Gerhard D Pirngruber

List of Publications by Year
in descending order

83 papers	4,123 citations	109321 35 h-index	114465 63 g-index
86 all docs	86 docs citations	86 times ranked	5016 citing authors

#	Article	IF	Citations
1	Co-adsorption and Separation of CO₂â"CH₄ Mixtures in the Highly Flexible MIL-53(Cr) MOF. Journal of the American Chemical Society, 2009, 131, 17490-17499.	13.7	398
2	Adsorption of CO₂, CH₄, and N₂ on Zeolitic Imidazolate Frameworks: Experiments and Simulations. Chemistry - A European Journal, 2010, 16, 1560-1571.	3.3	344
3	Comparison of the Behavior of Metalâ€"Organic Frameworks and Zeolites for Hydrocarbon Separations. Journal of the American Chemical Society, 2012, 134, 8115-8126.	13.7	253
4	CO₂ and CH₄ Separation by Adsorption Using Cu-BTC Metalâ"Organic Framework. Industrial & Engineering Chemistry Research, 2010, 49, 7497-7503.	3.7	233
5	Separation of C₆ Paraffins Using Zeolitic Imidazolate Frameworks: Comparison with Zeolite 5A. Industrial & Engineering Chemistry Research, 2012, 51, 4692-4702.	3.7	130
6	Metalâ€"Organic Framework Materials for Desulfurization by Adsorption. Energy & Fuels, 2012, 26, 4953-4960.	5.1	119
7	The mechanism of formation of the Fe species in Fe/ZSM-5 prepared by CVD. Physical Chemistry Chemical Physics, 2001, 3, 5585-5595.	2.8	113
8	Dealumination and realumination of microcrystalline zeolite beta: an XRD, FTIR and quantitative multinuclear (MQ) MAS NMR study. Physical Chemistry Chemical Physics, 2004, 6, 447.	2.8	112
9	The separation of xylene isomers by ZIF-8: A demonstration of the extraordinary flexibility of the ZIF-8 framework. Microporous and Mesoporous Materials, 2013, 173, 1-5.	4.4	110
10	A Method for Screening the Potential of MOFs as CO₂ Adsorbents in Pressure Swing Adsorption Processes. ChemSusChem, 2012, 5, 762-776.	6.8	109
11	N2O decomposition over iron-containing zeolites prepared by different methods: a comparison of the reaction mechanism. Journal of Catalysis, 2004, 224, 429-440.	6.2	107
12	A theoretical analysis of the energy consumption of post-combustion CO2 capture processes by temperature swing adsorption using solid sorbents. International Journal of Greenhouse Gas Control, 2013, 14, 74-83.	4.6	87
13	A complete experimental approach for synthesis gas separation studies using static gravimetric and column breakthrough experiments. Adsorption, 2007, 13, 341-349.	3.0	86
14	On determining the nuclearity of iron sites in Fe-ZSM-5â€"a critical evaluation. Physical Chemistry Chemical Physics, 2006, 8, 3939-3950.	2.8	83
15	Separation of CO2â€"CH4 mixtures in the mesoporous MIL-100(Cr) MOF: experimental and modelling approaches. Dalton Transactions, 2012, 41, 4052.	3.3	78
16	Functionalization of silica surfaces with mixtures of 3-aminopropyl and methyl groups. Microporous and Mesoporous Materials, 2005, 85, 111-118.	4.4	72
17	Adsorption and Separation of Xylene Isomers: CPO-27-Ni vs HKUST-1 vs NaY. Journal of Physical Chemistry C, 2012, 116, 21844-21855.	3.1	72
18	The surface chemistry of N2O decomposition on iron containing zeolites (I). Journal of Catalysis, 2003, 219, 456-463.	6.2	67

