Valeriy N Azyazov

List of Publications by Year
in descending order

64	855	471509 17	526287 27
papers	citations	h-index	g-index

64	64	64	547
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Detailed, sterically-resolved modeling of soot oxidation: Role of O atoms, interplay with particle nanostructure, and emergence of inner particle burning. Combustion and Flame, 2018, 188, 284-306.	5.2	81
2	Low-temperature formation of polycyclic aromatic hydrocarbons in Titanâ€™s atmosphere. Nature Astronomy, 2018, 2, 973-979.	10.1	72
3	VUV Photoionization Study of the Formation of the Simplest Polycyclic Aromatic Hydrocarbon: Naphthalene (C₁₀H₈). Journal of Physical Chemistry Letters, 2018, 9, 2620-2626.	4.6	57
4	HACA's Heritage: A Freeâ€Radical Pathway to Phenanthrene in Circumstellar Envelopes of Asymptotic Giant Branch Stars. Angewandte Chemie - International Edition, 2017, 56, 4515-4519.	13.8	48
5	Pressure broadening of Ar and Kr (n+1)s[3/2]2â†'(n+1)p[5/2]3 transition in the parent gases and in He. Journal of Quantitative Spectroscopy and Radiative Transfer, 2015, 164, 1-7.	2.3	35
6	Gas-phase synthesis of benzene via the propargyl radical self-reaction. Science Advances, 2021, 7, .	10.3	34
7	O2(a1Î”) quenching in the O/O2/O3 system. Chemical Physics Letters, 2009, 482, 56-61.	2.6	31
8	Kinetics of the CH₃ + C₅H₅ Reaction: A Theoretical Study. Journal of Physical Chemistry A, 2017, 121, 9191-9200.	2.5	27
9	Gas phase synthesis of [4]-helicene. Nature Communications, 2019, 10, 1510.	12.8	27
10	How to add a five-membered ring to polycyclic aromatic hydrocarbons (PAHs) â€“ molecular mass growth of the 2-naphthyl radical (C₁₀H₇) to benzindenes (C₁₃H₁₀) as a case study. Physical Chemistry Chemical Physics, 2019, 21, 16737-16750.	2.8	26
11	Role of O2(b) and I2 (A',A) in Chemical Oxygen-Iodine Laser Dissociation Process. AIAA Journal, 2006, 44, 1593-1600.	2.6	25
12	Conversion of acenaphthalene to phenalene via methylation: A theoretical study. Combustion and Flame, 2020, 213, 302-313.	5.2	24
13	Oxidation of cyclopentadienyl radical with molecular oxygen: A theoretical study. Combustion and Flame, 2018, 191, 309-319.	5.2	22
14	Reactivity of the Indenyl Radical (C₉H₇) with Acetylene (C₂H₂) and Vinylacetylene (C₄H₄). ChemPhysChem, 2019, 20, 1437-1447.	2.1	21
15	HACA's Heritage: A Freeâ€Radical Pathway to Phenanthrene in Circumstellar Envelopes of Asymptotic Giant Branch Stars. Angewandte Chemie, 2017, 129, 4586-4590.	2.0	20
16	Kinetics of O2(a1Î”g) and I(2P1/2) in the Photochemistry of N2O/I2Mixturesâ€. Journal of Physical Chemistry A, 2007, 111, 6592-6599.	2.5	18
17	A Unified Mechanism on the Formation of Acenes, Helicenes, and Phenacenes in the Gas Phase. Angewandte Chemie - International Edition, 2020, 59, 4051-4058.	13.8	18
18	Unconventional excited-state dynamics in the concerted benzyl (C7H7) radical self-reaction to anthracene (C14H10). Nature Communications, 2022, 13, 786.	12.8	17

