Wieslaw J Roth

List of Publications by Year
in descending order

122 papers	17,158 citations	87723 38 h-index	17055 122 g-index
128 all docs	128 docs citations	128 times ranked	11222 citing authors

#	Article	IF	Citations
1	A new family of mesoporous molecular sieves prepared with liquid crystal templates. Journal of the American Chemical Society, 1992, 114, 10834-10843.	6.6	10,478
2	Two-Dimensional Zeolites: Current Status and Perspectives. Chemical Reviews, 2014, 114, 4807-4837.	23.0	625
3	Effect of Surfactant/Silica Molar Ratios on the Formation of Mesoporous Molecular Sieves: Inorganic Mimicry of Surfactant Liquid-Crystal Phases and Mechanistic Implications. Chemistry of Materials, 1994, 6, 2317-2326.	3.2	517
4	Molecular or Supramolecular Templating: Defining the Role of Surfactant Chemistry in the Formation of Microporous and Mesoporous Molecular Sieves. Chemistry of Materials, 1994, 6, 1816-1821.	3.2	398
5	A family of zeolites with controlled pore size prepared using a top-down method. Nature Chemistry, 2013, 5, 628-633.	6.6	355
6	The ADOR mechanism for the synthesis of new zeolites. Chemical Society Reviews, 2015, 44, 7177-7206.	18.7	275
7	Zeolite-based materials for novel catalytic applications: Opportunities, perspectives and open problems. Catalysis Today, 2012, 179, 2-15.	2.2	274
8	Two-dimensional zeolites: dream or reality?. Catalysis Science and Technology, 2011, 1, 43.	2.1	252
9	The discovery of mesoporous molecular sieves from the twenty year perspective. Chemical Society Reviews, 2013, 42, 3663.	18.7	219
10	Postsynthesis Transformation of Three-Dimensional Framework into a Lamellar Zeolite with Modifiable Architecture. Journal of the American Chemical Society, 2011, 133, 6130-6133.	6.6	208
11	Layer like porous materials with hierarchical structure. Chemical Society Reviews, 2016, 45, 3400-3438.	18.7	196
12	Synthesis of â€˜unfeasibleâ€™ zeolites. Nature Chemistry, 2016, 8, 58-62.	6.6	186
13	Two-dimensional zeolites in catalysis: current status and perspectives. Catalysis Science and Technology, 2016, 6, 2467-2484.	2.1	161
14	Expanded view of zeolite structures and their variability based on layered nature of 3-D frameworks. Microporous and Mesoporous Materials, 2011, 142, 32-36.	2.2	134
15	PFG NMR self-diffusion of small hydrocarbons in high silica DDR, CHA and LTA structures. Microporous and Mesoporous Materials, 2008, 109, 327-334.	2.2	119
16	3D to 2D Routes to Ultrathin and Expanded Zeolitic Materials. Chemistry of Materials, 2013, 25, 542-547.	3.2	76
17	Discovery of new MWW family zeolite EMM-10: Identification of EMM-10P as the missing MWW precursor with disordered layers. Microporous and Mesoporous Materials, 2011, 142, 168-177.	2.2	71
18	MCM-22 zeolite family and the delaminated zeolite MCM-56 obtained in one-step synthesis. Studies in Surface Science and Catalysis, 2005, , 19-26.	1.5	69

