# Jean-Pierre Gilson

List of Publications by Year
in descending order



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|---|---|---|---|
| 103 papers | 7,310 citations | 50170 46 h-index | 54797 84 g-index |
| 103 all docs | 103 docs citations | 103 times ranked | 5615 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Impact of Zeolites on the Petroleum and Petrochemical Industry. Topics in Catalysis, 2009, 52, 1131-1161. | 1.3 | 820 |
| 2 | Template-free nanosized faujasite-type zeolites. Nature Materials, 2015, 14, 447-451. | 13.3 | 360 |
| 3 | Advances in nanosized zeolites. Nanoscale, 2013, 5, 6693. | 2.8 | 337 |
| 4 | Infrared, microcalorimetric, and electron spin resonance investigations of the acidic properties of the H-ZSM-5 zeolite. Journal of Catalysis, 1979, 59, 248-262. | 3.1 | 297 |
| 5 | Quantification of enhanced acid site accessibility in hierarchical zeolites â€“ The accessibility index. Journal of Catalysis, 2009, 264, 11-14. | 3.1 | 279 |
| 6 | Hierarchical ZSMâ€5 Zeolites in Shapeâ€Selective Xylene Isomerization: Role of Mesoporosity and Acid Site Speciation. Chemistry - A European Journal, 2010, 16, 6224-6233. | 1.7 | 239 |
| 7 | Quantification of Water and Silanol Species on Various Silicas by Coupling IR Spectroscopy and in-Situ Thermogravimetry. Langmuir, 2009, 25, 5825-5834. | 1.6 | 196 |
| 8 | Bio-oils Hydrodeoxygenation: Adsorption of Phenolic Molecules on Oxidic Catalyst Supports. Journal of Physical Chemistry C, 2010, 114, 15661-15670. | 1.5 | 196 |
| 9 | Penta-co-ordinated aluminium in zeolites and aluminosilicates. Journal of the Chemical Society Chemical Communications, 1987, , 91. | 2.0 | 179 |
| 10 | Effect of water on the stability of Mo and CoMo hydrodeoxygenation catalysts: A combined experimental and DFT study. Journal of Catalysis, 2011, 282, 155-164. | 3.1 | 153 |
| 11 | Chemical Equilibrium Controlled Etching of MFI-Type Zeolite and Its Influence on Zeolite Structure, Acidity, and Catalytic Activity. Chemistry of Materials, 2013, 25, 2759-2766. | 3.2 | 149 |
| 12 | Mesoporous ZSM-22 zeolite obtained by desilication: peculiarities associated with crystal morphology and aluminium distribution. CrystEngComm, 2011, 13, 3408. | 1.3 | 140 |
| 13 | One-pot synthesis of silanol-free nanosized MFIÂzeolite. Nature Materials, 2017, 16, 1010-1015. | 13.3 | 135 |
| 14 | Accessibility of the acid sites in dealuminated small-port mordenites studied by FTIR of co-adsorbed alkylpyridines and CO. Microporous and Mesoporous Materials, 2004, 71, 157-166. | 2.2 | 125 |
| 15 | Opening the Cages of Faujasite-Type Zeolite. Journal of the American Chemical Society, 2017, 139, 17273-17276. | 6.6 | 125 |
| 16 | Hydroisomerization of Emerging Renewable Hydrocarbons using Hierarchical Pt/Hâ€ZSMâ€22 Catalyst. ChemSusChem, 2013, 6, 421-425. | 3.6 | 111 |
| 17 | In situ characterization of carbonaceous residues from zeolite-catalysed reactions using high resolution solid state 13C-n.m.r. spectroscopy. Zeolites, 1982, 2, 42-46. | 0.9 | 107 |
| 18 | Bio-oil hydrodeoxygenation: Adsorption of phenolic compounds on sulfided (Co)Mo catalysts. Journal of Catalysis, 2013, 297, 176-186. | 3.1 | 107 |

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|---|---|---|---|
| 19 | Silanol defect engineering and healing in zeolites: opportunities to fine-tune their properties and performances. Chemical Society Reviews, 2021, 50, 11156-11179. | 18.7 | 100 |
