Bin Hu

List of Publications by Year
in descending order

55 papers	1,319 citations	331259 21 h-index	377514 34 g-index
55 all docs	55 docs citations	55 times ranked	882 citing authors

#	Article	IF	Citations
1	Recent Progress in Quantum Chemistry Modeling on the Pyrolysis Mechanisms of Lignocellulosic Biomass. Energy & Fuels, 2020, 34, 10384-10440.	2.5	91
2	Mechanism of cellulose fast pyrolysis: The role of characteristic chain ends and dehydrated units. Combustion and Flame, 2018, 198, 267-277.	2.8	72
3	Production of phenolic-rich bio-oil from catalytic fast pyrolysis of biomass using magnetic solid base catalyst. Energy Conversion and Management, 2015, 106, 1309-1317.	4.4	70
4	Pyrolysis mechanism of glucose and mannose: The formation of 5-hydroxymethyl furfural and furfural. Journal of Energy Chemistry, 2018, 27, 486-501.	7.1	65
5	Pyrolysis mechanism of holocellulose-based monosaccharides: The formation of hydroxyacetaldehyde. Journal of Analytical and Applied Pyrolysis, 2016, 120, 15-26.	2.6	63
6	Formation mechanism of HCN and NH3 during indole pyrolysis: A theoretical DFT study. Journal of the Energy Institute, 2020, 93, 649-657.	2.7	60
7	Insight into the formation mechanism of levoglucosenone in phosphoric acid-catalyzed fast pyrolysis of cellulose. Journal of Energy Chemistry, 2020, 43, 78-89.	7.1	54
8	Intermolecular interaction mechanism of lignin pyrolysis: A joint theoretical and experimental study. Fuel, 2018, 215, 386-394.	3.4	49
9	Direct conversion of cellulose and raw biomass to acetonitrile by catalytic fast pyrolysis in ammonia. Green Chemistry, 2019, 21, 812-820.	4.6	46
10	Catalytic mechanism of sulfuric acid in cellulose pyrolysis: A combined experimental and computational investigation. Journal of Analytical and Applied Pyrolysis, 2018, 134, 183-194.	2.6	44
11	A novel interaction mechanism in lignin pyrolysis: Phenolics-assisted hydrogen transfer for the decomposition of the Î²-O-4 linkage. Combustion and Flame, 2021, 225, 395-405.	2.8	44
12	Mechanism insight into the fast pyrolysis of xylose, xylobiose and xylan by combined theoretical and experimental approaches. Combustion and Flame, 2019, 206, 177-188.	2.8	42
13	Mechanism study on the effect of alkali metal ions on the formation of HCN as NOx precursor during coal pyrolysis. Journal of the Energy Institute, 2019, 92, 604-612.	2.7	37
14	Migration and transformation of lead species over CaO surface in municipal solid waste incineration fly Ash: A DFT study. Waste Management, 2021, 120, 59-67.	3.7	34
15	Formation mechanism of hydroxyacetone in glucose pyrolysis: A combined experimental and theoreticalÂstudy. Proceedings of the Combustion Institute, 2019, 37, 2741-2748.	2.4	32
16	A Comprehensive Study on Pyrolysis Mechanism of Substituted Î²-O-4 Type Lignin Dimers. International Journal of Molecular Sciences, 2017, 18, 2364.	1.8	30
17	Formation mechanism of NO precursors during the pyrolysis of 2,5-diketopiperazine based on experimental and theoretical study. Science of the Total Environment, 2021, 801, 149663.	3.9	28
18	Insight into the mechanism of secondary reactions in cellulose pyrolysis: interactions between levoglucosan and acetic acid. Cellulose, 2019, 26, 8279-8290.	2.4	25

