

Edy Abou-Hamad

List of Publications by Year in descending order

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102
papers

3,871
citations

136950

32
h-index

144013

57
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103
all docs

103
docs citations

103
times ranked

5301
citing authors

#	ARTICLE	IF	CITATIONS
1	Recognizing the Mechanism of Sulfurized Polyacrylonitrile Cathode Materials for Li ⁺ S Batteries and beyond in Al ⁺ S Batteries. ACS Energy Letters, 2018, 3, 2899-2907.	17.4	224
2	The structure and binding mode of citrate in the stabilization of gold nanoparticles. Nature Chemistry, 2017, 9, 890-895.	13.6	222
3	Structure-performance descriptors and the role of Lewis acidity in the methanol-to-propylene process. Nature Chemistry, 2018, 10, 804-812.	13.6	221
4	Sn surface-enriched Pt-Sn bimetallic nanoparticles as a selective and stable catalyst for propane dehydrogenation. Journal of Catalysis, 2014, 320, 52-62.	6.2	144
5	Effect of Zeolite Topology and Reactor Configuration on the Direct Conversion of CO ₂ to Light Olefins and Aromatics. ACS Catalysis, 2019, 9, 6320-6334.	11.2	144
6	Synthesis of single-crystal-like nanoporous carbon membranes and their application in overall water splitting. Nature Communications, 2017, 8, 13592.	12.8	142
7	Cooperative Effect of Monopodal Silica-Supported Niobium Complex Pairs Enhancing Catalytic Cyclic Carbonate Production. Journal of the American Chemical Society, 2015, 137, 7728-7739.	13.7	123
8	Highly Stable Phosphonate-Based MOFs with Engineered Bandgaps for Efficient Photocatalytic Hydrogen Production. Advanced Materials, 2020, 32, e1906368.	21.0	117
9	WMe ₆ Tamed by Silica: μ_3 -SiO ₄ -WMe ₅ as an Efficient, Well-Defined Species for Alkane Metathesis, Leading to the Observation of a Supported W ⁺ -Methyl/Methyldiyne Species. Journal of the American Chemical Society, 2014, 136, 1054-1061.	13.7	84
10	A Supramolecular View on the Cooperative Role of Brønsted and Lewis Acid Sites in Zeolites for Methanol Conversion. Journal of the American Chemical Society, 2019, 141, 14823-14842.	13.7	80
11	[Cu ₆₁](S ^t Bu) ₂₆ S ₆ Cl ₆ H ₁₄] ⁺ : A Core-Shell Superatom Nanocluster with a Quasi- <i>J</i> ₃₆ Cu ₁₉ Core and an α -18-Crown-6-Metal-Sulfide-like Stabilizing Belt. , 2019, 1, 297-302.		76
12	Single-Site VO _x Moieties Generated on Silica by Surface Organometallic Chemistry: A Way To Enhance the Catalytic Activity in the Oxidative Dehydrogenation of Propane. ACS Catalysis, 2016, 6, 5908-5921.	11.2	74
13	Smart covalent organic networks (CONs) with on-off-on-light-switchable pores for molecular separation. Science Advances, 2020, 6, eabb3188.	10.3	71
14	Alkane Metathesis with the Tantalum Methylidene [(μ_3 -SiO)Ta(μ -CH ₂) ₂ Me] ₂ Generated from Well-Defined Surface Organometallic Complex [(μ_3 -SiO)Ta ^V Me ₄]. Journal of the American Chemical Society, 2015, 137, 588-591.	13.7	65
15	On the dynamic nature of Mo sites for methane dehydroaromatization. Chemical Science, 2018, 9, 4801-4807.	7.4	65
16	One-step electrochemical modification of carbon nanotubes by ruthenium complexes via new diazonium salts. Journal of Electroanalytical Chemistry, 2008, 621, 277-285.	3.8	64
17	Conversion of actual flue gas CO ₂ via cycloaddition to propylene oxide catalyzed by a single-site, recyclable zirconium catalyst. Journal of CO ₂ Utilization, 2017, 20, 243-252.	6.8	60
18	Tandem Conversion of CO ₂ to Valuable Hydrocarbons in Highly Concentrated Potassium Iron Catalysts. ChemCatChem, 2019, 11, 2879-2886.	3.7	57

