Nicolas Bion

List of Publications by Year
in descending order

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93	3,478	117625	155660
papers	citations	34 h-index	55 g-index

99	99	99	4163
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Preferential Oxidation of Carbon Monoxide in the Presence of Hydrogen (PROX) over Noble Metals and Transition Metal Oxides: Advantages and Drawbacks. Topics in Catalysis, 2008, 51, 76-88.	2.8	230
2	Alkali metal-doped cobalt oxide catalysts for NO decomposition. Applied Catalysis B: Environmental, 2003, 46, 473-482.	20.2	168
3	Highly active and stable Ni dispersed on mesoporous CeO2-Al2O3 catalysts for production of syngas by dry reforming of methane. Applied Catalysis B: Environmental, 2021, 281, 119459.	20.2	123
4	Reactivity of Doped Ceria-Based Mixed Oxides for Solar Thermochemical Hydrogen Generation via Two-Step Water-Splitting Cycles. Energy & Fuels, 2013, 27, 6068-6078.	5.1	122
5	Embedded Ni nanoparticles in CeZrO2 as stable catalyst for dry reforming of methane. Applied Catalysis B: Environmental, 2020, 268, 118387.	20.2	114
6	Remarkable active-site dependent H2O promoting effect in CO oxidation. Nature Communications, 2019, 10, 3824.	12.8	96
7	Design of Nanocatalysts for Green Hydrogen Production from Bioethanol. ChemSusChem, 2012, 5, 76-84.	6.8	89
8	Ordered benzeneâ€“silica hybrids with molecular-scale periodicity in the walls and different mesopore sizes. Journal of Materials Chemistry, 2003, 13, 1910-1913.	6.7	83
9	A Study of ¹⁵N/¹⁴N Isotopic Exchange over Cobalt Molybdenum Nitrides. ACS Catalysis, 2013, 3, 1719-1725.	11.2	83
10	Effect of the type of ceria dopant on the performance of Ni/CeO2 SOFC anode for ethanol internal reforming. Applied Catalysis B: Environmental, 2017, 206, 626-641.	20.2	80
11	Synthesis of oxide supported LaMnO3 perovskites to enhance yields in toluene combustion. Applied Catalysis B: Environmental, 2016, 180, 29-37.	20.2	77
12	Activity of perovskite-type mixed oxides for the low-temperature CO oxidation: Evidence of oxygen species participation from the solid. Journal of Catalysis, 2012, 295, 45-58.	6.2	72
13	Evidence of a lacunar mechanism for deNOx activity in ceria-based catalysts. Physical Chemistry Chemical Physics, 2001, 3, 252-255.	2.8	71
14	Sulfonic acid functionalized crystal-like mesoporous benzeneâ€“silica as a remarkable water-tolerant catalyst. Chemical Communications, 2009, , 7000.	4.1	70
15	Preparation and characterization of bimetallic Rh-Ni/Y2O3-Al2O3 for hydrogen production by raw bioethanol steam reforming: influence of the addition of nickel on the catalyst performances and stability. Applied Catalysis B: Environmental, 2010, 97, 72-81.	20.2	70
16	Cooperative effect between copper and gold on ceria for CO-PROX reaction. Catalysis Today, 2012, 180, 34-41.	4.4	67
17	In Situ Fourier Transform Infrared Study of the Selective Reduction of NO with Propene over Ga2O3â€“Al2O3. Journal of Catalysis, 2002, 206, 114-124.	6.2	66
18	Optimized CuOâ€“CeO2 catalysts for COPROX reaction. International Journal of Hydrogen Energy, 2008, 33, 1345-1353.	7.1	66

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19	Hydrogen production from raw bioethanol steam reforming: Optimization of catalyst composition with improved stability against various impurities. International Journal of Hydrogen Energy, 2010, 35, 5015-5020.	7.1	64