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19	Development of a formation mechanism for M41S materials. Studies in Surface Science and Catalysis, 1994, 84, 53-60.	1.5	68
20	A new double bond metathesis reaction: conversion of an niobium:niobium and an nitrogen:nitrogen bond into two niobium:nitrogen bonds. Journal of the American Chemical Society, 1984, 106, 4749-4751.	6.6	67
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.	3.2	64
22	MWW and MFI Frameworks as Model Layered Zeolites: Structures, Transformations, Properties, and Activity. ACS Catalysis, 2021, 11, 2366-2396.	5.5	63
23	Synthesis of Delaminated and Pillared Zeolitic Materials. Studies in Surface Science and Catalysis, 2007, 168, 221-239.	1.5	62
24	Pillared MWW zeolites MCM-36 prepared by swelling MCM-22P in concentrated surfactant solutions. Catalysis Today, 2012, 179, 35-42.	2.2	55
25	The discovery of ExxonMobil's M41S family of mesoporous molecular sieves. Studies in Surface Science and Catalysis, 2004, 148, 53-72.	1.5	54
26	Swelling of MCM-56 and MCM-22P with a new medium â€" surfactantâ€"tetramethylammonium hydroxide mixtures. Catalysis Today, 2013, 204, 8-14.	2.2	51
27	Iron-Based Metal-Organic Frameworks as a Theranostic Carrier for Local Tuberculosis Therapy. Pharmaceutical Research, 2018, 35, 144.	1.7	51
28	Electron crystallography of zeolites â€" the MWW family as a test of direct 3D structure determination. Acta Crystallographica Section A: Foundations and Advances, 2005, 61, 516-527.	0.3	50
29	Synthesis by spontaneous self-assembly of metal atom clusters of zirconium, niobium, and tantalum. Journal of the American Chemical Society, 1988, 110, 298-300.	6.6	47
30	Comprehensive system integrating 3D and 2D zeolite structures with recent new types of layered geometries. Catalysis Today, 2014, 227, 9-14.	2.2	46
31	Comparative structural studies of the first row early transition metal(III) chloride tetrahydrofuran solvates. Inorganica Chimica Acta, 1986, 113, 81-85.	1.2	45
32	High acidity unilamellar zeolite MCM-56 and its pillared and delaminated derivatives. Dalton Transactions, 2014, 43, 10501.	1.6	44
33	Structural studies of the vanadium (II) and vanadium(III) chloride tetrahydrofuran solvates. Journal of the Chemical Society Chemical Communications, 1983, , 1377.	2.0	43
34	Two compounds containing the tris(.mu.-chloro)hexakis(tetrahydrofuran)divanadium(II) cation. Preparation, structures, and spectroscopic characterization. Inorganic Chemistry, 1985, 24, 913-917.	1.9	41
35	A series of edge-sharing bioctahedral, M-M bonded molecules: nonmonotonic bond length variation and its interpretation. Journal of the American Chemical Society, 1986, 108, 971-976.	6.6	41
36	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.	5.2	41

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37	Reactions of dinuclear niobium(III) and tantalum(III) compounds with alkyl isocyanides to give dinuclear products with dimerized isocyanides. Journal of the American Chemical Society, 1984, 106, 6987-6993.	6.6	40
38	Advances and challenges in zeolite synthesis and catalysis. Catalysis Today, 2020, 345, 2-13.	2.2	40
39	Synthesis and characterization of niobium(II) and tantalum(II) compounds containing triple M-M bonds. Journal of the American Chemical Society, 1987, 109, 5506-5514.	6.6	39
40	Zeolite MCM-22 Modified with Au and Cu for Catalytic Total Oxidation of Methanol and Carbon Monoxide. Journal of Physical Chemistry C, 2013, 117, 2147-2159.	1.5	39
41	Mononuclear and binuclear cationic complexes of vanadium(II). Journal of the American Chemical Society, 1985, 107, 3850-3855.	6.6	38
42	Discrete trinuclear complexes of niobium and tantalum related to the local structure in niobium chloride, Nb3Cl8. Inorganic Chemistry, 1988, 27, 3413-3421.	1.9	38
43	Liquid dispersions of zeolite monolayers with high catalytic activity prepared by soft-chemical exfoliation. Science Advances, 2020, 6, eaay8163.	4.7	37
44	New chemistry of oxo trinuclear, metalâ€"metal bonded niobium compounds. Journal of the Chemical Society Chemical Communications, 1986, , 1276-1278.	2.0	35
45	Further studies of bi-oxo-capped triniobium cluster complexes. Inorganic Chemistry, 1988, 27, 2347-2352.	1.9	34
46	Synthesis of mesoporous molecular sieves. Studies in Surface Science and Catalysis, 2005, 157, 91-110.	1.5	34
47	Intercalation chemistry of NU-6(1), the layered precursor to zeolite NSI, leading to the pillared zeolite MCM-39(Si). Microporous and Mesoporous Materials, 2011, 144, 158-161.	2.2	34
48	Theoretical investigation of layered zeolite frameworks: Interaction between IPC-1P layers derived from zeolite UTL. Catalysis Today, 2013, 204, 15-21.	2.2	33
49	Facile evaluation of the crystallization and quality of the transient layered zeolite MCM-56 by infrared spectroscopy. Catalysis Today, 2015, 243, 39-45.	2.2	31
50	Further studies of the phosphine complexes of niobium(IV) chloride. Inorganic Chemistry, 1984, 23, 3592-3596.	1.9	30
51	Preparation of exfoliated zeolites from layered precursors: The role of pH and nature of intercalating media. Studies in Surface Science and Catalysis, 2002, 141, 273-279.	1.5	30
52	An octanuclear basic benzoate containing four vanadium(III) and four zinc(II) atoms: [VZnO(O2CC6H5)3(THF)]4.2THF. Inorganic Chemistry, 1984, 23, 4042-4045.	1.9	29
53	The role of symmetry in building up zeolite frameworks from layered zeolite precursors having ferrierite and CAS layers. Structural Chemistry, 2010, 21, 385-390.	1.0	29
54	Intercalation chemistry of layered zeolite precursor IPC-1P. Catalysis Today, 2014, 227, 37-44.	2.2	29

