Nikita V Muravyev

List of Publications by Year
in descending order

66 papers	1,523 citations	279487 23 h-index	344852 36 g-index
67 all docs	67 docs citations	67 times ranked	689 citing authors

#	Article	IF	Citations
1	Pursuing reliable thermal analysis techniques for energetic materials: decomposition kinetics and thermal stability of dihydroxylammonium 5,5â€²-bistetrazole-1,1â€²-diolate (TKX-50). Physical Chemistry Chemical Physics, 2017, 19, 436-449.	1.3	88
2	Progress in Additive Manufacturing of Energetic Materials: Creating the Reactive Microstructures with High Potential of Applications. Propellants, Explosives, Pyrotechnics, 2019, 44, 941-969.	1.0	77
3	Pyrazoleâ€“Tetrazole Hybrid with Trinitromethyl, Fluorodinitromethyl, or (Difluoroamino)dinitromethyl Groups: Highâ€Performance Energetic Materials. Chemistry - an Asian Journal, 2018, 13, 1165-1172.	1.7	71
4	Sensitivity of energetic materials: Evidence of thermodynamic factor on a large array of CHNOFCl compounds. Chemical Engineering Journal, 2021, 421, 129804.	6.6	69
5	Critical Appraisal of Kinetic Calculation Methods Applied to Overlapping Multistep Reactions. Molecules, 2019, 24, 2298.	1.7	65
6	Assembly of Tetrazolylfuroxan Organic Salts: Multipurpose Green Energetic Materials with High Enthalpies of Formation and Excellent Detonation Performance. Chemistry - A European Journal, 2019, 25, 4225-4233.	1.7	60
7	Kinetic analysis of overlapping multistep thermal decomposition comprising exothermic and endothermic processes: thermolysis of ammonium dinitramide. Physical Chemistry Chemical Physics, 2017, 19, 3254-3264.	1.3	59
8	Progress and performance of energetic materials: open dataset, tool, and implications for synthesis. Journal of Materials Chemistry A, 2022, 10, 11054-11073.	5.2	52
9	Assembly of Nitrofurazan and Nitrofuroxan Frameworks for Highâ€Performance Energetic Materials. ChemPlusChem, 2017, 82, 1315-1319.	1.3	51
10	Azasydnone â€“ novel â€œgreenâ€•building block for designing high energetic compounds. Journal of Materials Chemistry A, 2018, 6, 18669-18676.	5.2	49
11	Comparative study of HMX and CL-20. Journal of Thermal Analysis and Calorimetry, 2011, 105, 529-534.	2.0	44
12	Pushing the Energy-Sensitivity Balance with High-Performance Bifuroxans. ACS Applied Energy Materials, 2020, 3, 7764-7771.	2.5	39
13	Influence of Particle Size and Mixing Technology on Combustion of HMX/Al Compositions. Propellants, Explosives, Pyrotechnics, 2010, 35, 226-232.	1.0	38
14	Supercritical Antisolvent Processing of Nitrocellulose: Downscaling to Nanosize, Reducing Friction Sensitivity and Introducing Burning Rate Catalyst. Nanomaterials, 2019, 9, 1386.	1.9	38
15	Learning to fly: thermochemistry of energetic materials by modified thermogravimetric analysis and highly accurate quantum chemical calculations. Physical Chemistry Chemical Physics, 2021, 23, 15522-15542.	1.3	38
16	HP-DSC study of energetic materials. Part I. Overview of pressure influence on thermal behavior. Thermochimica Acta, 2016, 631, 1-7.	1.2	36
17	HMX surface modification with polymers via sc-CO2 antisolvent process: A way to safe and easy-to-handle energetic materials. Chemical Engineering Journal, 2022, 428, 131363.	6.6	34
18	Artificial Neural Networks for Pyrolysis, Thermal Analysis, and Thermokinetic Studies: The Status Quo. Molecules, 2021, 26, 3727.	1.7	30

