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	Impact of Metal Content on the Deactivation of a Bifunctional Hydrocracking Catalyst. Energy & Fuels, 2022, 36, 4491-4501.	5.1	1
2	Molecular analysis of nitrogen-containing compounds in vacuum gas oils hydrodenitrogenation by (ESI+/-)-FTICR-MS. Fuel, 2022, 323, 124302.	6.4	5
3	Deep hydrodesulfurization of 4,6-dimethydibenzothiophene over CoMoS/TiO2 catalysts: Impact of the TiO2 treatment. Catalysis Today, 2021, 377, 17-25.	4.4	11
4	Surface-dependent activity of model CoMoS hydrotreating catalysts. Journal of Catalysis, 2021, 403, 16-31.	6.2	14
5	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
6	Impact of Feedstock Properties on the Deactivation of a Vacuum Gas Oil Hydrocracking Catalyst. Energy & Fuels, 2021, 35, 12297-12309.	5.1	10
7	Hydroconversion of Octylcyclohexane over a Bifunctional Pt/USY Zeolite Catalyst. Energy & Fuels, 2021, 35, 13955-13966.	5.1	3
8	Insights in the phenomena involved in deactivation of industrial hydrocracking catalysts through an accelerated deactivation protocol. Fuel, 2021, 303, 120681.	6.4	11
9	Shape selectivity effects in the hydroconversion of perhydrophenanthrene over bifunctional catalysts. Catalysis Science and Technology, 2021, 11, 7667-7682.	4.1	4
10	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
11	Industrial Zeolite Applications for Gas Adsorption and Separation Processes. Structure and Bonding, 2020, , 195-225.	1.0	5
12	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
13	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
14	Hydroconversion of Perhydrophenanthrene over Bifunctional Pt/Hâ€USY Zeolite Catalyst. ChemCatChem, 2020, 12, 3477-3488.	3.7	9
15	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
16	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
17	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
18	Efficient CoMoS Catalysts Supported on Bioâ€Inspired Polymer Coated Alumina for Hydrotreating Reactions. ChemistrySelect, 2017, 2, 2373-2382.	1.5	6

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19	Indole Hydrodenitrogenation over Alumina and Silicaâ€“Alumina-Supported Sulfide Catalystsâ€"Comparison with Quinoline. Industrial & Engineering Chemistry Research, 2017, 56, 11088-11099.	3.7	30
20	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
21	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
22	Surface-dependent sulfidation and orientation of MoS2 slabs on alumina-supported model hydrodesulfurization catalysts. Journal of Catalysis, 2016, 344, 591-605.	6.2	33
23	A continuous lumping model for hydrocracking on a zeolite catalysts: model development and parameter identification. Fuel, 2016, 164, 73-82.	6.4	21
24	Surface Science Approaches for the Preparation of Aluminaâ€Supported Hydrotreating Catalysts. ChemCatChem, 2015, 7, 3422-3440.	3.7	27
25	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
26	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
27	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
28	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
29	How to Optimize the Electrostatic Interaction between a Solid Adsorbent and CO2. Journal of Physical Chemistry C, 2014, 118, 9458-9467.	3.1	5
30	Vaporâ€“Liquid Equilibrium of Hydrogen, Vacuum Gas Oil, and Middle Distillate Fractions. Industrial & Engineering Chemistry Research, 2014, 53, 8311-8320.	3.7	8
31	Design of a Pressure Swing Adsorption Process for Postcombustion CO₂ Capture. Industrial & Engineering Chemistry Research, 2013, 52, 5985-5996.	3.7	25
32	Modeling Adsorption Properties on the Basis of Microscopic, Molecular, and Structural Descriptors for Nonpolar Adsorbents. Langmuir, 2013, 29, 9398-9409.	3.5	16
33	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
34	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
35	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
36	Quantification of the confinement effect in microporous materials. Physical Chemistry Chemical Physics, 2013, 15, 5648.	2.8	11

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37	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
38	Metalâ€“Organic Framework Materials for Desulfurization by Adsorption. Energy & Fuels, 2012, 26, 4953-4960.	5.1	119
39	Separation of CO2â€“CH4 mixtures in the mesoporous MIL-100(Cr) MOF: experimental and modelling approaches. Dalton Transactions, 2012, 41, 4052.	3.3	78
40	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
41	Separation of C₆ Paraffins Using Zeolitic Imidazolate Frameworks: Comparison with Zeolite 5A. Industrial & Engineering Chemistry Research, 2012, 51, 4692-4702.	3.7	130
42	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
43	A Method for Screening the Potential of MOFs as CO₂ Adsorbents in Pressure Swing Adsorption Processes. ChemSusChem, 2012, 5, 762-776.	6.8	109
44	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
45	Synthesis and adsorption properties of ZIF-76 isomorphs. Microporous and Mesoporous Materials, 2012, 153, 1-7.	4.4	43
46	Adsorption of CO₂, CH₄, and N₂ on Zeolitic Imidazolate Frameworks: Experiments and Simulations. Chemistry - A European Journal, 2010, 16, 1560-1571.	3.3	344
47	CO₂ and CH₄ Separation by Adsorption Using Cu-BTC Metalâ^'Organic Framework. Industrial & Engineering Chemistry Research, 2010, 49, 7497-7503.	3.7	233
48	FAU-Type Zeolite Nanocasted Carbon Replicas for CO₂ Adsorption and Hydrogen Purification. Energy & Fuels, 2010, 24, 3595-3602.	5.1	61
49	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
50	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
51	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
52	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
53	The Fascinating Chemistry of Iron- and Copper-Containing Zeolites. , 2009, , 749-771.		4
54	The characterisation and catalytic properties of biomimetic metalâ€“peptide complexes immobilised on mesoporous silica. Physical Chemistry Chemical Physics, 2009, 11, 2928.	2.8	19

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55	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
56	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
57	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
58	Mimicking the Active Center of Methane-monooxygenase by Metalâˆ'Peptide Complexes Immobilized on Mesoporous Silica. Chemistry of Materials, 2007, 19, 4357-4366.	6.7	13
59	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
60	A complete experimental approach for synthesis gas separation studies using static gravimetric and column breakthrough experiments. Adsorption, 2007, 13, 341-349.	3.0	86
61	CO2 adsorption in LiY and NaY at high temperature: molecularÂsimulations compared to experiments. Adsorption, 2007, 13, 453-460.	3.0	38
62	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
63	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
64	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
65	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
66	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
67	Functionalization of silica surfaces with mixtures of 3-aminopropyl and methyl groups. Microporous and Mesoporous Materials, 2005, 85, 111-118.	4.4	72
68	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
69	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
70	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
71	The Mechanism of N2O Decomposition on Fe-ZSM-5: An Isotope Labeling Study. Catalysis Letters, 2004, 93, 75-80.	2.6	23
72	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

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73	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
74	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
75	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
76	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
77	Factors determining the suitability of zeolite BEA as para-selective nitration catalyst. Journal of Catalysis, 2003, 219, 231-241.	6.2	39
78	The surface chemistry of N2O decomposition on iron containing zeolites (I). Journal of Catalysis, 2003, 219, 456-463.	6.2	67
79	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
80	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
81	Chemical modification of high-quality large-pore M41S materials. Journal of Materials Chemistry, 2002, 12, 528-533.	6.7	24
82	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
83	Role of Phosphorus and Triethylene Glycol Incorporation on the Activity of Model Aluminaâ€Supported CoMoS Hydrotreating Catalysts. ChemCatChem, 0, , .	3.7	0