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55	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.	5.2	29
56	Reactions of tert-butyl isocyanide with a binuclear niobium(III) compound. Journal of the American Chemical Society, 1983, 105, 3734-3735.	6.6	27
57	Framework-substituted cerium MCM-22 zeolite and its interlayer expanded derivative MWW-IEZ. Catalysis Science and Technology, 2016, 6, 2742-2753.	2.1	27
58	The sorption properties of as-synthesized and calcined MCM-41 and MCM-48. Microporous and Mesoporous Materials, 2001, 44-45, 691-695.	2.2	26
59	New bromo complexes of osmium(IV) and osmium(III): $[Os_2Br_{10}]^{2-}$ and $OsBr_3(PPh_3)_2(CH_3CN)$. Inorganic Chemistry, 1984, 23, 3080-3083.	1.9	25
60	The preparation of $Ta_2Cl_6(PhN)_2(Me_2S)_2$ by reaction of $Ta_2Cl_6(Me_2S)_3$ with PhNNPh: Crystal structure of the product. Polyhedron, 1986, 5, 895-898.	1.0	25
61	Preparation and structure of bis[bis(diphenylphosphino)methane]hexachlorodiniobium(III), $Nb_2Cl_6(dppm)_2$. Inorganic Chemistry, 1983, 22, 3654-3656.	1.9	24
62	A neutron diffraction crystallographic study of the tetramethylammonium salt of the hexachlorobis(.mu.-chloro)(.mu.-hydrido)dimolybdenum(III) ion, $[Mo_2Cl_8H]^{3-}$. Journal of the American Chemical Society, 1984, 106, 117-120.	6.6	24
63	Binuclear alkoxide complexes of niobium and tantalum in lower oxidation states. Inorganic Chemistry, 1985, 24, 3509-3510.	1.9	24
64	Crystal structures of two $MoOX_2L_3$ complexes, dichlorotris(methyldiphenylphosphine)oxomolybdenum and tris(diethylphenylphosphine)diisocyanatooxomolybdenum. Implications to distortional isomerism. Inorganic Chemistry, 1987, 26, 2848-2852.	1.9	24
65	New bi-oxo-capped triangular trinuclear cluster compounds of niobium. Journal of the American Chemical Society, 1984, 106, 3527-3531.	6.6	23
66	A novel d10-d3-d10 trinuclear bimetallic linear complex of zinc and vanadium. Inorganic Chemistry, 1985, 24, 525-527.	1.9	23
67	Variable stereochemistry of the eight-coordinate tetrakis(oxalato)niobate(IV), $Nb(C_2O_4)_4^{4-}$. Inorganic Chemistry, 1987, 26, 2889-2893.	1.9	23
68	Swelling and pillaring of the layered precursor IPC-1P: tiny details determine everything. Dalton Transactions, 2014, 43, 10548.	1.6	23
69	Characterization of mesoporous molecular sieves: differences between M41s and pillared layered zeolites. Studies in Surface Science and Catalysis, 2000, 129, 501-508.	1.5	22
70	Vanadium(II) and niobium(III) edge-sharing bioctahedral complexes that contain bis(dimethylphosphino)methane bridges. Inorganic Chemistry, 1985, 24, 4389-4393.	1.9	21
71	A dinuclear, metal-metal bonded, carboxylato-bridged niobium(III) complex. Inorganica Chimica Acta, 1986, 112, 147-152.	1.2	21
72	Preparation and structural characterization of $Rh_2(O_2CCPh_3)_4(EtOH)_2$, $Ru_2(O_2CCPh_3)_4(H_2O)(EtOH)$Â·2EtOH and $Mo_2(O_2CCPh_3)_4$Â·3CH_2Cl_2. Inorganica Chimica Acta, 1994, 215, 9-15.	1.2	21