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19	Prospects of Using Boron Powders As Fuel. II. Influence of Aluminum and Magnesium Additives and Their Compounds on the Thermal Behavior of Boron Oxide. Combustion, Explosion and Shock Waves, 2020, 56, 148-155.	0.3	29
20	Pressure DSC for energetic materials. Part 2. Switching between evaporation and thermal decomposition of 3,5-dinitropyrazole. Thermochimica Acta, 2020, 690, 178697.	1.2	28
21	An Energetic (Nitroâ€<i>NNO</i>â€azoxy)triazoloâ€1,2,4â€triazine. European Journal of Organic Chemistry, 2019, 2019, 4189-4195.	1.2	27
22	Aluminum/HMX nanocomposites: Synthesis, microstructure, and combustion. Combustion, Explosion and Shock Waves, 2015, 51, 100-106.	0.3	25
23	Thermochemistry, Tautomerism, and Thermal Decomposition of 1,5-Diaminotetrazole: A High-Level ab Initio Study. Journal of Physical Chemistry A, 2018, 122, 3939-3949.	1.1	24
24	Toward reliable characterization of energetic materials: interplay of theory and thermal analysis in the study of the thermal stability of tetranitroacetimidic acid (TNAA). Physical Chemistry Chemical Physics, 2018, 20, 29285-29298.	1.3	24
25	Comparative Analysis of Boron Powders Obtained by Various Methods. I. Microstructure and Oxidation Parameters during Heating. Combustion, Explosion and Shock Waves, 2018, 54, 450-460.	0.3	24
26	5-Amino-3,4-dinitropyrazole as a Promising Energetic Material. Propellants, Explosives, Pyrotechnics, 2016, 41, 999-1005.	1.0	22
27	4<i>H</i>-[1,2,3]Triazolo[4,5-<i>c</i>][1,2,5]oxadiazole 5-oxide and Its Salts: Promising Multipurpose Energetic Materials. ACS Applied Energy Materials, 2020, 3, 9401-9407.	2.5	22
28	Comment on â€œStudies on Thermodynamic Properties of FOX-7 and Its Five Closed-Loop Derivativesâ€ Journal of Chemical & Engineering Data, 2017, 62, 575-576.	1.0	21
29	Nitro-, Cyano-, and Methylfuroxans, and Their Bis-Derivatives: From Green Primary to Melt-Cast Explosives. Molecules, 2020, 25, 5836.	1.7	20
30	Time for quartet: the stable 3â€‰:â€‰1 cocrystal formulation of FTDO and BTF â€“ a high-energy-density material. CrystEngComm, 2020, 22, 4823-4832.	1.3	20
31	New concept of thermokinetic analysis with artificial neural networks. Thermochimica Acta, 2016, 637, 69-73.	1.2	19
32	Synthesis of New Energetic Materials Based on Furazan Rings and Nitroâ€<i>NNO</i>â€azoxy Groups. ChemistrySelect, 2020, 5, 12243-12249.	0.7	19
33	Thermal Decomposition of Nitropyrazoles. Physics Procedia, 2015, 72, 358-361.	1.2	18
34	Optimization of the key steps of synthesis and study of the fundamental physicochemical properties of high energy compounds â€” 4-(2,2,2-trinitroethyl)-2,6,8,10,12-pentanitrohexaazaisowurtzitane and 4,10-bis(2,2,2-trinitroethyl)-2,6,8,12-tetranitrohexaazaisowurtzitane. Russian Chemical Bulletin, 2017, 66, 1066-1073.	0.4	16
35	The power of model-fitting kinetic analysis applied to complex thermal decomposition of explosives: reconciling the kinetics of bicyclo-HMX thermolysis in solid state and solution. Journal of Thermal Analysis and Calorimetry, 2022, 147, 3195-3206.	2.0	16
36	Crystal Solvates of Energetic 2,4,6,8,10,12-Hexanitro-2,4,6,8,10,12-hexaazaisowurtzitane Molecule with [bmim]-Based Ionic Liquids. Crystal Growth and Design, 2019, 19, 3660-3669.	1.4	15