20	Catalytic dehydration of fructose to HMF over sulfonic acid functionalized periodic mesoporous organosilicas: role of the acid density. Catalysis Science and Technology, 2014, 4, 2235-2240.	4.1	62
21	Evidence by in situ FTIR spectroscopy and isotopic effect of new assignments for isocyanate species vibrations on Ag/Al2O3. Physical Chemistry Chemical Physics, 2001, 3, 4811-4816.	2.8	55
22	Study of the dry reforming of methane and ethanol using Rh catalysts supported on doped alumina. Applied Catalysis A: General, 2015, 504, 576-584.	4.3	53
23	Hydrogen production from raw bioethanol over Rh/MgAl2O4 catalyst. Catalysis Today, 2008, 138, 169-174.	4.4	51
24	Ethanol Steam Reforming over Rh(1%)MgAl2O4/Al2O3: A Kinetic Study. Industrial & Engineering Chemistry Research, 2010, 49, 12383-12389.	3.7	51
25	Preferential CO oxidation over nanosized gold catalysts supported on ceria and amorphous ceriaâ€“alumina. Applied Catalysis B: Environmental, 2012, 128, 10-20.	20.2	49
26	Effect of higher alcohols on the performances of a 1%Rh/MgAl2O4/Al2O3 catalyst for hydrogen production by crude bioethanol steam reforming. International Journal of Hydrogen Energy, 2011, 36, 311-318.	7.1	48
27	New Active and Selective Rhâˆ’REOxâˆ’Al2O3 Catalysts for Ethanol Steam Reforming. Journal of Physical Chemistry C, 2008, 112, 14145-14153.	3.1	47
28	Impact of the support oxide and Ba loading on the sulfur resistance and regeneration of Pt/Ba/support catalysts. Applied Catalysis B: Environmental, 2008, 80, 62-71.	20.2	46
29	Study by in situ FTIR spectroscopy of the SCR of NOx by ethanol on Ag/Al2O3â€”Evidence of the role of isocyanate species. Journal of Catalysis, 2003, , .	6.2	43
30	Mechanistic study of the effect of coexisting H2O on the selective reduction of NO with propene over solâ€“gel prepared In2O3-Al2O3 catalyst. Applied Catalysis B: Environmental, 2003, 42, 57-68.	20.2	41
31	Understanding of the oxygen activation on ceria- and ceria/alumina-supported gold catalysts: a study combining 18O/16O isotopic exchange and EPR spectroscopy. Gold Bulletin, 2013, 46, 233-242.	2.4	41
32	Thermodynamic and experimental studies of catalytic reforming of exhaust gas recirculation in gasoline engines. Applied Catalysis B: Environmental, 2011, 102, 44-53.	20.2	38
33	The role of preparation route upon the ambient pressure ammonia synthesis activity of Ni2Mo3N. Applied Catalysis A: General, 2015, 504, 44-50.	4.3	38
34	Reaction intermediates in the selective reduction of NO with propene over Ga2O3-Al2O3 and In2O3-Al2O3 catalysts. Journal of Molecular Catalysis A, 2001, 175, 179-188.	4.8	37
35	Impact of support oxide and Ba loading on the NOx storage properties of Pt/Ba/support catalysts. Applied Catalysis B: Environmental, 2007, 76, 357-367.	20.2	37
36	Effect of lanthanum on the properties of copper, cerium and zirconium catalysts for preferential oxidation of carbon monoxide. Catalysis Today, 2014, 228, 40-50.	4.4	36

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37	Surface characterization of alumina-supported catalysts prepared by solâ€“gel method. Part I. Acidâ€“base properties. Physical Chemistry Chemical Physics, 2001, 3, 1366-1370.	2.8	33