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73	A New Family of Twoâ€Dimensional Zeolites Prepared from the Intermediate Layered Precursor IPCâ€3P Obtained during the Synthesis of TUN Zeolite. Chemistry - A European Journal, 2013, 19, 13937-13945.	1.7	21
74	Further studies of low-valent alkoxide complexes of niobium. Synthesis and structure of dimeric niobium(IV) nonamethoxide. Inorganic Chemistry, 1988, 27, 3596-3600.	1.9	20
75	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.	2.0	20
76	A metal-metal-bonded dinuclear phosphine complex of niobium(IV) chloride, [NbCl2(PMe2Ph)2]2(.mu.-Cl)4. Inorganic Chemistry, 1984, 23, 945-947.	1.9	19
77	Further studies of phosphine adducts of niobium(IV) and tantalum(IV) chlorides: New seven- and eight-coordinate compounds with trimethylphosphine: NbCl4(PMe3)3 and Ta2Cl8(PMe3)4. Polyhedron, 1985, 4, 1103-1108.	1.0	19
78	Alkoxide complexes of niobium(III). Inorganic Chemistry, 1987, 26, 3323-3327.	1.9	18
79	UTL zeolite and the way beyond. Microporous and Mesoporous Materials, 2013, 182, 229-238.	2.2	18
80	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.	6.6	18
81	Reactions of niobium(III) and tantalum(III) compounds with acetylenes. 5. Preparation and structure of [NbCl2(SC4H8)(PhCCPh)]2(mÌ§-Cl)2 and its relationship to other alkyne complexes of niobium(III) and tantalum(III). Inorganica Chimica Acta, 1984, 85, 17-21.	1.2	17
82	A novel dinuclear vanadium(II) compound with bridging chlorine atoms, bridging diphosphinomethane ligands, and bidentate tetrahydroborate ligands. Inorganic Chemistry, 1984, 23, 4113-4115.	1.9	17
83	Dinuclear niobium(IV) complexes, Nb2Cl4(OMe)4L2, (L = MeOH, CH3CN) and their relation to analogous W and Mo compounds. Inorganic Chemistry, 1987, 26, 3319-3322.	1.9	17
84	Synthesis and characterization of osmyl-amino acid complexes. Molecular structure of trans-dioxobis(glycinato)osmium(VI), OsO2(NH2CH2COO)2. Inorganic Chemistry, 1981, 20, 2023-2026.	1.9	16
85	Preparation and structures of the binuclear vanadium(II) complexes [L3V(Î¼-Cl)3VL3]BPh4 (L =) Tj ETQq1 1 0.784314 rgBT /Overlock 1	1.0	16
86	The aqueous colloidal suspension of ultrathin 2D MCM-22P crystallites. Chemical Communications, 2014, 50, 7378.	2.2	16
87	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.	3.2	16
88	Pillaring of layered zeolite precursors with ferrierite topology leading to unusual molecular sieves on the micro/mesoporous border. Dalton Transactions, 2018, 47, 3029-3037.	1.6	16
89	Two compounds containing a divanadium tetrabenzoate frame and cyclopentadienyl or pentamethylcyclopentadienyl ligands. Organometallics, 1985, 4, 1174-1177.	1.1	15
90	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.	1.6	15

