Charles K Westbrook

List of Publications by Year
in descending order

89	14,441	38660 50	48187 88
papers	citations	h-index	g-index

89	89	89	5265
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Chemical kinetic basis of synergistic blending for research octane number. Fuel, 2022, 307, 121865.	3.4	13
2	Shock-tube spectroscopic CO and H2O measurements during 2-methyl-1-butene combustion and chemical kinetics modeling. Combustion and Flame, 2022, 238, 111919.	2.8	8
3	A combined experimental and modeling study of combustion properties of an isoparaffinic alcohol-to-jet fuel. Combustion and Flame, 2022, 240, 111994.	2.8	16
4	A Shock-Tube and Chemical Kinetics Model Investigation Encompassing all Five Pentene Isomers. Fuel, 2022, 323, 124223.	3.4	4
5	Shockâ€tube spectroscopic water measurements and detailed kinetics modeling of 1â€pentene and 3â€methylâ€1â€butene. International Journal of Chemical Kinetics, 2021, 53, 67-83.	1.0	7
6	Oxidation of an isoâ€paraffinic alcoholâ€toâ€jet fuel and nâ€heptane mixture: An experimental and modeling study. International Journal of Chemical Kinetics, 2021, 53, 1014-1035.	1.0	5
7	Key Chemical Kinetic Steps in Reaction Mechanisms for Fuels from Biomass: A Perspective. Energy & Fuels, 2021, 35, 15339-15359.	2.5	13
8	Autoignition of CRC diesel surrogates at low temperature combustion conditions: Rapid compression machine experiments and modeling. Combustion and Flame, 2020, 219, 178-197.	2.8	11
9	Fuel molecular structure effect on autoignition of highly branched iso-alkanes at low-to-intermediate temperatures: Iso-octane versus iso-dodecane. Combustion and Flame, 2020, 214, 152-166.	2.8	26
10	Two-stage ignition behavior and octane sensitivity of toluene reference fuels as gasoline surrogate. Combustion and Flame, 2019, 210, 100-113.	2.8	18
11	Detailed kinetics of fossil and renewable fuel combustion. Computer Aided Chemical Engineering, 2019, , 363-443.	0.3	18
12	An experimental and kinetic modeling study of the oxidation of hexane isomers: Developing consistent reaction rate rules for alkanes. Combustion and Flame, 2019, 206, 123-137.	2.8	53
13	Experimental and modeling study of the pyrolysis and oxidation of an iso-paraffinic alcohol-to-jet fuel. Combustion and Flame, 2019, 201, 57-64.	2.8	36
14	A new chemical kinetic method of determining RON and MON values for single component and multicomponent mixtures of engine fuels. Combustion and Flame, 2018, 195, 50-62.	2.8	58
15	Multi-fuel surrogate chemical kinetic mechanisms for real world applications. Physical Chemistry Chemical Physics, 2018, 20, 10588-10606.	1.3	40
16	A comprehensive iso-octane combustion model with improved thermochemistry and chemical kinetics. Combustion and Flame, 2017, 178, 111-134.	2.8	164
17	Speciation and the laminar burning velocities of poly(oxymethylene) dimethyl ether 3 (POMDME3) flames: An experimental and modeling study. Proceedings of the Combustion Institute, 2017, 36, 1269-1278.	2.4	112
18	Chemical kinetics of octane sensitivity in a spark-ignition engine. Combustion and Flame, 2017, 175, 2-15.	2.8	103

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19	An experimental and kinetic modeling study on dimethyl carbonate (DMC) pyrolysis and combustion. Combustion and Flame, 2016, 164, 224-238.	2.8	75
20	An Experimental and Kinetic Modeling Study of Premixed Laminar Flames of Methyl Pentanoate and Methyl Hexanoate. Zeitschrift Fur Physikalische Chemie, 2015, 229, 759-780.	1.4	29
21	Experimental and Kinetic Modeling Study of 2-Methyl-2-Butene: Allylic Hydrocarbon Kinetics. Journal of Physical Chemistry A, 2015, 119, 7462-7480.	1.1	62
22	Shock tube and modeling study of 2,7-dimethyloctane pyrolysis and oxidation. Combustion and Flame, 2015, 162, 2296-2306.	2.8	17
23	An experimental and modeling study of surrogate mixtures of n-propyl- and n-butylbenzene in n-heptane to simulate n-decylbenzene ignition. Combustion and Flame, 2014, 161, 1460-1473.	2.8	44
24	Oxidation of small alkyl esters in flames. Combustion and Flame, 2014, 161, 810-817.	2.8	63
25	Chemical kinetic study of a novel lignocellulosic biofuel: Di-n-butyl ether oxidation in a laminar flow reactor and flames. Combustion and Flame, 2014, 161, 798-809.	2.8	85
26	Experimental and Modeling Study of Methyl trans-3-Hexenoate Autoignition. Energy & Fuels, 2014, 28, 7227-7234.	2.5	18
27	A comprehensive combustion chemistry study of 2,5-dimethylhexane. Combustion and Flame, 2014, 161, 1444-1459.	2.8	88
28	An experimental and modeling study of shock tube and rapid compression machine ignition of n-butylbenzene/air mixtures. Combustion and Flame, 2014, 161, 49-64.	2.8	126
29	A comprehensive experimental and modeling study of iso-pentanol combustion. Combustion and Flame, 2013, 160, 2712-2728.	2.8	95
30	Low-temperature speciation and chemical kinetic studies of n-heptane. Combustion and Flame, 2013, 160, 2693-2706.	2.8	49
31	Experimental and modeling study of the oxidation of n- and iso-butanal. Combustion and Flame, 2013, 160, 1609-1626.	2.8	40
32	Biofuels Combustion. Annual Review of Physical Chemistry, 2013, 64, 201-219.	4.8	120
33	Evaluation of Light-Off Limits for a Novel Oxy-Combustion Process for Enhanced Oil Recovery (EOR). Energy & Fuels, 2013, 27, 3438-3445.	2.5	6
34	Formulation of an RP-1 pyrolysis surrogate from shock tube measurements of fuel and ethylene time histories. Fuel, 2013, 103, 1051-1059.	3.4	20
35	On the Combustion Chemistry of n-Heptane and n-Butanol Blends. Journal of Physical Chemistry A, 2012, 116, 12406-12421.	1.1	39
36	Detailed Kinetic Modeling Study of n-Pentanol Oxidation. Energy & Fuels, 2012, 26, 6678-6685.	2.5	100