| 20 | Comparative Study of Nanoâ€ZSMâ€5 Catalysts Synthesized in OH<sup>â^'</sup> and F<sup>â^'</sup> Media. Advanced Functional Materials, 2014, 24, 257-264. | 7.8 | 98 |
| 21 | 2D-COS IR study of coking in xylene isomerisation on H-MFI zeolite. Catalysis Today, 2001, 70, 227-241. | 2.2 | 97 |
| 22 | Influence of crystal size and probe molecule on diffusion in hierarchical ZSM-5 zeolites prepared by desilication. Microporous and Mesoporous Materials, 2012, 148, 115-121. | 2.2 | 95 |
| 23 | Zeolites for Cleaner Technologies. Catalytic Science Series, 2002, , . | 0.6 | 95 |
| 24 | The Mosaic Structure of Zeolite Crystals. Angewandte Chemie - International Edition, 2016, 55, 15049-15052. | 7.2 | 88 |
| 25 | Concerning the aluminum distribution gradient in ZSM-5 zeolites. Journal of Catalysis, 1981, 71, 447-448. | 3.1 | 82 |
| 26 | Solid-state oxygen-17 nuclear magnetic resonance spectroscopic studies of zeolites and related systems. 1. Journal of the American Chemical Society, 1986, 108, 7231-7235. | 6.6 | 81 |
| 27 | Hydroisomerization and hydrocracking of linear and multibranched long model alkanes on hierarchical Pt/ZSM-22 zeolite. Catalysis Today, 2013, 218-219, 135-142. | 2.2 | 81 |
| 28 | The preparation of hierarchical SAPO-34 crystals via post-synthesis fluoride etching. Chemical Communications, 2016, 52, 3512-3515. | 2.2 | 80 |
| 29 | Photochemical Preparation of Silver Nanoparticles Supported on Zeolite Crystals. Langmuir, 2014, 30, 6250-6256. | 1.6 | 78 |
| 30 | On the remarkable resistance to coke formation of nanometer-sized and hierarchical MFI zeolites during ethanol to hydrocarbons transformation. Journal of Catalysis, 2015, 328, 165-172. | 3.1 | 76 |
| 31 | Towards more efficient monodimensional zeolite catalysts: n-alkane hydro-isomerisation on hierarchical ZSM-22. Catalysis Science and Technology, 2011, 1, 1331. | 2.1 | 72 |
| 32 | On the external and intracrystalline surface catalytic activity of pentasil zeolites. Journal of Catalysis, 1984, 88, 538-541. | 3.1 | 71 |
| 33 | Mesoporous zeolites by fluoride etching. Current Opinion in Chemical Engineering, 2015, 8, 1-6. | 3.8 | 69 |
| 34 | The use of the consecutive adsorption of pyridine bases and carbon monoxide in the IR spectroscopic study of the accessibility of acid sites in microporous/mesoporous materials. Kinetics and Catalysis, 2006, 47, 40-48. | 0.3 | 68 |
| 35 | 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. | 2.2 | 65 |
| 36 | Synthesis and catalytic properties of hierarchical micro/mesoporous materials based on FER zeolite. Microporous and Mesoporous Materials, 2011, 146, 201-207. | 2.2 | 63 |

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|---|---|---|---|
| 37 | IR study of the interaction of phenol with oxides and sulfided CoMo catalysts for bio-fuel hydrodeoxygenation. Catalysis Today, 2011, 172, 132-135. | 2.2 | 61 |
| 38 | Novel Strategy for the Synthesis of Ultraâ€Stable Singleâ€Site Moâ€ZSMâ€5 Zeolite Nanocrystals. Angewandte Chemie - International Edition, 2020, 59, 19553-19560. | 7.2 | 61 |
| 39 | Direct Evidence for Single Molybdenum Atoms Incorporated in the Framework of MFI Zeolite Nanocrystals. Journal of the American Chemical Society, 2019, 141, 8689-8693. | 6.6 | 57 |
| 40 | Isomerization of n-Hexane over Sulfated Zirconia: Influence of Hydrogen and Platinum. Journal of Catalysis, 2001, 198, 328-337. | 3.1 | 55 |
| 41 | Adsorption and conversion of ethylene on H-ZSM-5 zeolite studied by 13C NMR spectroscopy. Journal of Molecular Catalysis, 1981, 10, 331-340. | 1.2 | 53 |