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19	FAU-Type Zeolite Nanocasted Carbon Replicas for CO₂ Adsorption and Hydrogen Purification. Energy & Fuels, 2010, 24, 3595-3602.	5.1	61
20	Role of Structure and Chemistry in Controlling Separations of CO₂/CH₄ and CO₂/CH₄/CO Mixtures over Honeycomb MOFs with Coordinatively Unsaturated Metal Sites. Journal of Physical Chemistry C, 2012, 116, 26636-26648.	3.1	60
21	Formation of mesopores in zeolite beta by steaming: a secondary pore channel system in the plane. Microporous and Mesoporous Materials, 2003, 66, 21-26.	4.4	56
22	Hydrothermal stability of Fe-ZSM-5 and Fe-BEA prepared by wet ion-exchange for N2O decomposition. Applied Catalysis B: Environmental, 2007, 71, 16-22.	20.2	55
23	The effect of the hydrophobicity of aromatic swelling agents on pore size and shape of mesoporous silicas. Microporous and Mesoporous Materials, 2005, 79, 41-52.	4.4	53
24	Aqueous-Phase Preparation of Model HDS Catalysts on Planar Alumina Substrates: Support Effect on Mo Adsorption and Sulfidation. Journal of the American Chemical Society, 2015, 137, 15915-15928.	13.7	52
25	Tuning the Adsorption Properties of Zeolites as Adsorbents for CO₂ Separation: Best Compromise between the Working Capacity and Selectivity. Industrial & Engineering Chemistry Research, 2014, 53, 9860-9874.	3.7	51
26	ZSM-5 precursors assembled to a mesoporous structure and its subsequent transformation into a zeolitic phaseâ€"from low to high catalytic activity. Microporous and Mesoporous Materials, 2006, 88, 152-162.	4.4	50
27	The nature of the active site in the Fe-ZSM-5/N2O system studied by (resonant) inelastic X-ray scattering. Catalysis Today, 2007, 126, 127-134.	4.4	49
28	Synthesis and crystal chemistry of the STA-12 family of metal N,Nâ€²-piperazinebis(methylenephosphonate)s and applications of STA-12(Ni) in the separation of gases. Microporous and Mesoporous Materials, 2012, 157, 3-17.	4.4	49
29	Amines immobilized on a solid support for postcombustion CO2 captureâ€"A preliminary analysis of the performance in a VSA or TSA process based on the adsorption isotherms and kinetic data. Energy Procedia, 2009, 1, 1335-1342.	1.8	48
30	Synthesis and adsorption properties of ZIF-76 isomorphs. Microporous and Mesoporous Materials, 2012, 153, 1-7.	4.4	43
31	Silicoaluminophosphate Molecular Sieves STA-7 and STA-14 and Their Structure-Dependent Catalytic Performance in the Conversion of Methanol to Olefins. Journal of Physical Chemistry C, 2009, 113, 15731-15741.	3.1	41
32	Factors determining the suitability of zeolite BEA as para-selective nitration catalyst. Journal of Catalysis, 2003, 219, 231-241.	6.2	39
33	Evidence of Multiple Cation Site Occupation in Zeolite NaY with High Si/Al Ratio. Journal of Physical Chemistry C, 2008, 112, 10899-10908.	3.1	39
34	An in Situ X-ray Absorption Spectroscopy Study of N2O Decomposition over Fe-ZSM-5 Prepared by Chemical Vapor Deposition of FeCl3. Journal of Physical Chemistry B, 2004, 108, 13746-13754.	2.6	38
35	CO2 adsorption in LiY and NaY at high temperature: molecularÂsimulations compared to experiments. Adsorption, 2007, 13, 453-460.	3.0	38
36	On the Presence of Fe(IV) in Fe-ZSM-5 and FeSrO3-xUnequivocal Detection of the 3d4Spin System by Resonant Inelastic X-ray Scattering. Journal of Physical Chemistry B, 2006, 110, 18104-18107.	2.6	36

