Calvin Mukarakate

List of Publications by Year in Descending Order

68 papers	1,884 citations	24 h-index	41 g-index
73 ext. papers	2,187 ext. citations	6 avg, IF	4.66 L-index

#	Paper	IF	Citations
68	Online Biogenic Carbon Analysis Enables Refineries to Reduce Carbon Footprint during Coprocessing Biomass- and Petroleum-Derived Liquids. *Analytical Chemistry*, **2021**, 93, 4351-4360	7.8	3
67	Ex situ upgrading of pyrolysis vapors over PtTiO2: extraction of apparent kinetics via hierarchical transport modeling. *Reaction Chemistry and Engineering*, **2021**, 6, 125-137	4.9	8
66	Optimizing Process Conditions during Catalytic Fast Pyrolysis of Pine with Pt/TiO2: Improving the Viability of a Multiple-Fixed-Bed Configuration. *ACS Sustainable Chemistry and Engineering*, **2021**, 9, 1235-1245	8.3	3
65	Predicting thermal excursions during in situ oxidative regeneration of packed bed catalytic fast pyrolysis catalyst. *Reaction Chemistry and Engineering*, **2021**, 6, 888-904	4.9	2
64	Multi-scale Characterization Study Enabling Deactivation Mechanism in Formed Zeolite Catalyst. *Microscopy and Microanalysis*, **2020**, 26, 1270-1271	0.5	
63	A perspective on biomass-derived biofuels: From catalyst design principles to fuel properties. *Journal of Hazardous Materials*, **2020**, 400, 123198	12.8	14
62	Isotopic Studies for Tracking Biogenic Carbon during Co-processing of Biomass and Vacuum Gas Oil. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 2652-2664	8.3	11
61	Ga/ZSM-5 catalyst improves hydrocarbon yields and increases alkene selectivity during catalytic fast pyrolysis of biomass with co-fed hydrogen. *Green Chemistry*, **2020**, 22, 2403-2418	10	13
60	Optimization of Biomass Pyrolysis Vapor Upgrading Using a Laminar Entrained-Flow Reactor System. *Energy & Fuels*, **2020**, 34, 6030-6040	4.1	4
59	Detailed Oil Compositional Analysis Enables Evaluation of Impact of Temperature and Biomass-to-Catalyst Ratio on ex Situ Catalytic Fast Pyrolysis of Pine Vapors over ZSM-5. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 1762-1773	8.3	7
58	Vapor-Phase Stabilization of Biomass Pyrolysis Vapors Using Mixed-Metal Oxide Catalysts. *ACS Sustainable Chemistry and Engineering*, **2019**, 7, 7386-7394	8.3	9
57	Valorization of aqueous waste streams from thermochemical biorefineries. *Green Chemistry*, **2019**, 21, 4217-4230	10	20
56	Hierarchically Structured CeO Catalyst Particles From Nanocellulose/Alginate Templates for Upgrading of Fast Pyrolysis Vapors. *Frontiers in Chemistry*, **2019**, 7, 730	5	6
55	Fast Pyrolysis of Opuntia ficus-indica (Prickly Pear) and Grindelia squarrosa (Gumweed). *Energy & Fuels*, **2018**, 32, 3510-3518	4.1	2
54	Advancing catalytic fast pyrolysis through integrated multiscale modeling and experimentation: Challenges, progress, and perspectives. *Wiley Interdisciplinary Reviews: Energy and Environment*, **2018**, 7, e297	4.7	23
53	Catalytic upgrading of biomass pyrolysis vapors and model compounds using niobia supported Pd catalyst. *Applied Catalysis B: Environmental*, **2018**, 238, 38-50	21.8	44
52	Driving towards cost-competitive biofuels through catalytic fast pyrolysis by rethinking catalyst selection and reactor configuration. *Energy and Environmental Science*, **2018**, 11, 2904-2918	35.4	66