38	Clear microstructureâ€“performance relationships in Mn-containing perovskite and hexaaluminate compounds prepared by activated reactive synthesis. Physical Chemistry Chemical Physics, 2014, 16, 4050.	2.8	32
39	Understanding the high catalytic activity of propylsulfonic acid-functionalized periodic mesoporous benzenesilicas by high-resolution 1H solid-state NMR spectroscopy. Journal of Materials Chemistry, 2012, 22, 7412.	6.7	31
40	Kinetics of hydrogen adsorption and mobility on Ru nanoparticles supported on alumina: Effects on the catalytic mechanism of ammonia synthesis. Journal of Catalysis, 2016, 344, 16-28.	6.2	29
41	Comparison of Noble Metal- and Copper-Based Catalysts for the Step of Methanol Steam Reforming in the Dimethyl Ether Steam Reforming Process. Industrial & Engineering Chemistry Research, 2016, 55, 3546-3555.	3.7	29
42	Grafting of Molecularly Ordered Mesoporous Phenyleneâ€Silica with Molybdenum Carbonyl Complexes: Efficient Heterogeneous Catalysts for the Epoxidation of Olefins. Advanced Synthesis and Catalysis, 2010, 352, 1759-1769.	4.3	28
43	Catalytic oxidation of dimethyl disulfide (CH 3 SSCH 3) over monometallic Au, Pt and Cu catalysts supported on Î³-Al 2 O 3 , CeO 2 and CeO 2 -Al 2 O 3. Applied Catalysis B: Environmental, 2016, 182, 611-625.	20.2	26
44	Sustainable H2 generation via steam reforming of biogas in membrane reactors: H2S effects on membrane performance and catalytic activity. International Journal of Hydrogen Energy, 2021, 46, 29183-29197.	7.1	26
45	Design of nanocrystalline mixed oxides with improved oxygen mobility: a simple non-aqueous route to nano-LaFeO3 and the consequences on the catalytic oxidation performances. Chemical Communications, 2013, 49, 4923.	4.1	25
46	Periodic Mesoporous Organosilicas as adsorbents for the organic pollutants removal in aqueous phase. Microporous and Mesoporous Materials, 2014, 200, 117-123.	4.4	25
47	Remarkable Enhancement of O₂ Activation on Yttriumâ€Stabilized Zirconia Surface in a Dual Catalyst Bed. Angewandte Chemie - International Edition, 2014, 53, 11342-11345.	13.8	25
48	Ceria-supported Auâ€“CuO and Auâ€“Co 3 O 4 catalysts for CO oxidation: An 18 O/ 16 O isotopic exchange study. Applied Catalysis B: Environmental, 2015, 168-169, 87-97.	20.2	25
49	Role of Mn+ cations in the redox and oxygen transfer properties of BaMxAl12â^'xO19â^'Î´ (M = Mn, Fe, Co) nanomaterials for high temperature methane oxidation. Catalysis Science and Technology, 2013, 3, 2259.	4.1	24
50	NOx storage capacity, SO2 resistance and regeneration of Pt/(Ba)/CeZr model catalysts for NOx-trap system. Topics in Catalysis, 2007, 42-43, 9-13.	2.8	22
51	Improved oxygen storage capacity on CeO2/zeolite hybrid catalysts. Application to VOCs catalytic combustion. Catalysis Today, 2011, 176, 103-109.	4.4	22
52	The influence of pre-treatment gas mixture upon the ammonia synthesis activity of Coâ€“Re catalysts. Catalysis Communications, 2015, 68, 53-57.	3.3	22
53	Partial oxidation of methane over lanthana-supported catalysts derived from perovskites. Catalysis Today, 2020, 344, 212-226.	4.4	22
54	Isotopic Oxygen Exchange over Pd/Al₂O₃ Catalyst: Study on C¹⁸O₂ and ¹⁸O₂ Exchange. ChemCatChem, 2010, 2, 527-533.	3.7	20

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55	Selective epoxidation of unsaturated fatty esters over peroxophosphotungstic catalysts (POW) under solvent free conditions: Study of the POW catalyst's mechanism. Catalysis Today, 2010, 157, 371-377.	4.4	20