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37	A look into the surface chemistry of N2O decomposition on iron zeolites by transient response experiments. Catalysis Today, 2005, 110, 199-210.	4.4	34
38	A mechanistic explanation of the formation of high quality MCM-41 with high hydrothermal stability. Microporous and Mesoporous Materials, 2003, 64, 203-211.	4.4	33
39	Surface-dependent sulfidation and orientation of MoS2 slabs on alumina-supported model hydrodesulfurization catalysts. Journal of Catalysis, 2016, 344, 591-605.	6.2	33
40	Immobilized Complexes of Metals with Amino Acid Ligands âˆ’ A First Step toward the Development of New Biomimetic Catalysts. Chemistry of Materials, 2006, 18, 1330-1336.	6.7	32
41	Coreâ€“shell zeolite composite with enhanced selectivity for the separation of branched paraffin isomers. Microporous and Mesoporous Materials, 2013, 169, 212-217.	4.4	30
42	Vacuum gas oil hydrocracking performance of bifunctional Mo/Y zeolite catalysts in a semi-batch reactor. Catalysis Today, 2014, 220-222, 159-167.	4.4	30
43	Indole Hydrodenitrogenation over Alumina and Silicaâ€“Alumina-Supported Sulfide Catalystsâ€”Comparison with Quinoline. Industrial & Engineering Chemistry Research, 2017, 56, 11088-11099.	3.7	30
44	Kinetic Modeling of Quinoline Hydrodenitrogenation over a NiMo(P)/Al2O3 Catalyst in a Batch Reactor. Industrial & Engineering Chemistry Research, 2015, 54, 9278-9288.	3.7	29
45	Use of kinetic modeling for investigating support acidity effects of NiMo sulfide catalysts on quinoline hydrodenitrogenation. Applied Catalysis A: General, 2017, 530, 132-144.	4.3	29
46	Surface Science Approaches for the Preparation of Aluminaâ€Supported Hydrotreating Catalysts. ChemCatChem, 2015, 7, 3422-3440.	3.7	27
47	Design of a Pressure Swing Adsorption Process for Postcombustion CO₂ Capture. Industrial & Engineering Chemistry Research, 2013, 52, 5985-5996.	3.7	25
48	Chemical modification of high-quality large-pore M41S materials. Journal of Materials Chemistry, 2002, 12, 528-533.	6.7	24
49	Influence of the properties of zeolite BEA on its performance in the nitration of toluene and nitrotoluene. Journal of Catalysis, 2004, 224, 297-303.	6.2	24
50	The Mechanism of N2O Decomposition on Fe-ZSM-5: An Isotope Labeling Study. Catalysis Letters, 2004, 93, 75-80.	2.6	23
51	Synthesis of FAU-type zeolite membrane: An original in situ process focusing on the rheological control of gel-like precursor species. Microporous and Mesoporous Materials, 2009, 119, 1-8.	4.4	21
52	A continuous lumping model for hydrocracking on a zeolite catalysts: model development and parameter identification. Fuel, 2016, 164, 73-82.	6.4	21
53	The characterisation and catalytic properties of biomimetic metalâ€“peptide complexes immobilised on mesoporous silica. Physical Chemistry Chemical Physics, 2009, 11, 2928.	2.8	19
54	Molecular-Level Insights into Coker/Straight-Run Gas Oil Hydrodenitrogenation by Fourier Transform Ion Cyclotron Resonance Mass Spectrometry. Energy & Fuels, 2019, 33, 3034-3046.	5.1	18