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37	Shock tube studies of methyl butanoate pyrolysis with relevance to biodiesel. Combustion and Flame, 2012, 159, 3235-3241.	2.8	43
38	Effects of fuel branching on the propagation of octane isomers flames. Combustion and Flame, 2012, 159, 1426-1436.	2.8	90
39	A comprehensive chemical kinetic combustion model for the four butanol isomers. Combustion and Flame, 2012, 159, 2028-2055.	2.8	463
40	A high pressure shock tube study of n-propylbenzene oxidation and its comparison with n-butylbenzene. Combustion and Flame, 2012, 159, 2219-2232.	2.8	76
41	The Effect of Carbonâ€“Carbon Double Bonds on the Combustion Chemistry of Small Fatty Acid Esters. Zeitschrift Fur Physikalische Chemie, 2011, 225, 1293-1314.	1.4	26
42	Fuel-specific influences on the composition of reaction intermediates in premixed flames of three C5H10O2 ester isomers. Physical Chemistry Chemical Physics, 2011, 13, 6901.	1.3	60
43	Kinetic modeling of gasoline surrogate components and mixtures under engine conditions. Proceedings of the Combustion Institute, 2011, 33, 193-200.	2.4	921
44	Autoignition behavior of unsaturated hydrocarbons in the low and high temperature regions. Proceedings of the Combustion Institute, 2011, 33, 201-208.	2.4	119
45	Biofuel Combustion Chemistry: From Ethanol to Biodiesel. Angewandte Chemie - International Edition, 2010, 49, 3572-3597.	7.2	587
46	Detailed chemical kinetic mechanism for the oxidation of biodiesel fuels blend surrogate. Combustion and Flame, 2010, 157, 893-908.	2.8	333
47	A comparative experimental and computational study of methanol, ethanol, and n-butanol flames. Combustion and Flame, 2010, 157, 1989-2004.	2.8	346
48	A comprehensive detailed chemical kinetic reaction mechanism for combustion of n-alkane hydrocarbons from n-octane to n-hexadecane. Combustion and Flame, 2009, 156, 181-199.	2.8	721
49	The autoignition of iso-cetane at high to moderate temperatures and elevated pressures: Shock tube experiments and kinetic modeling. Combustion and Flame, 2009, 156, 2165-2172.	2.8	122
50	Detailed chemical kinetic oxidation mechanism for a biodiesel surrogate. Combustion and Flame, 2008, 154, 507-528.	2.8	399
51	Detailed Chemical Kinetic Modeling of Cyclohexane Oxidationâ€. Journal of Physical Chemistry A, 2007, 111, 3761-3775.	1.1	192
52	Mechanism Reduction and Generation Using Analysis of Major Fuel Consumption Pathways forn-Heptane in Premixed and Diffusion Flames. Energy & Fuels, 2007, 21, 1967-1976.	2.5	10
53	A detailed chemical kinetic model for gas phase combustion of TNT. Proceedings of the Combustion Institute, 2007, 31, 2343-2351.	2.4	15
54	Chemical Kinetic Modeling Study of the Effects of Oxygenated Hydrocarbons on Soot Emissions from Diesel Enginesâ€. Journal of Physical Chemistry A, 2006, 110, 6912-6922.	1.1	476

