ Infrared Techniques. 2. Bulk Metal Oxide Catalysts. <i>Langmuir</i> , 2001 , 17, 6175-6184	4	71
201	Vibrational analysis of the two non-equivalent, tetrahedral tungstate (WO ₄) units in Ce ₂ (WO ₄) ₃ and La ₂ (WO ₄) ₃ . <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 1998 , 54, 1355-1368	4.4	70

200	Evolution of the active surface of the vanadyl pyrophosphate catalysts. <i>Catalysis Letters</i> , 1995 , 32, 379-388	3.8	68
199	Niobium oxide solution chemistry. <i>Journal of Raman Spectroscopy</i> , 1991 , 22, 83-89	2.3	68
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