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19	Reactive surface organometallic complexes observed using dynamic nuclear polarization surface enhanced NMR spectroscopy. <i>Chemical Science</i> , 2017, 8, 284-290.	7.4	55
20	Heterostructured MXene and g-C ₃ N ₄ for high-rate lithium intercalation. <i>Nano Energy</i> , 2019, 65, 104030.	16.0	54
21	Controlling the hydrogenolysis of silica-supported tungsten pentamethyl leads to a class of highly electron deficient partially alkylated metal hydrides. <i>Chemical Science</i> , 2016, 7, 1558-1568.	7.4	53
22	Acidity modification of ZSM-5 for enhanced production of light olefins from CO ₂ . <i>Journal of Catalysis</i> , 2020, 381, 347-354.	6.2	52
23	$[(\frac{1}{2}\text{SiO})\text{Ta}^{\text{V}}\text{Cl}_2\text{Me}_2]$: A Well-Defined Silica-Supported Tantalum(V) Surface Complex as Catalyst Precursor for the Selective Cocatalyst-Free Trimerization of Ethylene. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 11886-11889.	13.8	45
24	Carbon nanotubes and helical carbon nanofibers grown by chemical vapour deposition on C ₆₀ fullerene supported Pd nanoparticles. <i>Carbon</i> , 2011, 49, 1101-1107.	10.3	44
25	Polytriazole membranes with ultrathin tunable selective layer for crude oil fractionation. <i>Science</i> , 2022, 376, 1105-1110.	12.6	44
26	Extremely Hydrophobic POPs to Access Highly Porous Storage Media and Capturing Agent for Organic Vapors. <i>CheM</i> , 2019, 5, 180-191.	11.7	42
27	Polymerization of conducting polymers inside carbon nanotubes. <i>Chemical Physics Letters</i> , 2006, 431, 139-144.	2.6	41
28	Use of the Phen-NaDPO:Sn(SCN) ₂ Blend as Electron Transport Layer Results to Consistent Efficiency Improvements in Organic and Hybrid Perovskite Solar Cells. <i>Advanced Functional Materials</i> , 2019, 29, 1905810.	14.9	41
29	A site-sensitive quasi-in situ strategy to characterize Mo/HZSM-5 during activation. <i>Journal of Catalysis</i> , 2019, 370, 321-331.	6.2	40
30	High-Purity Diamagnetic Single-Wall Carbon Nanotube Buckypaper. <i>Chemistry of Materials</i> , 2007, 19, 2982-2986.	6.7	39
31	A Silica-Supported Monoalkylated Tungsten Dioxo Complex Catalyst for Olefin Metathesis. <i>ACS Catalysis</i> , 2018, 8, 2715-2729.	11.2	38
32	Initial Carbon-Carbon Bond Formation during the Early Stages of Methane Dehydroaromatization. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 16741-16746.	13.8	36
33	Well-Defined Surface Species $[(\text{Si}^{\text{O}})\text{W}(\text{O})\text{Me}_3]$ Prepared by Direct Methylation of $[(\text{Si}^{\text{O}})\text{W}(\text{O})\text{Cl}_3]$, a Catalyst for Cycloalkane Metathesis and Transformation of Ethylene to Propylene. <i>ACS Catalysis</i> , 2015, 5, 2164-2171.	11.2	35
34	Synergy between Two Metal Catalysts: A Highly Active Silica-Supported Bimetallic W/Zr Catalyst for Metathesis of <i>n</i> -Decane. <i>Journal of the American Chemical Society</i> , 2016, 138, 8595-8602.	13.7	34
35	Bimetallic Pt-Sn nanocluster from the hydrogenolysis of a well-defined surface compound consisting of $[(\text{AlO})\text{Pt}(\text{COD})\text{Me}]$ and $[(\text{AlO})\text{SnPh}_3]$ fragments for propane dehydrogenation. <i>Journal of Catalysis</i> , 2019, 374, 391-400.	6.2	34
36	Coated sulfated zirconia/SAPO-34 for the direct conversion of CO ₂ to light olefins. <i>Catalysis Science and Technology</i> , 2020, 10, 1507-1517.	4.1	34