51	Role of Biopolymers in the Deactivation of ZSM-5 during Catalytic Fast Pyrolysis of Biomass. *ACS Sustainable Chemistry and Engineering*, **2018**, 6, 10030-10038	8.3	36
50	Improving biomass pyrolysis economics by integrating vapor and liquid phase upgrading. *Green Chemistry*, **2018**, 20, 567-582	10	42
49	Reforming Biomass Derived Pyrolysis Bio-oil Aqueous Phase to Fuels. *Energy & Fuels*, **2017**, 31, 1600-1607	4.1	21
48	Deactivation of Multilayered MFI Nanosheet Zeolite during Upgrading of Biomass Pyrolysis Vapors. *ACS Sustainable Chemistry and Engineering*, **2017**, 5, 5477-5484	8.3	35
47	Characterization and Catalytic Upgrading of Aqueous Stream Carbon from Catalytic Fast Pyrolysis of Biomass. *ACS Sustainable Chemistry and Engineering*, **2017**, 5, 11761-11769	8.3	22
46	Estimating the Temperature Experienced by Biomass Particles during Fast Pyrolysis Using Microscopic Analysis of Biochars. *Energy & Fuels*, **2017**, 31, 8193-8201	4.1	5
45	Integrated Biorefining: Coproduction of Renewable Resol Biopolymer for Aqueous Stream Valorization. *ACS Sustainable Chemistry and Engineering*, **2017**, 5, 6615-6625	8.3	15
44	Catalytic Pyrolysis of Pine Over HZSM-5 with Different Binders. *Topics in Catalysis*, **2016**, 59, 94-108	2.3	25
43	Influence of Crystal Allomorph and Crystallinity on the Products and Behavior of Cellulose during Fast Pyrolysis. *ACS Sustainable Chemistry and Engineering*, **2016**, 4, 4662-4674	8.3	49
42	Supported molybdenum oxides as effective catalysts for the catalytic fast pyrolysis of lignocellulosic biomass. *Green Chemistry*, **2016**, 18, 5548-5557	10	61
41	Effect of ZSM-5 acidity on aromatic product selectivity during upgrading of pine pyrolysis vapors. *Catalysis Today*, **2016**, 269, 175-181	5.3	82
40	Elucidating Zeolite Deactivation Mechanisms During Biomass Catalytic Fast Pyrolysis from Model Reactions and Zeolite Syntheses. *Topics in Catalysis*, **2016**, 59, 73-85	2.3	17
39	Furan Production from Glycoaldehyde over HZSM-5. *ACS Sustainable Chemistry and Engineering*, **2016**, 4, 2615-2623	8.3	14
38	Biomass Catalytic Pyrolysis on Ni/ZSM-5: Effects of Nickel Pretreatment and Loading. *Energy & Fuels*, **2016**, 30, 5259-5268	4.1	74
37	Molybdenum incorporated mesoporous silica catalyst for production of biofuels and value-added chemicals via catalytic fast pyrolysis. *Green Chemistry*, **2015**, 17, 3035-3046	10	41
36	Catalytic Upgrading of Biomass-Derived Compounds via C□□ Coupling Reactions: Computational and Experimental Studies of Acetaldehyde and Furan Reactions in HZSM-5. *Journal of Physical Chemistry C*, **2015**, 119, 24025-24035	3.8	16
35	Catalytic fast pyrolysis of biomass: the reactions of water and aromatic intermediates produces phenols. *Green Chemistry*, **2015**, 17, 4217-4227	10	57
34	Unimolecular thermal decomposition of dimethoxybenzenes. *Journal of Chemical Physics*, **2014**, 140, 234302	3.9	28