| 42 | Defect-engineered zeolite porosity and accessibility. Journal of Materials Chemistry A, 2020, 8, 3621-3631. | 5.2 | 52 |
| 43 | Redox behaviour of transition metal ions in zeolites. Part 7.â€”Characterization of a nickel metal phase in zeolite NaY. Journal of the Chemical Society Faraday Transactions I, 1979, 75, 1196. | 1.0 | 51 |
| 44 | In situ and post-synthesis control of physicochemical properties of FER-type crystals. Microporous and Mesoporous Materials, 2014, 200, 334-342. | 2.2 | 49 |
| 45 | Silver confined within zeolite EMT nanoparticles: preparation and antibacterial properties. Nanoscale, 2014, 6, 10859-10864. | 2.8 | 49 |
| 46 | Ring opening of decalin and methylcyclohexane over alumina-based monofunctional WO3/Al2O3 and Ir/Al2O3 catalysts. Journal of Catalysis, 2012, 286, 62-77. | 3.1 | 48 |
| 47 | Preparation of Single-Crystal â€œHouse-of-Cardsâ€•like ZSM-5 and Their Performance in Ethanol-to-Hydrocarbon Conversion. Chemistry of Materials, 2019, 31, 4639-4648. | 3.2 | 45 |
| 48 | 27Al-n.m.r. characterization of natural and synthetic zeolites. Zeolites, 1984, 4, 133-139. | 0.9 | 44 |
| 49 | Zeolites in a good shape: Catalyst forming by extrusion modifies their performances. Microporous and Mesoporous Materials, 2020, 299, 110114. | 2.2 | 44 |
| 50 | Platinum tungstated zirconia isomerization catalystsPart I. Characterization of acid and metal properties. Journal of Catalysis, 2005, 231, 453-467. | 3.1 | 43 |
| 51 | Platinum-tungstated zirconia isomerization catalystsPart II. Effect of platinum and tungsten loading on the mechanism of isomerization of n-hexane: a kinetic study. Journal of Catalysis, 2005, 231, 468-479. | 3.1 | 43 |
| 52 | FCC gasoline sulfur reduction additives: Mechanism and active sites. Journal of Catalysis, 2007, 249, 79-92. | 3.1 | 41 |
| 53 | Design of hierarchically structured catalysts by mordenites recrystallization: Application in naphthalene alkylation. Catalysis Today, 2011, 168, 133-139. | 2.2 | 40 |
| 54 | Prompt nuclear and atomic reactions for elemental analysis of zeolites I. A discussion of the experimental methods. Zeolites, 1983, 3, 37-42. | 0.9 | 39 |

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| 55 | Hydrogenation of Toluene over Supported Pt and Pd Catalysts: Influence of Structural Factors on the Sulfur Tolerance. Journal of Catalysis, 2002, 212, 63-75. | 3.1 | 39 |
| 56 | Study of Ir/WO3/ZrO2â€“SiO2 ring-opening catalysts: Part II. Reaction network, kinetic studies and structureâ€“activity correlation. Journal of Catalysis, 2008, 254, 49-63. | 3.1 | 39 |
| 57 | Mitigating coking during methylcyclohexane transformation on HZSM-5 zeolites with additional porosity. Journal of Catalysis, 2014, 320, 118-126. | 3.1 | 39 |
| 58 | Hydrodeoxygenation of Phenolic Compounds by Sulfided (Co)Mo/Al<sub>2</sub>O<sub>3</sub>Catalysts, a Combined Experimental and Theoretical Study. Oil and Gas Science and Technology, 2013, 68, 829-840. | 1.4 | 37 |
| 59 | Supported Embryonic Zeolites and their Use to Process Bulky Molecules. ACS Catalysis, 2018, 8, 8199-8212. | 5.5 | 37 |
| 60 | Breaking the Si/Al Limit of Nanosized Î² Zeolites: Promoting Catalytic Production of Lactide. Chemistry of Materials, 2020, 32, 751-758. | 3.2 | 35 |
| 61 | Flexible Template-Free RHO Nanosized Zeolite for Selective CO<sub>2</sub> Adsorption. Chemistry of Materials, 2020, 32, 5985-5993. | 3.2 | 31 |