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37	Bipodal Surface Organometallic Complexes with Surface N-Donor Ligands and Application to the Catalytic Cleavage of C-H and C-C Bonds in n-Butane. <i>Journal of the American Chemical Society</i> , 2013, 135, 17943-17951.	13.7	33
38	TiO ₂ -supported Pt single atoms by surface organometallic chemistry for photocatalytic hydrogen evolution. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 24429-24440.	2.8	32
39	Unearthing a Well-Defined Highly Active Bimetallic W/Ti Precatalyst Anchored on a Single Silica Surface for Metathesis of Propane. <i>Journal of the American Chemical Society</i> , 2017, 139, 3522-3527.	13.7	30
40	Surface enhanced dynamic nuclear polarization solid-state NMR spectroscopy sheds light on Brønsted-Lewis acid synergy during the zeolite catalyzed methanol-to-hydrocarbon process. <i>Chemical Science</i> , 2019, 10, 8946-8954.	7.4	30
41	Routes to the synthesis of carbon nanotube-polyacetylene composites by Ziegler-Natta polymerization of acetylene inside carbon nanotubes. <i>Current Applied Physics</i> , 2007, 7, 39-41.	2.4	29
42	Hydrogenation of C ₆₀ in Peapods: Physical Chemistry in Nano Vessels. <i>Journal of Physical Chemistry C</i> , 2009, 113, 8583-8587.	3.1	29
43	Quantifying the impact of dispersion, acidity and porosity of Mo/HZSM-5 on the performance in methane dehydroaromatization. <i>Applied Catalysis A: General</i> , 2019, 574, 144-150.	4.3	28
44	Effect of Support on Metathesis of n-Decane: Drastic Improvement in Alkane Metathesis with WMe ₅ Linked to Silica-Alumina. <i>Chemistry - A European Journal</i> , 2015, 21, 6100-6106.	3.3	27
45	Impact of small promoter amounts on coke structure in dry reforming of methane over Ni/ZrO ₂ . <i>Catalysis Science and Technology</i> , 2020, 10, 3965-3974.	4.1	27
46	Spray-coated graphene oxide hollow fibers for nanofiltration. <i>Journal of Membrane Science</i> , 2020, 606, 118006.	8.2	27
47	Isolation and Characterization of Well-Defined Silica-Supported Azametallacyclopentane: A Key Intermediate in Catalytic Hydroaminoalkylation Reactions. <i>Advanced Synthesis and Catalysis</i> , 2015, 357, 3148-3154.	4.3	26
48	Well-defined silica-supported zirconium-imido complexes mediated heterogeneous imine metathesis. <i>Chemical Communications</i> , 2016, 52, 4617-4620.	4.1	26
49	A well-defined mesoporous amine silica surface via a selective treatment of SBA-15 with ammonia. <i>Chemical Communications</i> , 2012, 48, 3067.	4.1	25
50	Direct Functionalization of Nanodiamonds with Maleimide. <i>Chemistry of Materials</i> , 2014, 26, 2766-2769.	6.7	25
51	Morphology control of anatase TiO ₂ for well-defined surface chemistry. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 14362-14373.	2.8	25
52	Confined adamantane molecules assembled to one dimension in carbon nanotubes. <i>Carbon</i> , 2011, 49, 1159-1166.	10.3	24
53	Methane Reacts with Heteropolyacids Chemisorbed on Silica to Produce Acetic Acid under Soft Conditions. <i>Journal of the American Chemical Society</i> , 2013, 135, 804-810.	13.7	24
54	Predicting the DNP-SENS efficiency in reactive heterogeneous catalysts from hydrophilicity. <i>Chemical Science</i> , 2018, 9, 4866-4872.	7.4	24