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19	Quenching of I(2P1/2) by O3 and O(3P). Journal of Physical Chemistry A, 2007, 111, 3010-3015.	2.5	16
20	A Freeâ€Radical Prompted Barrierless Gasâ€Phase Synthesis of Pentacene. Angewandte Chemie - International Edition, 2020, 59, 11334-11338.	13.8	16
21	Gas phase formation of phenalene via 10Ï€-aromatic, resonantly stabilized free radical intermediates. Physical Chemistry Chemical Physics, 2020, 22, 15381-15388.	2.8	15
22	Properties of O2(Î”1)â€“I(P21/2) laser medium with a dc glow discharge iodine atom generator. Journal of Applied Physics, 2008, 104, 123111.	2.5	14
23	Formation of Benzene and Naphthalene through Cyclopentadienyl-Mediated Radicalâ€“Radical Reactions. Journal of Physical Chemistry Letters, 2022, 13, 208-213.	4.6	14
24	Gasâ€Phase Synthesis of Triphenylene (C 18 H 12). ChemPhysChem, 2019, 20, 791-797.	2.1	13
25	Gas phase formation of cyclopentanaphthalene (benzindene) isomers via reactions of 5- and 6-indenyl radicals with vinylacetylene. Physical Chemistry Chemical Physics, 2020, 22, 22493-22500.	2.8	13
26	A chemical dynamics study of the reaction of the methylidyne radical (CH, X²Î) with dimethylacetylene (CH₃CCCH₃, X¹A_{1g}). Physical Chemistry Chemical Physics, 2021, 24, 578-593.	2.8	12
27	Theoretical Study of the Phenoxy Radical Recombination with the O(³P) Atom, Phenyl plus Molecular Oxygen Revisited. Journal of Physical Chemistry A, 2021, 125, 3965-3977.	2.5	11
28	Gas-phase synthesis of corannulene â€“ a molecular building block of fullerenes. Physical Chemistry Chemical Physics, 2021, 23, 5740-5749.	2.8	10
29	Formation of I2(B3Î0) in the presence of O2(a1Î”). Journal of Applied Physics, 2007, 102, 123108.	2.5	7
30	Combined Experimental and Computational Investigation of the Elementary Reaction of Ground State Atomic Carbon (C; ³P_j) with Pyridine (C₅H₅N;) Tj ETQq0 0 0 rgBT /Overlock Chemistry A, 2018, 122, 3128-3139.	2.5	7
31	Gasâ€Phase Synthesis of 3â€Vinylcyclopropene via the Crossed Beam Reaction of the Methylidyne Radical (CH; X 2 Î) with 1,3â€Butadiene (CH 2 CHCHCH 2 ; X 1 A g). ChemPhysChem, 2020, 21, 1295-1309.	2.1	7
32	On the Synthesis of the Astronomically Elusive 1-Ethynyl-3-Silacyclopropenylidene (c-SiC₄H₂) Molecule in Circumstellar Envelopes of Carbon-rich Asymptotic Giant Branch Stars and Its Potential Role in the Formation of the Silicon Tetracarbide Chain (SiC₄). Astrophysical Journal Letters, 2021, 908, L40.	8.3	7
33	The Reaction of oâ€Benzyne with Vinylacetylene: An Unexplored Way to Produce Naphthalene. ChemPhysChem, 2022, 23, .	2.1	7
34	Analysis of CW Oxygen-Iodine Laser Performance Using Similarity Criteria. IEEE Journal of Quantum Electronics, 2013, 49, 739-746.	1.9	6
35	Computational investigation of energy transfer and line broadening for Ar* + He collisions. Journal of Chemical Physics, 2019, 151, 224306.	3.0	6
36	Gas-Phase Formation of C₅H₆ Isomers via the Crossed Molecular Beam Reaction of the Methylidyne Radical (CH; X²Î) with 1,2-Butadiene (CH₃CHCCH₂; X¹Aâ€²). Journal of Physical Chemistry A, 2021, 125, 126-138.	2.5	6