| 62 | A 13C-N.M.R. investigation of the conversion of methanol on H-ZSM-5 in the presence of carbon monoxide. Journal of Molecular Catalysis, 1979, 5, 393-397. | 1.2 | 30 |
| 63 | Modeling of structure and vibrational spectra of AlPO4-5 and its silica analog SSZ-24. Zeolites, 1992, 12, 826-836. | 0.9 | 30 |
| 64 | The Mosaic Structure of Zeolite Crystals. Angewandte Chemie, 2016, 128, 15273-15276. | 1.6 | 30 |
| 65 | Probing the BrÃ¸nsted Acidity of the External Surface of Faujasiteâ€Type Zeolites. ChemPhysChem, 2020, 21, 1873-1881. | 1.0 | 30 |
| 66 | The challenge of silanol species characterization in zeolites. Inorganic Chemistry Frontiers, 2022, 9, 1125-1133. | 3.0 | 29 |
| 67 | Propane carbonylation on sulfated zirconia catalyst as studied by 13C MAS NMR and FTIR spectroscopy. Journal of Catalysis, 2004, 223, 290-295. | 3.1 | 28 |
| 68 | Ring opening of decalin and methylcyclohexane over bifunctional Ir/WO3/Al2O3 catalysts. Journal of Catalysis, 2013, 299, 30-43. | 3.1 | 24 |
| 69 | Catalytic activation of OKO zeolite with intersecting pores of 10- and 12-membered rings using atomic layer deposition of aluminium. Chemical Communications, 2014, 50, 4610-4612. | 2.2 | 24 |
| 70 | Embryonic ZSM-5 zeolites: zeolitic materials with superior catalytic activity in 1,3,5-triisopropylbenzene dealkylation. New Journal of Chemistry, 2016, 40, 4307-4313. | 1.4 | 24 |
| 71 | 2D correlation IR spectroscopy of xylene isomerisation on H-MFI zeolite. Chemical Communications, 2000, , 1003-1004. | 2.2 | 23 |
| 72 | Cumene transformations over mordenite catalysts: a 13C MAS NMR study. Microporous and Mesoporous Materials, 2003, 57, 297-308. | 2.2 | 23 |

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|---|---|---|---|
| 73 | Understanding the Fundamentals of Microporosity Upgrading in Zeolites: Increasing Diffusion and Catalytic Performances. Advanced Science, 2021, 8, e2100001. | 5.6 | 23 |
| 74 | Surface and Subsurface Platinum in Sulfated Zirconia Catalysts: Relation with Toluene Hydrogenation and n-Hexane Isomerization. Journal of Catalysis, 2002, 212, 173-181. | 3.1 | 21 |
| 75 | Emphasis on the Properties of Metalâ€Containing Zeolites Operating Outside the Comfort Zone of Current Heterogeneous Catalytic Reactions. Angewandte Chemie - International Edition, 2020, 59, 19414-19432. | 7.2 | 21 |
| 76 | Synthesis of Embryonic Zeolites with Controlled Physicochemical Properties. Chemistry of Materials, 2020, 32, 2123-2132. | 3.2 | 20 |
| 77 | Pt/Al2O3-Cl catalysts derived from ethylaluminumdichloride. Applied Catalysis A: General, 2004, 269, 203-214. | 2.2 | 19 |
| 78 | Study of Ir/WO3/Al2O3 ring opening catalysts. Applied Catalysis A: General, 2010, 388, 37-44. | 2.2 | 19 |
| 79 | High resolution 27Al NMR of amorphous silica-aluminas. Applied Catalysis, 1985, 15, 327-331. | 1.1 | 17 |
| 80 | Unlocking the potential of hidden sites in FAUJASITE: new insights in a proton transfer mechanism. Angewandte Chemie - International Edition, 2021, 60, 26702-26709. | 7.2 | 17 |
| 81 | Evidence for secondary building unit effects on the solid state 29Si n.m.r. resonance of silicon in zeolitic structures. Journal of the Chemical Society Chemical Communications, 1981, , 1129. | 2.0 | 16 |
| 82 | Hydroisomerization and hydrocracking activity enhancement of a hierarchical ZSM-5 zeolite catalyst via atomic layer deposition of aluminium. Catalysis Science and Technology, 2016, 6, 6177-6186. | 2.1 | 15 |
