Barbara Gil

List of Publications by Year
in descending order

119 papers	5,244 citations	66343 42 h-index	98798 67 g-index
124 all docs	124 docs citations	124 times ranked	5849 citing authors

#	Article	IF	Citations
1	Metal-organic frameworks: mechanisms of antibacterial action and potential applications. Drug Discovery Today, 2016, 21, 1009-1018.	6.4	375
2	Structures, Sorption Characteristics, and Nonlinear Optical Properties of a New Series of Highly Stable Aluminum MOFs. Chemistry of Materials, 2013, 25, 17-26.	6.7	307
3	Quantification of Water and Silanol Species on Various Silicas by Coupling IR Spectroscopy and in-Situ Thermogravimetry. Langmuir, 2009, 25, 5825-5834.	3.5	196
4	Layer like porous materials with hierarchical structure. Chemical Society Reviews, 2016, 45, 3400-3438.	38.1	196
5	Desilication of ZSM-5 and ZSM-12 zeolites: Impact on textural, acidic and catalytic properties. Catalysis Today, 2010, 152, 24-32.	4.4	171
6	A robust amino-functionalized titanium(iv) based MOF for improved separation of acid gases. Chemical Communications, 2013, 49, 10082.	4.1	135
7	Acidic Properties of SSZ-33 and SSZ-35 Novel Zeolites:â€‰ a Complex Infrared and MAS NMR Study. Journal of Physical Chemistry C, 2008, 112, 2997-3007.	3.1	120
8	Synthesis of quinolines via FriedlÃnder reaction catalyzed by CuBTC metalâ€“organic-framework. Dalton Transactions, 2012, 41, 4036.	3.3	118
9	The role of the zeolite channel architecture and acidity on the activity and selectivity in aromatic transformations: The effect of zeolite cages in SSZ-35 zeolite. Journal of Catalysis, 2009, 266, 79-91.	6.2	96
10	Influence of iron state and acidity of zeolites on the catalytic activity of FeHBEA, FeHZSM-5 and FeHMOR in SCR of NO with NH 3 and N 2 O decomposition. Microporous and Mesoporous Materials, 2015, 203, 73-85.	4.4	93
11	Cobalt-containing BEA zeolite for catalytic combustion of toluene. Applied Catalysis B: Environmental, 2017, 212, 59-67.	20.2	91
12	Experimental and theoretical determination of adsorption heats of CO2 over alkali metal exchanged ferrierites with different Si/Al ratio. Physical Chemistry Chemical Physics, 2010, 12, 6413.	2.8	86
13	A new Al-MOF based on a unique column-shaped inorganic building unit exhibiting strongly hydrophilic sorption behaviour. Chemical Communications, 2012, 48, 9486.	4.1	81
14	Thermal post-synthetic modification of Al-MIL-53â€“COOH: systematic investigation of the decarboxylation and condensation reaction. CrystEngComm, 2012, 14, 4119.	2.6	76
15	Acid properties of NaH-mordenites: Infrared spectroscopic studies of ammonia sorption. Zeolites, 1995, 15, 501-506.	0.5	75
16	Montmorillonite-based porous clay heterostructures (PCHs) intercalated with silicaâ€“titania pillarsâ€”synthesis and characterization. Journal of Solid State Chemistry, 2009, 182, 1094-1104.	2.9	75
17	SCR of NO by NH3 on alumina or titania pillared montmorillonite modified with Cu or CoPart II. Temperature programmed studies. Applied Catalysis B: Environmental, 2004, 53, 47-61.	20.2	74
18	An in situ IR study of the NOx adsorption/reduction mechanism on modified Y zeolites. Physical Chemistry Chemical Physics, 2003, 5, 1897-1905.	2.8	72