56	Bioethanol reforming for H₂ production. A comparison with hydrocarbon reforming. Catalysis, 0, , 1-55.	1.0	19
57	Disclosing the synergistic mechanism in the catalytic activity of different-sized Ru nanoparticles for ammonia synthesis at mild reaction conditions. Catalysis Today, 2015, 251, 88-95.	4.4	18
58	Insight into the praseodymium effect on the NH3-SCR reaction pathways over W or Nb supported ceria-zirconia based catalysts. Applied Catalysis B: Environmental, 2021, 298, 120563.	20.2	17
59	Au/xCeO2/Al2O3 catalysts for VOC elimination: oxidation of 2-propanol. Catalysis Science and Technology, 2013, 3, 2918.	4.1	16
60	Synthesis and characterisation of hybrid mesoporous materials with the 1,4-diazobutadiene ligand. Microporous and Mesoporous Materials, 2006, 95, 104-111.	4.4	15
61	Synthesis of ordered porous zirconia containing sulfate ions and evaluation of its surface acidic properties. Journal of Materials Science, 2017, 52, 5835-5845.	3.7	15
62	Role of acidity and hydrophobicity in the remarkable catalytic activity in water of sulfonic acid-functionalized phenyl-PMO materials. Catalysis Today, 2013, 218-219, 85-92.	4.4	14
63	Spinel Co3O4 oxides-support synergistic effect on catalytic oxidation of toluene. Applied Catalysis A: General, 2021, 614, 118044.	4.3	14
64	Surface characterization of alumina-supported catalysts prepared by solâ€“gel method. Part II. Surface reactivity with CO. Physical Chemistry Chemical Physics, 2001, 3, 1371-1375.	2.8	13
65	Improved oxygen mobility in nanosized mixed-oxide particles synthesized using a simple nanocasting route. Chemical Communications, 2008, , 4504.	4.1	13
66	Waste-free scale up synthesis of nanocrystalline hexaaluminate: properties in oxygen transfer and oxidation reactions. CrystEngComm, 2012, 14, 7733.	2.6	13
67	Tuning the acid content of propylsulfonic acid-functionalized mesoporous benzene-silica by microwave-assisted synthesis. Microporous and Mesoporous Materials, 2016, 226, 386-395.	4.4	13
68	Water splitting as a tool for obtaining insight into metalâ€“support interactions in catalysis. Comptes Rendus Chimie, 2016, 19, 1326-1336.	0.5	13
69	H2/D2 isotopic exchange: A tool to characterize complex hydrogen interaction with carbon-supported ruthenium catalysts. Catalysis Today, 2016, 259, 9-18.	4.4	13
70	Investigation of Methane Oxidation Reactions Over a Dualâ€Bed Catalyst System using ¹⁸O Labelled DRIFTS coupling. ChemSusChem, 2017, 10, 210-219.	6.8	13
71	Unexpected redox behaviour of large surface alumina containing highly dispersed ceria nanoclusters. Nanoscale, 2019, 11, 1273-1285.	5.6	13
72	Catalytic performances of natural Ni-bearing clay minerals for production of syngas from dry reforming of methane. Journal of CO2 Utilization, 2021, 52, 101696.	6.8	13

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73	Hybrid mesoporous MCM-41 type material containing 1,4-diazobutadiene chelate ligand in the walls. Progress in Solid State Chemistry, 2005, 33, 163-170.	7.2	12
74	Complexation of crystal-like mesoporous phenylene-silica with Cr(CO)3 and catalytic performance in the oxidation of cyclooctene. Journal of Molecular Catalysis A, 2010, 332, 13-18.	4.8	12