| 83 | Crystallization pathway from a highly viscous colloidal suspension to ultra-small FAU zeolite nanocrystals. Journal of Materials Chemistry A, 2021, 9, 17492-17501. | 5.2 | 15 |
| 84 | Unraveling the Effect of Silanol Defects on the Insertion of Single-Site Mo in the MFI Zeolite Framework. Inorganic Chemistry, 2022, 61, 1418-1425. | 1.9 | 14 |
| 85 | Emphasis on the Properties of Metalâ€Containing Zeolites Operating Outside the Comfort Zone of Current Heterogeneous Catalytic Reactions. Angewandte Chemie, 2020, 132, 19582-19600. | 1.6 | 13 |
| 86 | Engineering RHO Nanozeolite: Controlling the Particle Morphology, Al and Cation Content, Stability, and Flexibility. ACS Applied Energy Materials, 2022, 5, 6032-6042. | 2.5 | 11 |
| 87 | New insights on zeolite chemistry by advanced IR and NMR characterization tools. Journal of Molecular Catalysis A, 2009, 305, 54-59. | 4.8 | 10 |
| 88 | Novel Strategy for the Synthesis of Ultraâ€Stable Singleâ€Site Moâ€ZSMâ€5 Zeolite Nanocrystals. Angewandte Chemie, 2020, 132, 19721-19728. | 1.6 | 10 |
| 89 | Preparation of hierarchical SSZ-13 by NH4F etching. Microporous and Mesoporous Materials, 2021, 314, 110863. | 2.2 | 10 |
| 90 | Organic template-free synthesis of an open framework silicoaluminophosphate (SAPO) with high thermal stability and high ionic conductivity. Inorganic Chemistry Frontiers, 2020, 7, 542-553. | 3.0 | 9 |

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| 91 | Comparative Study of Zeolite L Etching with Ammonium Fluoride and Ammonium Bifluoride Solutions. Advanced Materials Interfaces, 2021, 8, 2000348. | 1.9 | 9 |
| 92 | Room-Temperature Synthesis of BPH Zeolite Nanosheets Free of Organic Template with Enhanced Stability for Gas Separations. ACS Applied Nano Materials, 2021, 4, 24-28. | 2.4 | 9 |
| 93 | Dissolution Behavior and Varied Mesoporosity of Zeolites by NH<sub>4</sub>F Etching. Chemistry - A European Journal, 2022, 28, e202104339. | 1.7 | 9 |
| 94 | Influence of W loading on the environment of Si in WO3/ZrO2â€“SiO2 catalysts. Applied Catalysis A: General, 2010, 374, 137-141. | 2.2 | 8 |
| 95 | Catalytic activation of all-silica COK-14 zeolite through alumination and particle size reduction using wet ball milling. Catalysis Today, 2019, 334, 3-12. | 2.2 | 8 |
| 96 | Chromic acid dealumination of zeolites. Microporous and Mesoporous Materials, 2022, 329, 111513. | 2.2 | 8 |
| 97 | A novel method of monitoring the sulfidation of hydrotreating catalysts: the conversion of carbonyl sulfide. Catalysis Science and Technology, 2015, 5, 835-842. | 2.1 | 7 |
| 98 | Increasing the catalytic performance of erionite by hierarchization. Microporous and Mesoporous Materials, 2020, 299, 110088. | 2.2 | 7 |
| 99 | Transformation of Discrete Amorphous Aluminosilicate Nanoparticles into Nanosized Zeolites. Advanced Materials Interfaces, 2021, 8, 2000634. | 1.9 | 6 |
| 100 | From Gas to Liquid Phase Sulfidation: An IR Spectroscopy Study. Catalysis Letters, 2012, 142, 736-743. | 1.4 | 5 |
| 101 | Access to sodalite cages in ion-exchanged nanosized FAU zeolites probed by hyperpolarized 129Xe NMR and DFT calculations. Microporous and Mesoporous Materials, 2022, 338, 111965. | 2.2 | 5 |
| 102 | Atomic-Insight into Zeolite Catalyst Formingâ€”an Advanced NMR Study. Journal of Physical Chemistry C, 2021, 125, 20028-20034. | 1.5 | 4 |
| 103 | Unlocking the potential of hidden sites in FAUJASITE: new insights in a proton transfer mechanism. Angewandte Chemie, 0, , . | 1.6 | 4 |