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55	SOMC-Designed Silica Supported Tungsten Oxo Imidazolin-2-iminato Methyl Precatalyst for Olefin Metathesis Reactions. <i>Inorganic Chemistry</i> , 2017, 56, 861-871.	4.0	23
56	A Silica-Supported Double-Decker Silsesquioxane Provides a Second Skin for the Selective Generation of Bipodal Surface Organometallic Complexes. <i>Organometallics</i> , 2012, 31, 7610-7617.	2.3	22
57	Low temperature activation of methane over a zinc-exchanged heteropolyacid as an entry to its selective oxidation to methanol and acetic acid. <i>Chemical Communications</i> , 2014, 50, 12348-12351.	4.1	22
58	Facile and Efficient Synthesis of the Surface Tantalum Hydride (SiO_2) ₂ Ta ^{III} H and Tris-Siloxy Tantalum (SiO_3) ₃ Ta ^{III} Starting from Novel Tantalum Surface Species (SiO)TaMe ₄ and (SiO) ₂ TaMe ₃ . <i>Organometallics</i> , 2014, 33, 1205-1211.	3.3	22
59	Well-defined silica supported aluminum hydride: another step towards the utopian single site dream?. <i>Chemical Science</i> , 2015, 6, 5456-5465.	7.4	22
60	Aromatization of Ethylene – Main Intermediate for MDA?. <i>ChemCatChem</i> , 2020, 12, 544-549.	3.7	22
61	Organosilane with Gemini-Type Structure as the Mesoporegen for the Synthesis of the Hierarchical Porous ZSM-5 Zeolite. <i>Langmuir</i> , 2016, 32, 2085-2092.	3.5	21
62	Organic solvent and thermal resistant polytriazole membranes with enhanced mechanical properties cast from solutions in non-toxic solvents. <i>Journal of Membrane Science</i> , 2020, 597, 117634.	8.2	21
63	Well-defined azazirconacyclopropane complexes supported on silica structurally determined by 2D NMR comparative elucidation. <i>Chemical Communications</i> , 2013, 49, 4616.	4.1	20
64	Imine Metathesis Catalyzed by a Silica-Supported Hafnium Imido Complex. <i>ACS Catalysis</i> , 2018, 8, 9440-9446.	11.2	20
65	Benzimidazole linked polymers (BILPs) in mixed-matrix membranes: Influence of filler porosity on the CO ₂ /N ₂ separation performance. <i>Journal of Membrane Science</i> , 2018, 566, 213-222.	8.2	20
66	Room-Temperature Reactivity Of Silicon Nanocrystals With Solvents: The Case Of Ketone And Hydrogen Production From Secondary Alcohols: Catalysis?. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 13794-13800.	8.0	19
67	Solid-State NMR and DFT Studies on the Formation of Well-Defined Silica-Supported Tantalumaziridines: From Synthesis to Catalytic Application. <i>Chemistry - A European Journal</i> , 2016, 22, 3000-3008.	3.3	18
68	Exploiting the interactions between the ruthenium Hoveyda-Grubbs catalyst and Al-modified mesoporous silica: the case of SBA15 vs. KCC-1. <i>Chemical Science</i> , 2018, 9, 3531-3537.	7.4	18
69	Single-Site Tetracoordinated Aluminum Hydride Supported on Mesoporous Silica. From Dream to Reality!. <i>Organometallics</i> , 2016, 35, 3288-3294.	2.3	17
70	Atomic-level organization of vicinal acid-base pairs through the chemisorption of aniline and derivatives onto mesoporous SBA15. <i>Chemical Science</i> , 2016, 7, 6099-6105.	7.4	16
71	Hybrid electrolytes based on ionic liquids and amorphous porous silicon nanoparticles: Organization and electrochemical properties. <i>Applied Materials Today</i> , 2017, 9, 10-20.	4.3	16
72	Docking of tetra-methyl zirconium to the surface of silica: a well-defined pre-catalyst for conversion of CO ₂ to cyclic carbonates. <i>Chemical Communications</i> , 2020, 56, 3528-3531.	4.1	16

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73	Well-Defined Single-Site Monohydride Silica-Supported Zirconium from Azazirconacyclopropane. <i>Chemistry - A European Journal</i> , 2015, 21, 4294-4299.	3.3	15
74	Mechanistic Study of Hydroamination of Alkyne through Tantalum-Based Silica-Supported Surface Species. <i>ACS Catalysis</i> , 2019, 9, 8719-8725.	11.2	15
75	From single-site tantalum complexes to nanoparticles of Ta _x N _y and TaO _x N _y supported on silica: elucidation of synthesis chemistry by dynamic nuclear polarization surface enhanced NMR spectroscopy and X-ray absorption spectroscopy. <i>Chemical Science</i> , 2017, 8, 5650-5661.	7.4	14
76	Clean chlorination of silica surfaces by a single-site substitution approach. <i>Dalton Transactions</i> , 2018, 47, 4301-4306.	3.3	14
77	Tungsten(VI) Carbyne/Bis(carbene) Tautomerization Enabled by N-Donor SBA15 Surface Ligands: A Solid-State NMR and DFT Study. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 11162-11166.	13.8	13
78	Tetracrystalline Tetrablock Quarterpolymers: Four Different Crystallites under the Same Roof. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 16267-16274.	13.8	13
79	Well-defined mono(β -3-allyl)nickel complex ϵ -MONi(β -3-C ₃ H ₅) (M = Si or Al) grafted onto silica or alumina: a molecularly dispersed nickel precursor for syntheses of supported small size nickel nanoparticles. <i>Chemical Communications</i> , 2014, 50, 7716.	4.1	12
80	Well-Defined Silica Grafted Molybdenum Bis(imido) Catalysts for Imine Metathesis Reactions. <i>Organometallics</i> , 2017, 36, 1550-1556.	2.3	12
81	Non-oxidative dehydrogenation of isobutane over supported vanadium oxide: nature of the active sites and coke formation. <i>Catalysis Science and Technology</i> , 2020, 10, 6139-6151.	4.1	12
82	Rapid fabrication of MOF-based mixed matrix membranes through digital light processing. <i>Materials Advances</i> , 2021, 2, 2739-2749.	5.4	12
83	SOMC grafting of vanadium oxytriisopropoxide (VO(O ⁱ Pr) ₃) on dehydroxylated silica; analysis of surface complexes and thermal restructuring mechanism. <i>RSC Advances</i> , 2018, 8, 20801-20808.	3.6	11
84	Synthesis and characterization of a homogeneous and silica supported homoleptic cationic tungsten(ν) methyl complex: application in olefin metathesis. <i>Chemical Communications</i> , 2016, 52, 11270-11273.	4.1	10
85	CO ₂ activation through silylimido and silylamido zirconium hydrides supported on N-donor chelating SBA15 surface ligands. <i>Chemical Communications</i> , 2016, 52, 2577-2580.	4.1	10
86	[(SiO)TaV(CH ₂)Cl ₂], the first tantalum methylenide species prepared and identified on the silica surface. <i>Journal of Organometallic Chemistry</i> , 2013, 744, 3-6.	1.8	9
87	Single site silica supported tetramethyl niobium by the SOMC strategy: synthesis, characterization and structure-activity relationship in the ethylene oligomerization reaction. <i>Chemical Communications</i> , 2017, 53, 7068-7071.	4.1	9
88	Solvent-Free Synthesis of Quaternary Metal Sulfide Nanoparticles Derived from Thiourea. <i>Particle and Particle Systems Characterization</i> , 2018, 35, 1700183.	2.3	7
89	A strategy to convert propane to aromatics (BTX) using TiNp ₄ grafted at the periphery of ZSM-5 by surface organometallic chemistry. <i>Dalton Transactions</i> , 2019, 48, 6611-6620.	3.3	6
90	The Importance of Thermal Treatment on Wet-Kneaded Silica-Magnesia Catalyst and Lebedev Ethanol-to-Butadiene Process. <i>Nanomaterials</i> , 2021, 11, 579.	4.1	5