33	Real-time monitoring of the deactivation of HZSM-5 during upgrading of pine pyrolysis vapors. *Green Chemistry*, **2014**, 16, 1444-1461	10	93
32	Upgrading biomass pyrolysis vapors over zeolites: role of silica-to-alumina ratio. *Green Chemistry*, **2014**, 16, 4891-4905	10	76
31	Biomass pyrolysis: thermal decomposition mechanisms of furfural and benzaldehyde. *Journal of Chemical Physics*, **2013**, 139, 104310	3.9	53
30	Unimolecular thermal decomposition of phenol and d5-phenol: direct observation of cyclopentadiene formation via cyclohexadienone. *Journal of Chemical Physics*, **2012**, 136, 044309	3.9	59
29	Spectroscopy and dynamics of the predissociated, quasi-linear S2 state of chlorocarbene. *Journal of Chemical Physics*, **2012**, 137, 104307	3.9	9
28	Thermal decomposition mechanisms of the methoxyphenols: formation of phenol, cyclopentadienone, vinylacetylene, and acetylene. *Journal of Physical Chemistry A*, **2011**, 115, 13381-9	2.8	71
27	Laser ablation with resonance-enhanced multiphoton ionization time-of-flight mass spectrometry for determining aromatic lignin volatilization products from biomass. *Review of Scientific Instruments*, **2011**, 82, 033104	1.7	29
26	Optical-optical double resonance spectroscopy of the quasi-linear S2 state of CHF and CDF. I. Spectroscopic analysis. *Journal of Chemical Physics*, **2011**, 135, 104315	3.9	8
25	Optical-optical double resonance spectroscopy of the quasi-linear S2 state of CHF and CDF. II. Predissociation and mode-specific dynamics. *Journal of Chemical Physics*, **2011**, 135, 104316	3.9	9
24	Radical chemistry in the thermal decomposition of anisole and deuterated anisoles: an investigation of aromatic growth. *Journal of Physical Chemistry A*, **2010**, 114, 9043-56	2.8	85
23	Theoretical and Experimental Spectroscopy of the S2 State of CHF and CDF: Dynamically Weighted Multireference Configuration Interaction Calculations for High-Lying Electronic States. *Journal of Physical Chemistry Letters*, **2010**, 1, 641-646	6.4	52
22	Current technologies for analysis of biomass thermochemical processing: a review. *Analytica Chimica Acta*, **2009**, 651, 117-38	6.6	208
21	Stimulated emission pumping spectroscopy of the [X](1)ASstate of CHF. *Journal of Physical Chemistry A*, **2008**, 112, 466-71	2.8	16
20	Unraveling the A(1)B1 . *Journal of Physical Chemistry A*, **2008**, 112, 11355-62	2.8	9
19	High resolution probe of spin-orbit coupling and the singlet-triplet gap in chlorocarbene. *Journal of Chemical Physics*, **2008**, 128, 171101	3.9	23
18	High resolution study of spin-orbit mixing and the singlet-triplet gap in chlorocarbene: stimulated emission pumping spectroscopy of CH(35)Cl and CD(35)Cl. *Journal of Chemical Physics*, **2008**, 129, 104309	3.9	16
17	Electronic spectroscopy of an isolated halocarbocation: the iodomethyl cation CH2I+ and its deuterated isotopomers. *Journal of Physical Chemistry A*, **2007**, 111, 10562-6	2.8	8
16	Single vibronic level emission spectroscopy and fluorescence lifetime of the . *Chemical Physics Letters*, **2007**, 449, 282-285	2.5	11

15	Single vibronic level emission spectroscopy of the system of dibromocarbene. *Journal of Molecular Spectroscopy*, **2007**, 241, 136-142	1.3	11
14	Electronic spectroscopy of the system of CDCl. *Journal of Molecular Spectroscopy*, **2007**, 241, 143-150	1.3	9
13	Electronic spectroscopy, lifetimes, and barrier to linearity in the A1B1<-X1A1 system of dibromocarbene. *Journal of Molecular Spectroscopy*, **2007**, 241, 180-185	1.3	9
12	Single vibronic level emission spectroscopy of the system of bromochlorocarbene. *Journal of Molecular Spectroscopy*, **2007**, 246, 113-117	1.3	4
11	Reassignment of the electronic origin in the system of dibromocarbene. *Journal of Molecular Spectroscopy*, **2006**, 240, 139-140	1.3	5
10	Electronic spectroscopy of the A1A" X1ASsystem of CDBr. *Journal of Chemical Physics*, **2006**, 125, 094305	3.9	6
9	Fluorescence excitation and emission spectroscopy of the A1A". *Journal of Chemical Physics*, **2006**, 124, 134302	3.9	33
8	Fluorescence excitation and single vibronic level emission spectroscopy of the A 1A". *Journal of Chemical Physics*, **2006**, 124, 224314	3.9	31
7	Probing spin-orbit mixing and the singlet-triplet gap in dichloromethylene via Ka-sorted emission spectra. *Physical Chemistry Chemical Physics*, **2006**, 8, 4320-6	3.6	11
6	Electronic spectroscopy of the A1AS. *Physical Chemistry Chemical Physics*, **2006**, 8, 707-13	3.6	16
5	Laser spectroscopy of a halocarbocation in the gas phase: CH2I+. *Journal of the American Chemical Society*, **2006**, 128, 9320-1	16.4	9
4	Dispersed fluorescence spectroscopy of jet-cooled HCF and DCF: Vibrational structure of the X 1AS state. *Journal of Chemical Physics*, **2005**, 123, 014314	3.9	20
3	Ex Situ Catalytic Fast Pyrolysis of Lignocellulosic Biomass to Hydrocarbon Fuels: 2018 State of Technology and Future Research		2
2	Ex Situ Catalytic Fast Pyrolysis of Lignocellulosic Biomass to Hydrocarbon Fuels: 2019 State of Technology and Future Research		4
1	Advanced spectrometric methods for characterizing bio-oils to enable refineries to reduce fuel carbon intensity during co-processing. *Applied Spectroscopy Reviews*,1-11	4.5	1