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55	Modeling Adsorption Properties on the Basis of Microscopic, Molecular, and Structural Descriptors for Nonpolar Adsorbents. Langmuir, 2013, 29, 9398-9409.	3.5	16
56	Surface-dependent activity of model CoMoS hydrotreating catalysts. Journal of Catalysis, 2021, 403, 16-31.	6.2	14
57	Mimicking the Active Center of Methane-monooxygenase by Metalâ^'Peptide Complexes Immobilized on Mesoporous Silica. Chemistry of Materials, 2007, 19, 4357-4366.	6.7	13
58	Quantification of the confinement effect in microporous materials. Physical Chemistry Chemical Physics, 2013, 15, 5648.	2.8	11
59	Balance between (De)hydrogenation and Acid Sites: Comparison between Sulfide-Based and Pt-Based Bifunctional Hydrocracking Catalysts. Industrial & Engineering Chemistry Research, 2020, 59, 12686-12695.	3.7	11
60	Deep hydrodesulfurization of 4,6-dimethydibenzothiophene over CoMoS/TiO2 catalysts: Impact of the TiO2 treatment. Catalysis Today, 2021, 377, 17-25.	4.4	11
61	Phosphate Adsorption on Î³-Alumina: A Surface Complex Model Based on Surface Characterization and Zeta Potential Measurements. Journal of Physical Chemistry C, 2021, 125, 10909-10918.	3.1	11
62	Insights in the phenomena involved in deactivation of industrial hydrocracking catalysts through an accelerated deactivation protocol. Fuel, 2021, 303, 120681.	6.4	11
63	Sketching a Portrait of the Optimal Adsorbent for CO2 Separation by Pressure Swing Adsorption. Industrial & Engineering Chemistry Research, 2017, 56, 4818-4829.	3.7	10
64	How Does an Acidic Support Affect the Hydrotreatment of a Gas Oil with High Nitrogen Content?. Energy & Fuels, 2019, 33, 1467-1472.	5.1	10
65	Impact of Feedstock Properties on the Deactivation of a Vacuum Gas Oil Hydrocracking Catalyst. Energy & Fuels, 2021, 35, 12297-12309.	5.1	10
66	Hydroconversion of Perhydrophenanthrene over Bifunctional Pt/Hâ€USY Zeolite Catalyst. ChemCatChem, 2020, 12, 3477-3488.	3.7	9
67	Vaporâ€"Liquid Equilibrium of Hydrogen, Vacuum Gas Oil, and Middle Distillate Fractions. Industrial & Engineering Chemistry Research, 2014, 53, 8311-8320.	3.7	8
68	Hydrothermal stability of Fe-ZSM-5 and Fe-BEA prepared by wet ion-exchange for N2O decomposition. Studies in Surface Science and Catalysis, 2007, 170, 1386-1391.	1.5	7
69	Efficient CoMoS Catalysts Supported on Bioâ€Inspired Polymer Coated Alumina for Hydrotreating Reactions. ChemistrySelect, 2017, 2, 2373-2382.	1.5	6
70	Solubilization of Aromatic Molecules in Templating Micelles of Mesoporous Silicas Followed by1H NMR. Journal of Physical Chemistry B, 2004, 108, 10903-10910.	2.6	5
71	How to Optimize the Electrostatic Interaction between a Solid Adsorbent and CO2. Journal of Physical Chemistry C, 2014, 118, 9458-9467.	3.1	5
72	Do happy catalyst supports work better? Surface coating of silica and titania supports with (poly)dopamine and their application in hydrotreating. Applied Catalysis A: General, 2017, 544, 116-125.	4.3	5

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73	Industrial Zeolite Applications for Gas Adsorption and Separation Processes. Structure and Bonding, 2020, , 195-225.	1.0	5
74	Surfaceâ€Dependent Activation of Model Î±â€Al 2 O 3 â€Supported Pâ€Doped Hydrotreating Catalysts Prepared by Spin Coating. Chemistry - A European Journal, 2020, 26, 14623-14638.	3.3	5
75	Molecular analysis of nitrogen-containing compounds in vacuum gas oils hydrodenitrogenation by (ESI+/-)-FTICR-MS. Fuel, 2022, 323, 124302.	6.4	5
76	The Fascinating Chemistry of Iron- and Copper-Containing Zeolites. , 2009, , 749-771.		4
77	Shape selectivity effects in the hydroconversion of perhydrophenanthrene over bifunctional catalysts. Catalysis Science and Technology, 2021, 11, 7667-7682.	4.1	4
78	Hydroconversion of Octylcyclohexane over a Bifunctional Pt/USY Zeolite Catalyst. Energy & Fuels, 2021, 35, 13955-13966.	5.1	3
79	Malonate complexes at Î³-alumina surface determined by a multi-technique characterization approach and a surface complex model. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2021, 634, 127923.	4.7	1
80	Impact of Metal Content on the Deactivation of a Bifunctional Hydrocracking Catalyst. Energy & Fuels, 2022, 36, 4491-4501.	5.1	1
81	An in situ X-Ray Absorption Spectroscopy Study of N2O Decomposition over Fe-ZSM-5 Prepared by Chemical Vapor Deposition of FeCl3.. ChemInform, 2004, 35, no.	0.0	0
82	Supported zeolite composite membranes synthesized by controlling the penetration or gelation of the precursor into the support pores. Studies in Surface Science and Catalysis, 2008, , 645-648.	1.5	0
83	Role of Phosphorus and Triethylene Glycol Incorporation on the Activity of Model Aluminaâ€Supported CoMoS Hydrotreating Catalysts. ChemCatChem, 0, , .	3.7	0