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37	Directed Gas-Phase Formation of Aminosilylene (HSiNH₂;X¹Aâ€²): The Simplest Silicon Analogue of an Aminocarbene, under Single-Collision Conditions. Journal of the American Chemical Society, 2021, 143, 14227-14234.	13.7	6
38	A Unified Mechanism on the Formation of Acenes, Helicenes, and Phenacenes in the Gas Phase. Angewandte Chemie, 2020, 132, 4080-4087.	2.0	5
39	A Freeâ€Radical Prompted Barrierless Gasâ€Phase Synthesis of Pentacene. Angewandte Chemie, 2020, 132, 11430-11434.	2.0	5
40	A molecular beam and computational study on the barrierless gas phase formation of (iso)quinoline in low temperature extraterrestrial environments. Physical Chemistry Chemical Physics, 2021, 23, 18495-18505.	2.8	5
41	Quenching of I(2P1/2) by NO2, N2O4, and N2O. Journal of Physical Chemistry A, 2007, 111, 10062-10067.	2.5	4
42	I2 dissociation by O2(a1Î”) generated from the reaction O(1D)+N2O. Chemical Physics Letters, 2011, 502, 150-153.	2.6	4
43	Directed Gas Phase Formation of Silene (H 2 SiCH 2). Chemistry - A European Journal, 2020, 26, 13584-13589.	3.3	4
44	Gas Phase Formation of Methylgermylene (HGeCH3). ChemPhysChem, 2020, 21, 1898-1904.	2.1	4
45	Ozone destruction due to the recombination of oxygen atoms. Journal of Chemical Physics, 2021, 155, 164307.	3.0	4
46	Properties of a DC glow discharge iodine atom generator. Proceedings of SPIE, 2009, , .	0.8	3
47	Rate constants for collision-induced emission of O2(a1Î”g) with He, Ne, Ar, Kr, N2, CO2 and SF6 as collisional partners. Physical Chemistry Chemical Physics, 2018, 20, 29677-29683.	2.8	3
48	Directed Gas Phase Formation of the Elusive Silylgermylidyne Radical (H 3 SiGe, X 2 Aâ€²â€²). ChemPhysChem, 2021, 22, 184-191.	2.1	3
49	Gas-Phase Study of the Elementary Reaction of the D1-Ethynyl Radical (C₂D;) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 5 Single-Collision Conditions. Journal of Physical Chemistry A, 2022, 126, 1889-1898.	2.5	3
50	Mechanism and kinetics of the oxidation of 1,3-butadien-1-yl (n-C₄H₅): a theoretical study. Physical Chemistry Chemical Physics, 2021, 23, 9198-9210.	2.8	2
51	Theoretical Study of the Reaction of the Methylidyne Radical (CH; X²Î) with 1-Butyne (CH₃CH₂CCH; X¹Aâ€²). Journal of Physical Chemistry A, 2021, 125, 9536-9547.	2.5	2
52	Product channels of the reactions of Rb(62P) with H2, CH4 and C2H6. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 196, 46-52.	2.3	2
53	Oxygen-iodine active medium with external production of iodine in a DC glow discharge. , 2006, 6346, 164.		1
54	Chemical kinetics of discharge-driven oxygen-iodine lasers. , 2006, 6346, 156.		1

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55	Modeling of cw OIL energy performance based on similarity criteria. Proceedings of SPIE, 2013, , .	0.8	1
56	Gas Flow Visualization Using Laser-induced Fluorescence. Procedia Engineering, 2015, 106, 92-96.	1.2	1
57	Deactivation and reaction of excited states of Rb in collisions with H2, CH4and C2H6. , 2016, , .		1
58	Combined Crossed Molecular Beams and Ab Initio Study of the Bimolecular Reaction of Ground State Atomic Silicon (Si; 3 P) with Germane (GeH 4 ; X 1 A 1). ChemPhysChem, 2021, 22, 1497-1504.	2.1	1
59	I 2 (B) formation in the oxygen-iodine laser medium. , 2007, , .		0
60	Features of power extraction in EOIL. , 2015, , .		0
61	Oxygen assisted iodine atoms production in an RF discharge for a cw oxygen-iodine laser. , 2015, , .		0
62	Oxygen assisted iodine atoms production in an RF discharge. , 2016, , .		0
63	Optical pumping of the oxygen-iodine laser medium. Proceedings of SPIE, 2016, , .	0.8	0
64	Gas-phase Synthesis of Silaformaldehyde (H₂SiO) and Hydroxysilylene (HSiOH) in Outflows of Oxygen-rich Asymptotic Giant Branch Stars. Astrophysical Journal Letters, 2021, 921, L7.	8.3	0