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19	Metalâ€“organic frameworks as potential multi-carriers of drugs. CrystEngComm, 2013, 15, 9364.	2.6	70
20	In situ thermogravimetry in an infrared spectrometer: an answer to quantitative spectroscopy of adsorbed species on heterogeneous catalysts. Microporous and Mesoporous Materials, 2004, 67, 107-112.	4.4	65
21	Swelling and Interlayer Chemistry of Layered MWW Zeolites MCM-22 and MCM-56 with High Al Content. Chemistry of Materials, 2015, 27, 4620-4629.	6.7	64
22	MWW and MFI Frameworks as Model Layered Zeolites: Structures, Transformations, Properties, and Activity. ACS Catalysis, 2021, 11, 2366-2396.	11.2	63
23	Montmorillonite, vermiculite and saponite based porous clay heterostructures modified with transition metals as catalysts for the DeNOx process. Applied Catalysis B: Environmental, 2009, 88, 331-340.	20.2	61
24	Comparison study of titania pillared interlayered clays and porous clay heterostructures modified with copper and iron as catalysts of the DeNOx process. Applied Clay Science, 2011, 53, 164-173.	5.2	61
25	Heterogeneity of OH groups in H-mordenites: Effect of dehydroxylation. Zeolites, 1996, 17, 428-433.	0.5	60
26	Tâ€“Oâ€“T skeletal vibration in CuZSM-5 zeolite: IR study and quantum chemical modeling. Physical Chemistry Chemical Physics, 2000, 2, 401-405.	2.8	59
27	The influence of the preparation procedures on the catalytic activity of Fe-BEA zeolites in SCR of NO with ammonia and N2O decomposition. Catalysis Today, 2014, 235, 210-225.	4.4	58
28	Multirate delivery of multiple therapeutic agents from metal-organic frameworks. APL Materials, 2014, 2, .	5.1	58
29	Porous clay heterostructures (PCHs) intercalated with silica-titania pillars and modified with transition metals as catalysts for the DeNOx process. Applied Catalysis B: Environmental, 2009, 91, 449-459.	20.2	57
30	Iron-Based Metal-Organic Frameworks as a Theranostic Carrier for Local Tuberculosis Therapy. Pharmaceutical Research, 2018, 35, 144.	3.5	51
31	Influence of the calcination treatment on the catalytic properties of hierarchical ZSM-5. Catalysis Today, 2012, 179, 91-101.	4.4	50
32	IR Spectroscopic Studies of Dealuminated and Realuminated Zeolite HY. The Journal of Physical Chemistry, 1996, 100, 11242-11245.	2.9	47
33	Heterogeneity of OH groups in NaH-mordenites: Effect of Na/H exchange degree. Zeolites, 1997, 18, 245-249.	0.5	47
34	Adsorptive desulfurization with CPO-27/MOF-74: an experimental and computational investigation. Physical Chemistry Chemical Physics, 2015, 17, 10759-10766.	2.8	47
35	MCM-41 modified with transition metals by template ion-exchange method as catalysts for selective catalytic oxidation of ammonia to dinitrogen. Microporous and Mesoporous Materials, 2017, 240, 9-21.	4.4	47
36	Comprehensive system integrating 3D and 2D zeolite structures with recent new types of layered geometries. Catalysis Today, 2014, 227, 9-14.	4.4	46

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37	An IR spectroscopy study of Co sites in zeolites CoZSM-5. Applied Catalysis A: General, 2007, 330, 33-42.	4.3	45
38	Title is missing!. Topics in Catalysis, 2000, 11/12, 335-341.	2.8	44
39	High acidity unilamellar zeolite MCM-56 and its pillared and delaminated derivatives. Dalton Transactions, 2014, 43, 10501.	3.3	44
40	Acidic hydroxyl groups in zeolites X and Y: a correlation between infrared and solid-state NMR spectra. The Journal of Physical Chemistry, 1994, 98, 930-933.	2.9	43
41	[Ti,Zr]-pillared montmorillonite â€“ A new quality with respect to Ti- and Zr-pillared clays. Microporous and Mesoporous Materials, 2015, 202, 155-164.	4.4	43
42	Heterogeneity of OH Groups in Faujasites Studied by IR Spectroscopy. Journal of Catalysis, 1994, 145, 372-376.	6.2	42
43	Cu-Mg-Al hydrotalcite-like materials as precursors of effective catalysts for selective oxidation of ammonia to dinitrogen â€" The influence of Mg/Al ratio and calcination temperature. Applied Clay Science, 2016, 129, 122-130.	5.2	42
44	An Inhalable Theranostic System for Local Tuberculosis Treatment Containing an Isoniazid Loaded Metal Organic Framework Fe-MIL-101-NH2â€"From Raw MOF to Drug Delivery System. Pharmaceutics, 2019, 11, 687.	4.5	42
45	FTIR study of hydration of dodecatungstosilicic acid. Catalysis Letters, 1999, 57, 61-64.	2.6	41
46	Quantitative IR studies of the concentration of Co2+ and Co3+ sites in zeolites CoZSM-5 and CoFER. Applied Catalysis A: General, 2009, 353, 117-122.	4.3	41
47	The Influence of Si/Al Ratio on the Distribution of OH Groups in Zeolites with MWW Topology. Topics in Catalysis, 2010, 53, 1340-1348.	2.8	41
48	A new layered MWW zeolite synthesized with the bifunctional surfactant template and the updated classification of layered zeolite forms obtained by direct synthesis. Journal of Materials Chemistry A, 2019, 7, 7701-7709.	10.3	41
49	Effective catalysts for the low-temperature NH3-SCR process based on MCM-41 modified with copper by template ion-exchange (TIE) method. Applied Catalysis B: Environmental, 2018, 237, 927-937.	20.2	40
50	Acidity of MCM-58 and MCM-68 zeolites in comparison with some other 12-ring zeolites. Microporous and Mesoporous Materials, 2010, 129, 256-266.	4.4	38
51	Copper exchanged ultrastable zeolite Y â€“ A catalyst for NH3-SCR of NOx from stationary biogas engines. Catalysis Today, 2012, 191, 6-11.	4.4	37
52	Liquid dispersions of zeolite monolayers with high catalytic activity prepared by soft-chemical exfoliation. Science Advances, 2020, 6, eaay8163.	10.3	37
53	Heterogeneity of hydroxyl groups in zeolites. Langmuir, 1993, 9, 2496-2498.	3.5	35
54	Heterogeneity of hydroxyl groups in zeolites studied by IR spectroscopy. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1995, 105, 1-18.	4.7	35