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19	Calcium formate assisted catalytic pyrolysis of pine for enhanced production of monocyclic aromatic hydrocarbons over bimetal-modified HZSM-5. Bioresource Technology, 2020, 315, 123805.	4.8	25
20	On the mechanism of xylan pyrolysis by combined experimental and computational approaches. Proceedings of the Combustion Institute, 2021, 38, 4215-4223.	2.4	24
21	Influence of inherent alkali metal chlorides on pyrolysis mechanism of a lignin model dimer based on DFT study. Journal of Thermal Analysis and Calorimetry, 2019, 137, 151-160.	2.0	23
22	Insight into the Formation of Anhydrosugars in Glucose Pyrolysis: A Joint Computational and Experimental Investigation. Energy & Fuels, 2017, 31, 8291-8299.	2.5	22
23	Selective production of nicotyrine from catalytic fast pyrolysis of tobacco biomass with Pd/C catalyst. Journal of Analytical and Applied Pyrolysis, 2016, 117, 88-93.	2.6	21
24	Interaction characteristics and mechanism in the fast co-pyrolysis of cellulose and lignin model compounds. Journal of Thermal Analysis and Calorimetry, 2017, 130, 975-984.	2.0	19
25	Selective production of 4-ethyl guaiacol from catalytic fast pyrolysis of softwood biomass using Pd/SBA-15 catalyst. Journal of Analytical and Applied Pyrolysis, 2017, 123, 237-243.	2.6	18
26	Selective preparation of 5-hydroxymethylfurfural by catalytic fast pyrolysis of cellulose over zirconium-tin mixed metal oxides. Journal of Analytical and Applied Pyrolysis, 2021, 155, 105103.	2.6	18
27	Selective preparation of 1-hydroxy-3,6-dioxabicyclo[3.2.1]octan-2-one by fast pyrolysis of cellulose catalyzed with metal-loaded nitrided HZSM-5. Bioresource Technology, 2020, 309, 123370.	4.8	17
28	Mechanism study on the formation of furfural during zinc chloride-catalyzed pyrolysis of xylose. Fuel, 2021, 295, 120656.	3.4	17
29	Hydroxyl-Assisted Hydrogen Transfer Interaction in Lignin Pyrolysis: An Extended Concerted Interaction Mechanism. Energy & Fuels, 2021, 35, 13170-13180.	2.5	17
30	A sustainable strategy for the production of 1,4:3,6-dianhydro-Î±-d-glucopyranose through oxalic acid-assisted fast pyrolysis of cellulose. Chemical Engineering Journal, 2022, 436, 135200.	6.6	17
31	Theoretical Investigation of the Formation Mechanism of NH3 and HCN during Pyrrole Pyrolysis: The Effect of H2O. Molecules, 2018, 23, 711.	1.7	16
32	Catalytic Mechanism of Calcium on the Formation of HCN during Pyrolysis of Pyrrole and Indole: A Theoretical Study. Energy & Fuels, 2019, 33, 11516-11523.	2.5	12
33	Interaction between Acetic Acid and Glycerol: A Model for Secondary Reactions during Holocellulose Pyrolysis. Journal of Physical Chemistry A, 2019, 123, 674-681.	1.1	12
34	Mechanism insight into the formation of H2S from thiophene pyrolysis: A theoretical study. Frontiers of Environmental Science and Engineering, 2021, 15, 1.	3.3	12
35	A theoretical investigation on the thermal decomposition of pyridine and the effect of H2O on the formation of NOx precursors. Frontiers of Chemical Science and Engineering, 2021, 15, 1217-1228.	2.3	12
36	Catalytic fast pyrolysis of cellulose for selective production of 1-hydroxy-3,6-dioxabicyclo[3.2.1]octan-2-one using nickel-tin layered double oxides. Industrial Crops and Products, 2021, 162, 113269.	2.5	12

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37	Theoretical insights into the roles of active oxygen species in heterogeneous oxidation of CO over Mn/TiO2 catalyst. Applied Catalysis A: General, 2021, 616, 118104.	2.2	12
38	Selective Analytical Production of 1-Hydroxy-3,6-dioxabicyclo[3.2.1]octan-2-one from Catalytic Fast Pyrolysis of Cellulose with Zinc-Aluminium Layered Double Oxide Catalyst. BioResources, 2015, 10, .	0.5	12
39	Effect of WO3 and MoO3 doping on the interaction mechanism between arsenic oxide and V2O5-based SCR catalyst: A theoretical account. Molecular Catalysis, 2021, 499, 111317.	1.0	11
40	The oxalic acid-assisted fast pyrolysis of biomass for the sustainable production of furfural. Fuel, 2022, 322, 124279.	3.4	11
41	Fast pyrolysis of bagasse catalyzed by mixed alkaline-earth metal oxides for the selective production of 4-vinylphenol. Journal of Analytical and Applied Pyrolysis, 2022, 164, 105531.	2.6	10
42	Mechanical insight into the formation of H2S from thiophene pyrolysis: The influence of H2O. Chemosphere, 2021, 279, 130628.	4.2	9
43	Mechanism insights into CO oxidation over transition metal modified V2O5/TiO2 catalysts: A theoretical study. Chemosphere, 2022, 297, 134168.	4.2	9
44	Enhanced production of levoglucosenone from pretreatment assisted catalytic pyrolysis of waste paper. Journal of Analytical and Applied Pyrolysis, 2022, 165, 105567.	2.6	9
45	Experimental and Theoretical Studies on the Pyrolysis Mechanism of Î²-1-Type Lignin Dimer Model Compound. BioResources, 2016, 11, .	0.5	8
46	Theoretical study on the effect of the substituent groups on the homolysis of the ether bond in lignin trimer model compounds. Journal of Fuel Chemistry and Technology, 2016, 44, 335-341.	0.9	8
47	Formation mechanism of CH4 during lignin pyrolysis: A theoretical study. Journal of the Energy Institute, 2022, 100, 237-244.	2.7	5
48	Reaction characteristics and mechanisms of sorbitol fast pyrolysis. Journal of Fuel Chemistry and Technology, 2021, 49, 1821-1831.	0.9	5
49	Understanding the sensing mechanisms of perovskite materials for gases with different properties: a perspective from the oxidationâ€“reduction states of central metal ions. Journal of Materials Chemistry C, 2021, 9, 15511-15521.	2.7	3
50	Effect of temperature on the interactions between cellulose and lignin via molecular dynamics simulations. Cellulose, 2022, 29, 6565-6578.	2.4	3
51	Role of glycosidic bond in initial cellulose pyrolysis: Investigation by machine learning simulation. Applications in Energy and Combustion Science, 2022, 9, 100055.	0.9	2
52	Novel design strategies for perovskite materials with improved stability and suitable band gaps. Physical Chemistry Chemical Physics, 2021, 23, 20288-20297.	1.3	1
53	Investigations of Zhundong Coal with Removing Water-Soluble Sodium in Chemical Looping Combustion. Energy & Fuels, 0, , .	2.5	1
54	Sensing Mechanism of H2O, NH3, and O2 on the Stability-Improved Cs2Pb(SCN)2Br2 Surface: A Quantum Dynamics Investigation. ACS Omega, 2021, 6, 24244-24255.	1.6	0

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55	Mechanism insights into CO oxidation on a low-cost N doped pyrite: A molecular simulation study. Applied Surface Science, 2022, 575, 151657.	3.1	0