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91	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.	2.2	15
92	Incorporation of Ti as a Pyramidal Framework Site in the Monoâ€Layered MCMâ€56 Zeolite and its Oxidation Activity. ChemCatChem, 2019, 11, 520-527.	1.8	14
93	Structural characterization of a doubly-bonded diniobium compound, bis-(1,2-bis-diphenylphosphinoethane)hexachlorodiniobium(III). Inorganica Chimica Acta, 1983, 71, 175-178.	1.2	13
94	The crystal and molecular structure of Re 2 Cl 6 (PMePh 2) 2. Inorganica Chimica Acta, 1988, 144, 17-19.	1.2	13
95	Synthesis and characterization of a confacial bioctahedral tantalum(II) dimer with a formal triple metal-metal bond. Journal of the American Chemical Society, 1986, 108, 3538-3539.	6.6	12
96	Facile synthesis of the cubic mesoporous material MCM-48. Detailed study of accompanying phase transformations. Adsorption, 2009, 15, 221-226.	1.4	12
97	The structure-catalytic activity relationship for the transient layered zeolite MCM-56 with MWW topology. Catalysis Today, 2020, 345, 116-124.	2.2	12
98	Layered inorganic solids. Dalton Transactions, 2014, 43, 10274.	1.6	11
99	Structural transformation and chemical modifications of the unusual layered zeolite MWW form SSZ-70. Catalysis Today, 2020, 354, 133-140.	2.2	11
100	Preparation, molecular structure and electronic structure of the rhombic, six-coordinate niobium(IV) complex NbCl2(ButC(O)CHC(O)But)2. Polyhedron, 1985, 4, 1485-1491.	1.0	10
101	Preparation and structure of Nb3Cl8(CNCMe3)5. Inorganica Chimica Acta, 1987, 126, 161-166.	1.2	10
102	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.	2.2	10
103	Preparation and properties of NbBr4(PMe2Ph)3 and NbBr3(PMe2Ph)3. Inorganica Chimica Acta, 1985, 105, 41-49.	1.2	9
104	Discrete trinuclear complexes of niobium related to the local structure in Nb3Cl8. Journal of the American Chemical Society, 1987, 109, 2833-2834.	6.6	9
105	An unusual ditantalum (Ta:Ta) compound with a bridging oxo ligand. Inorganic Chemistry, 1983, 22, 868-870.	1.9	8
106	Two diastereomeric forms of the bischelated, edge-sharing bioctahedral molecule bis[bis(diethylphosphino)ethane]hexachloroditantalum. Inorganic Chemistry, 1987, 26, 4130-4133.	1.9	8
107	Osmium carbohydrate polymers. Polyhedron, 1982, 1, 335-338.	1.0	7
108	A binuclear tantalum(III) complex with a bridging carboxylato ligand. Polyhedron, 1985, 4, 1479-1484.	1.0	7

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109	Electron crystallography of MWW zeolites â€“ filling the missing cone. Zeitschrift FÃ¼r Kristallographie, 2011, 226, 254-263.	1.1	7
110	Binuclear cationic Î¼-bromo complexes of vanadium(II). Polyhedron, 1988, 7, 737-740.	1.0	6
111	Oxo-bridged Ta(+3) dimers, (TaCl2L2)2(Î¼-O)(Î¼-SR2), revisited. Structural differences between isoelectronic Î¼-O and Î¼-OH complexes. Inorganica Chimica Acta, 1988, 149, 105-110.	1.2	6
112	Nucleation in complex multi-component and multi-phase systems: general discussion. Faraday Discussions, 2015, 179, 503-542.	1.6	6
113	Proposed reformulation of the recently reported tribromobis(dimethylphenylphosphine)tantalum. Inorganic Chemistry, 1986, 25, 1728-1729.	1.9	5
114	Mixed zeolite hybrids combining the MFI structure with exfoliated MWW monolayers. Microporous and Mesoporous Materials, 2021, 324, 111300.	2.2	5
115	Catalytic activity enhancement in pillared zeolites produced from exfoliated MWW monolayers in solution. Catalysis Today, 2022, 390-391, 272-280.	2.2	5
116	Crystal structure of MCM-71 â€“ a new zeolite in the mordenite group. Zeitschrift Fur Kristallographie - Crystalline Materials, 2008, 223, 456-460.	0.4	3
117	Detemplated and Pillared 2-Dimensional Zeolite ZSM-55 with Ferrierite Layer Topology as a Carrier for Drugs. Molecules, 2020, 25, 3501.	1.7	3
118	Structure-Catalytic Properties Relationship in Friedel Crafts Alkylation Reaction for MCM-36-Type Zeolites Obtained by Isopropanol-Assisted Pillaring. Catalysts, 2021, 11, 299.	1.6	3
119	Hybrid Catalysts for Olefin Metathesis and Related Polymerizations. , 2013, , 1-26.		2
120	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.	1.7	2
121	Platinum nanoparticles supported on zeolite MWW nanosheets prepared via homogeneous solution route. Catalysis Today, 2022, 390-391, 335-342.	2.2	1
122	A comparison of the sorption properties of mesoporous molecular sieves MCM-41 and MCM-48. Studies in Surface Science and Catalysis, 2003, 146, 339-341.	1.5	0