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55	Acidity and Catalytic Properties of Realuminated Zeolite Y. Journal of Physical Chemistry B, 1997, 101, 6929-6932.	2.6	35
56	Porous clay heterostructures intercalated with multicomponent pillars as catalysts for dehydration of alcohols. Applied Clay Science, 2018, 160, 116-125.	5.2	35
57	Laponite-derived porous clay heterostructures: III. The effect of alumination. Microporous and Mesoporous Materials, 2013, 175, 67-75.	4.4	33
58	Fe-MIL-100 as drug delivery system for asthma and chronic obstructive pulmonary disease treatment and diagnosis. Microporous and Mesoporous Materials, 2019, 280, 264-270.	4.4	33
59	Facile evaluation of the crystallization and quality of the transient layered zeolite MCM-56 by infrared spectroscopy. Catalysis Today, 2015, 243, 39-45.	4.4	31
60	Interaction of NO and NO2 with the surface of CexZr1â^'xO2 solid solutions â€" Influence of the phase composition. Catalysis Today, 2007, 119, 114-119.	4.4	29
61	Activity enhancement of zeolite MCM-22 by interlayer expansion enabling higher Ce loading and room temperature CO oxidation. Journal of Materials Chemistry A, 2014, 2, 15722-15725.	10.3	29
62	Cu SSZ-13 zeolite catalyst on metallic foam support for SCR of NO with ammonia: Catalyst layering and characterisation of active sites. Catalysis Today, 2016, 268, 142-149.	4.4	29
63	A novel stir bar sorptive-dispersive microextraction in combination with magnetically modified graphene for isolation of seven pesticides from water samples. Microchemical Journal, 2019, 147, 962-971.	4.5	29
64	The influence of the initial acidity of HFER on the status of Co species and catalytic performance of CoFER and InCoFER in CH4-SCR-NO. Catalysis Today, 2008, 137, 174-178.	4.4	28
65	Framework-substituted cerium MCM-22 zeolite and its interlayer expanded derivative MWW-IEZ. Catalysis Science and Technology, 2016, 6, 2742-2753.	4.1	27
66	Combining computational and in situ spectroscopies joint with molecular modeling for determination of reaction intermediates of deNOx processâ€"CuZSM-5 catalyst case study. Catalysis Today, 2007, 126, 103-111.	4.4	25
67	Characterization of Acidity and Porosity of Zeolite Catalysts by the Equilibrated Thermodesorption of n-Hexane and n-Nonane. Catalysis Letters, 2008, 120, 154-160.	2.6	23
68	IR Spectroscopic Studies and Quantum Chemical Calculations Concerning the O-H Dissociation Energies in Zeolites NaHX and NaHY. The Journal of Physical Chemistry, 1994, 98, 5622-5626.	2.9	21
69	Dynamic 2D manganese(ii) isonicotinate framework with reversible crystal-to-amorphous transformation and selective guest adsorption. CrystEngComm, 2014, 16, 4959.	2.6	21
70	Ammonia sorption by Dawson acid studied by IR spectroscopy and microbalance. Journal of Molecular Structure, 2005, 740, 25-29.	3.6	20
71	Heteropolyacid encapsulation into the MOF: influence of acid particles distribution on ethanol conversion in hybrid nanomaterials. Dalton Transactions, 2012, 41, 12624.	3.3	20
72	Experimental evidence of NO SCR mechanism in the presence of the BEA zeolite with framework and extra-framework cobalt species. Applied Catalysis B: Environmental, 2016, 198, 457-470.	20.2	20