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55	A comprehensive modeling study of hydrogen oxidation. International Journal of Chemical Kinetics, 2004, 36, 603-622.	1.0	833
56	Reduced Chemical Kinetic Mechanisms for Hydrocarbon Fuels. Journal of Propulsion and Power, 2002, 18, 192-198.	1.3	52
57	Chemical kinetic modeling study of shock tube ignition of heptane isomers. International Journal of Chemical Kinetics, 2001, 33, 868-877.	1.0	77
58	Chemical kinetics of hydrocarbon ignition in practical combustion systems. Proceedings of the Combustion Institute, 2000, 28, 1563-1577.	2.4	691
59	The Ideal Gas Thermodynamics of Diesel Fuel Ingredients. I. Naphthalene Derivatives and Their Radicals. Journal of Physical and Chemical Reference Data, 2000, 29, 463-517.	1.9	12
60	A flow reactor study of neopentane oxidation at 8 atmospheres: experiments and modeling. Combustion and Flame, 1999, 118, 415-430.	2.8	71
61	Aromatic and Polycyclic Aromatic Hydrocarbon Formation in a Laminar Premixed n-Butane Flame. Combustion and Flame, 1998, 114, 192-213.	2.8	511
62	An analysis of gas phase ethanol-water chemistry for diamond CVD. Diamond and Related Materials, 1995, 4, 1277-1288.	1.8	2
63	Numerical Modeling Capabilities for the Simulation of Toxic By-Products Formation in Combustion Processes. Combustion Science and Technology, 1994, 101, 383-396.	1.2	3
64	High-temperature ignition of propane with MTBE as an additive: Shock tube experiments and modeling. International Journal of Chemical Kinetics, 1994, 26, 757-770.	1.0	27
65	Detailed chemical kinetics study of the role of pressure in butane pyrolysis. Industrial & Engineering Chemistry Research, 1992, 31, 37-45.	1.8	32
66	Gaseous hydrocarbonî—¸air detonations. Combustion and Flame, 1991, 84, 376-390.	2.8	78
67	A kinetic modeling study of n-pentane oxidation in a well-stirred reactor. Combustion and Flame, 1988, 72, 45-62.	2.8	79
68	Chemical kinetics of the high pressure oxidation of n-butane and its relation to engine knock. Combustion and Flame, 1986, 63, 113-133.	2.8	178
69	Chemical kinetic modeling of higher hydrocarbon fuels. AIAA Journal, 1986, 24, 2002-2009.	1.5	17
70	Numerical methods in laminar flame propagation. Combustion and Flame, 1985, 59, 315.	2.8	0
71	Chemical kinetic modeling of hydrocarbon combustion. Progress in Energy and Combustion Science, 1984, 10, 1-57.	15.8	1,320
72	A Comprehensive Chemical Kinetic Reaction Mechanism for Oxidation and Pyrolysis of Propane and Propene. Combustion Science and Technology, 1984, 37, 117-152.	1.2	185

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73	Use of chemical kinetics to predict critical parameters of gaseous detonations. Combustion, Explosion and Shock Waves, 1983, 19, 753-766.	0.3	24
74	Numerical modeling of ethylene oxidation in laminar flames. Combustion and Flame, 1983, 52, 299-313.	2.8	64
75	Effects of Propane on Ignition of Methane â€“Ethane â€“ Air Mixtures. Combustion Science and Technology, 1983, 33, 315-319.	1.2	30
76	Numerical Modeling of Flame Inhibition by CF3Br. Combustion Science and Technology, 1983, 34, 201-225.	1.2	148
77	The Sulfur Catalyzed Recombination of Atomic Oxygen in a CO/O2/Ar Flame. Combustion Science and Technology, 1983, 30, 241-271.	1.2	34
78	Hydrogen Oxidation Kinetics in Gaseous Detonations. Combustion Science and Technology, 1982, 29, 67-81.	1.2	87
79	Chemical kinetics of hydrocarbon oxidation in gaseous detonations. Combustion and Flame, 1982, 46, 191-210.	2.8	177
80	Inhibition of hydrocarbon oxidation in laminar flames and detonations by halogenated compounds. Proceedings of the Combustion Institute, 1982, 19, 127-141.	0.3	74
81	Simplified Reaction Mechanisms for the Oxidation of Hydrocarbon Fuels in Flames. Combustion Science and Technology, 1981, 27, 31-43.	1.2	1,897
82	A numerical study of laminar flame wall quenching. Combustion and Flame, 1981, 40, 81-99.	2.8	182
83	Chemical kinetics and modeling of combustion processes. Proceedings of the Combustion Institute, 1981, 18, 749-767.	0.3	148
84	Prediction of laminar flame properties of methanol-air mixtures. Combustion and Flame, 1980, 37, 171-192.	2.8	166
85	Inhibition of Laminar Methane-Air and Methanol-Air Flames by Hydrogen Bromide. Combustion Science and Technology, 1980, 23, 191-202.	1.2	63
86	An Analytical Study of the Shock Tube Ignition of Mixtures of Methane and Ethane. Combustion Science and Technology, 1979, 20, 5-17.	1.2	130
87	Comprehensive Mechanism for Methanol Oxidation. Combustion Science and Technology, 1979, 20, 125-140.	1.2	236
88	Propagation of a flame through a stratified charge combustion chamber. Acta Astronautica, 1978, 5, 1185-1198.	1.7	12
89	A generalized ICE method for chemically reactive flows in combustion systems. Journal of Computational Physics, 1978, 29, 67-80.	1.9	21