75	Correlations between oxygen activation and methane oxidation over Pd/Î³-Al2O3 catalysts prepared by nitrite method. Applied Catalysis B: Environmental, 2011, 108-109, 22-31.	20.2	11
76	Study of the main reactions involved in reforming of exhaust gas recirculation (REGR) in gasoline engines. RSC Advances, 2011, 1, 109.	3.6	10
77	Hydrogen production from hydrocarbons over Rh supported on Ce-based oxides for automotive applications. Applied Catalysis B: Environmental, 2016, 197, 138-145.	20.2	10
78	The reactivity of lattice nitrogen within the Ni2Mo3N and NiCoMo3N phases. Materials Research Bulletin, 2019, 118, 110519.	5.2	10
79	Simple approach to prepare mesoporous silica supported mixed-oxide nanoparticles by in situ autocombustion procedure. Catalysis Today, 2010, 157, 131-136.	4.4	9
80	Study of Lanthanum Manganate and Yttriumâ€Stabilized Zirconiaâ€Supported Palladium Dualâ€Bed Catalyst System for the Total Oxidation of Methane: A Study by ¹⁸O₂/¹⁶O₂ Isotopic Exchange. ChemCatChem, 2016, 8, 1921-1928.	3.7	9
81	Enhancement of Oxygen Activation and Mobility in CaTi_xFe_{1â^'x}O_{3â^'Î´} Oxides. ChemCatChem, 2017, 9, 2095-2098.	3.7	9
82	Combination of theoretical and in situ experimental investigations of the role of lithium dopant in manganese nitride: a two-stage reagent for ammonia synthesis. Faraday Discussions, 2021, 229, 281-296.	3.2	9
83	Direct evidence of the role of dispersed ceria on the activation of oxygen in NaX zeolite by coupling the 17O/16O isotopic exchange and 17O solid-state NMR. Journal of Catalysis, 2013, 300, 136-140.	6.2	7
84	Oxidative coupling of methane over Ba-doped Y2O3 catalystâ€"Similarity with active site for direct decomposition of NO. Molecular Catalysis, 2018, 457, 74-81.	2.0	7
85	Pt nanoparticles embedded in CeO2 and CeZrO2 catalysts for biogas upgrading: Investigation on carbon removal mechanism by oxygen isotopic exchange and DRIFTS. Journal of CO2 Utilization, 2021, 49, 101572.	6.8	7
86	Chapter 8 The role of cerium-based oxides used as oxygen storage materials in DeNOx catalysis. Studies in Surface Science and Catalysis, 2007, 171, 235-259.	1.5	6
87	Preparation of crystal-like periodic mesoporous phenylene-silica derivatized with ferrocene and its use as a catalyst for the oxidation of styrene. Dalton Transactions, 2013, 42, 14612.	3.3	6
88	Transition metal oxides for combustion and depollution processes. , 2018, , 287-353.		6
89	Evaluation of the Oxygen Mobility in CePO₄-Supported Catalysts: Mechanistic Implications on the Waterâ€"Gas Shift Reaction. Journal of Physical Chemistry C, 2020, 124, 16391-16401.	3.1	5
90	Evidence for the Formation of Hydrogen by Surface Reaction between Hydroxyl Groups and CO Molecule over Ga2O3â€"Al2O3. Chemistry Letters, 2000, 29, 974-975.	1.3	2

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91	Operando Isotopic Exchange in Solid Oxide Fuel Cells: Oxygenâ€Transport Dependency on Applied Potential. ChemPhysChem, 2020, 21, 2357-2363.	2.1	2
92	Modeling of Diffusion Process in the Isotopic Oxygen Exchange Experiments of CexZr(1-x)O2 Catalysts. Medziagotyra, 2013, 19, .	0.2	1
93	Study of Lanthanum Manganate and Yttrium-Stabilized Zirconia-Supported Palladium Dual-Bed Catalyst System for the Total Oxidation of Methane: A Study by 18 O2 /16 O2 Isotopic Exchange. ChemCatChem, 2016, 8, 1860-1860.	3.7	0