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73	Characterization of Co and Fe-MCM-56 catalysts for NH 3 -SCR and N 2 O decomposition: An in situ FTIR study. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2018, 196, 281-288.	3.9	20
74	Acid-treated Clay Minerals as Catalysts for Dehydration of Methanol and Ethanol. Clays and Clay Minerals, 2020, 68, 23-37.	1.3	20
75	Homogeneous OH groups in dealuminated HY zeolite studied by IR spectroscopy. Microporous and Mesoporous Materials, 2001, 47, 61-66.	4.4	19
76	Why Cu+ in ZSM-5 framework is active in DeNO reactionâ€"quantum chemical calculations and IR studies. Catalysis Today, 2002, 75, 353-357.	4.4	19
77	Heterogeneity of OH groups in HZSM-5 zeolites: splitting of OH and OD bands in low-temperature IR spectra. Microporous and Mesoporous Materials, 2003, 58, 291-294.	4.4	19
78	In situ IR and catalytic studies of the effect of coke on acid properties of steamed zeolite Y. Microporous and Mesoporous Materials, 2007, 99, 328-333.	4.4	19
79	Advantages of a wire gauze structured reactor with a zeolite (Cu-USY) catalyst for NH3-SCR of NO. Chemical Engineering Journal, 2013, 214, 319-326.	12.7	19
80	Sorption of methanol on tungstosilicic acid. Physical Chemistry Chemical Physics, 1999, 1, 2355-2360.	2.8	18
81	Exfoliated Ferrierite-Related Unilamellar Nanosheets in Solution and Their Use for Preparation of Mixed Zeolite Hierarchical Structures. Journal of the American Chemical Society, 2021, 143, 11052-11062.	13.7	18
82	Heterogeneity of OH groups in mordenites. Microporous and Mesoporous Materials, 1998, 21, 75-79.	4.4	17
83	Heterogeneity of OH groups in HZSM-5 zeolites. IR studies of ammonia adsorption and desorption. Journal of Molecular Structure, 2001, 596, 41-45.	3.6	17
84	IR study of heterogeneity of OH groups in zeolite HY-splitting of OH and OD bands. Journal of Molecular Structure, 2003, 645, 45-49.	3.6	17
85	Role of vanadium sites in NO and O2 adsorption processes over VOx/CeO2-ZrO2 catalysts â€" EPR and IR studies. Catalysis Today, 2008, 137, 292-299.	4.4	17
86	Gate-Opening Mechanism of Hydrophilicâ€"Hydrophobic Metalâ€"Organic Frameworks: Molecular Simulations and Quasi-Equilibrated Desorption. Chemistry of Materials, 2018, 30, 5116-5127.	6.7	17
87	Experimental Evidence of the Mechanism of Selective Catalytic Reduction of NO with NH₃ over Feâ€Containing BEA Zeolites. ChemSusChem, 2019, 12, 692-705.	6.8	17
88	Characterization of the porosity and surface chemistry of mesoporous silicas by quasi-equilibrated thermodesorption of 1-butanol and n-nonane. Thermochimica Acta, 2010, 511, 82-88.	2.7	16
89	Interconversion of the CDO Layered Precursor ZSM-55 between FER and CDO Frameworks by Controlled Deswelling and Reassembly. Chemistry of Materials, 2016, 28, 3616-3619.	6.7	16
90	Pillaring of layered zeolite precursors with ferrierite topology leading to unusual molecular sieves on the micro/mesoporous border. Dalton Transactions, 2018, 47, 3029-3037.	3.3	16