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91	Investigation of Surface Alkylation Strategy in SOMC: In Situ Generation of a Silica-Supported Tungsten Methyl Catalyst for Cyclooctane Metathesis. <i>Organometallics</i> , 2016, 35, 2524-2531.	2.3	4
92	Chemical and Structural Analysis of Carbon Materials Subjected to Alkaline Oxidation. <i>ACS Omega</i> , 2019, 4, 18725-18733.	3.5	4
93	Titanium methyl tamed on silica: synthesis of a well-defined pre-catalyst for hydrogenolysis of <i>n</i> -alkane. <i>Chemical Communications</i> , 2020, 56, 13401-13404.	4.1	4
94	Electromagnetic Properties of Inner Double Walled Carbon Nanotubes Investigated by Nuclear Magnetic Resonance. <i>Journal of Nanomaterials</i> , 2013, 2013, 1-6.	2.7	3
95	Initial Carbon-Carbon Bond Formation during the Early Stages of Methane Dehydroaromatization. <i>Angewandte Chemie</i> , 2020, 132, 16884.	2.0	3
96	The use of a well-defined surface organometallic complex as a probe molecule: [(η^5 -SiO)Ta ^V Cl ₂ Me ₂] shows different isolated silanol sites on the silica surface. <i>Chemical Communications</i> , 2014, 50, 11721-11723.	4.1	2
97	Cationic Tungsten(VI) Penta-Methyl Complex: Synthesis, Characterization and its Application in Olefin Metathesis Reaction. <i>Oil and Gas Science and Technology</i> , 2016, 71, 21.	1.4	2
98	Tungsten Catalyst Incorporating a Well-Defined Tetracoordinated Aluminum Surface Ligand for Selective Metathesis of Propane, [(η^5 -SiO)Ta ^V Cl ₂ Me ₂](η^5 -SiO)Al ^{III} O ⁺ W(η^5 -C ₅ H ₅) ₃ (H) ₂ . <i>ChemCatChem</i> , 2019, 11, 614-620.	3.7	2
99	Rigid, non-porous and tunable hybrid <i>p</i> -aminobenzoate/TiO ₂ materials: Toward a fine structural determination of the immobilized RhCl(Ph ₃) ₃ complex. <i>Journal of Organometallic Chemistry</i> , 2015, 784, 103-108.	1.8	1
100	Synthesis and Characterization of Cationic Tetramethyl Tantalum(V) Complex. <i>Catalysts</i> , 2018, 8, 507.	3.5	1
101	Tetracrystalline Tetrablock Quarterpolymers: Four Different Crystallites under the Same Roof. <i>Angewandte Chemie</i> , 2019, 131, 16413-16420.	2.0	1
102	The elemental analysis and multi-nuclear NMR study of an alkali molten salt used to digest reference and commercial SWCNT powders. <i>Journal of Analytical Atomic Spectrometry</i> , 2020, 35, 2758-2769.	3.0	1