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91	Application of quasi-equilibrated thermodesorption of linear and di-branched paraffin molecules for detailed porosity characterization of the mono-layered zeolite MCM-56, in comparison with MCM-22 and ZSM-5. Dalton Transactions, 2014, 43, 10574-10583.	3.3	15
92	Incorporation and release of a model drug, ciprofloxacin, from non-modified SBA-15 molecular sieves with different pore sizes. Microporous and Mesoporous Materials, 2020, 294, 109903.	4.4	15
93	Basic sites in zeolites followed by IR studies of NO+. Applied Catalysis A: General, 2007, 319, 64-71.	4.3	14
94	Comparison of the catalytic performance of the metal substituted cage type mesoporous silica catalysts in the alkylation of naphthalene. Applied Catalysis A: General, 2010, 377, 76-82.	4.3	14
95	Complementary use of IR and EPR spectroscopies for characterization of iron species in thermally treated MFI-type zeolites. Microporous and Mesoporous Materials, 2010, 127, 82-89.	4.4	14
96	Physicochemical and catalytic properties of hybrid catalysts derived from 12-molybdophosphoric acid and montmorillonites. Applied Catalysis A: General, 2015, 498, 192-204.	4.3	14
97	Incorporation of Ti as a Pyramidal Framework Site in the Monoâ€Layered MCMâ€56 Zeolite and its Oxidation Activity. ChemCatChem, 2019, 11, 520-527.	3.7	14
98	Nature of Copper Active Sites in CuZSM-5: Theory and Experiment. International Journal of Molecular Sciences, 2002, 3, 435-444.	4.1	13
99	The influence of reagent used for the precipitation of Cs2HPW12O40 salt on its textural and catalytic properties. Microporous and Mesoporous Materials, 2011, 144, 46-56.	4.4	13
100	Oâ€"H stretching frequencies in NaHX and NaHY zeolites: IR spectroscopic studies and quantum chemical calculations. Journal of the Chemical Society, Faraday Transactions, 1996, 92, 4643-4646.	1.7	12
101	The study of heterogeneity of OH groups in zeolites by comparing the half-width of IR band of hydroxyls interacting with adsorbed molecules. Catalysis Today, 2001, 70, 131-138.	4.4	12
102	The structure-catalytic activity relationship for the transient layered zeolite MCM-56 with MWW topology. Catalysis Today, 2020, 345, 116-124.	4.4	12
103	A study of the external and internal sites of 2D and 3D zeolites through the FTIR investigation of the adsorption of ammonia and pivalonitrile. Applied Catalysis A: General, 2019, 578, 63-69.	4.3	11
104	Structural transformation and chemical modifications of the unusual layered zeolite MWW form SSZ-70. Catalysis Today, 2020, 354, 133-140.	4.4	11
105	The effect of hot liquid water treatment on the properties and catalytic activity of MWW zeolites with various layered structures. Catalysis Today, 2018, 304, 22-29.	4.4	10
106	Silica and silicaâ€"titania intercalated MCM-36 modified with iron as catalysts for selective reduction of nitrogen oxides â€" the role of associated reactions. Catalysis Science and Technology, 2020, 10, 7940-7954.	4.1	10
107	In situ IR and catalytic studies of the regeneration of acid sites in coked zeolite Y. Microporous and Mesoporous Materials, 2007, 103, 225-229.	4.4	8
108	FT-IR and microbalance studies of diammonium ions formation in heteropolyacids. Vibrational Spectroscopy, 2007, 43, 435-439.	2.2	7

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109	Mixed zeolite hybrids combining the MFI structure with exfoliated MWW monolayers. Microporous and Mesoporous Materials, 2021, 324, 111300.	4.4	5
110	Catalytic activity enhancement in pillared zeolites produced from exfoliated MWW monolayers in solution. Catalysis Today, 2022, 390-391, 272-280.	4.4	5
111	Acidic properties of SSZ-33 and SSZ-35 novel zeolites: a complex I.R. and MAS NMR study. Studies in Surface Science and Catalysis, 2008, , 1027-1032.	1.5	4
112	On the location of iron and aluminium atoms in thermally activated AlMCM-58 and FeMCM-58 zeolites. Microporous and Mesoporous Materials, 2012, 151, 339-345.	4.4	4
113	Dehydration of methanol and ethanol over ferrierite originated layered zeolites â€" the role of acidity and porous structure. RSC Advances, 2022, 12, 9395-9403.	3.6	4
114	Cluster models for BrÃ¸nsted acid centres in faujasites. Journal of Molecular Catalysis, 1993, 82, 347-352.	1.2	3
115	Detemplated and Pillared 2-Dimensional Zeolite ZSM-55 with Ferrierite Layer Topology as a Carrier for Drugs. Molecules, 2020, 25, 3501.	3.8	3
116	Structure-Catalytic Properties Relationship in Friedel Crafts Alkylation Reaction for MCM-36-Type Zeolites Obtained by Isopropanol-Assisted Pillaring. Catalysts, 2021, 11, 299.	3.5	3
117	Distribution of the strength of acid sites in mildly steamed HZSM-5 studied by IR spectroscopy. Reaction Kinetics and Catalysis Letters, 2002, 77, 209-217.	0.6	2
118	From Colloidal Dispersions of Zeolite Monolayers to Effective Solid Catalysts in Transformations of Bulky Organic Molecules: Role of Freeze-Drying and Dialysis. Molecules, 2021, 26, 2076.	3.8	2
119	Platinum nanoparticles supported on zeolite MWW nanosheets prepared via homogeneous solution route. Catalysis Today, 2022, 390-391, 335-342.	4.4	1