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37	Exploring enhanced reactivity of nanosized titanium toward oxidation. Combustion and Flame, 2018, 191, 109-115.	2.8	14
38	Nitrogen-rich metal-free salts: a new look at the 5-(trinitromethyl)tetrazolate anion as an energetic moiety. Dalton Transactions, 2021, 50, 13778-13785.	1.6	14
39	Bis-(2-difluoroamino-2,2-dinitroethyl)nitramine â€“ Energetic oxidizer and high explosive. Chemical Engineering Journal, 2022, 449, 137816.	6.6	14
40	Physicochemical characteristics of the components of energetic condensed systems. Russian Journal of Physical Chemistry B, 2010, 4, 916-922.	0.2	11
41	Ð¡ombustion of Micro- and Nanothermites under Elevating Pressure. Physics Procedia, 2015, 72, 362-365.	1.2	11
42	Rare-Earth Complexes with the 5,5â€²-Bitetrazolate Ligand - Synthesis, Structure, Luminescence Properties, and Combustion Catalysis. European Journal of Inorganic Chemistry, 2018, 2018, 805-815.	1.0	11
43	Autocatalytic decomposition of energetic materials: interplay of theory and thermal analysis in the study of 5-amino-3,4-dinitropyrazole thermolysis. Physical Chemistry Chemical Physics, 2022, 24, 16325-16342.	1.3	11
44	Catalysis of HMX Decomposition and Combustion. , 2016, , 193-230.		10
45	Apparent autocatalysis due to liquefaction: thermal decomposition of ammonium 3,4,5-trinitropyrazolate. Physical Chemistry Chemical Physics, 2021, 23, 11797-11806.	1.3	10
46	Regioisomeric 3,5-di(nitropyrazolyl)-1,2,4-oxadiazoles and their energetic properties. Chemistry of Heterocyclic Compounds, 2022, 58, 37-44.	0.6	9
47	What Shall We Do with the Computed Detonation Performance? Comment on â€œ1,3,4â€Oxadiazole Bridges: A Strategy to Improve Energetics at the Molecular Levelâ€• Angewandte Chemie - International Edition, 2021, 60, 11568-11570.	7.2	8
48	Macro- vs Microcrystalline Wax: Interplay of Evaporation and Decomposition under Pressure Variation. Energy & Fuels, 2017, 31, 8534-8539.	2.5	7
49	CATALYTIC INFLUENCE OF NANOSIZED TITANIUM DIOXIDE ON THE THERMAL DECOMPOSITION AND COMBUSTION OF HMX. International Journal of Energetic Materials and Chemical Propulsion, 2014, 13, 211-228.	0.2	7
50	Pyrotechnic approach to space debris destruction: From thermal modeling to hypersonic wind tunnel tests. Acta Astronautica, 2020, 172, 47-55.	1.7	6
51	Prospects of Using Boron Powders As Fuel. III. Influence of Polymer Binders on the Composition of Condensed Gasification Products of Model Boron-Containing Compositions. Combustion, Explosion and Shock Waves, 2021, 57, 547-558.	0.3	6
52	Two sides of thermal stability of energetic liquid: Vaporization and decomposition of 3-methylfuroxan. Journal of Molecular Liquids, 2021, 348, 118059.	2.3	6
53	Cheaper, Faster, or Better: Are simple estimations of safety parameters of hazardous materials reliable? Comments on â€œThermal behaviors, nonisothermal decomposition reaction kinetics, thermal safety and burning rates of BTATz-CMDB propellantâ€•by Zhao et al. (2010). Journal of Hazardous Materials, 2017, 334, 267-270.	6.5	5
54	Synergistic Effect of Ammonium Perchlorate on HMX: From Thermal Analysis to Combustion. Springer Aerospace Technology, 2017, , 365-381.	0.2	5

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55	Delving into Autocatalytic Liquid-State Thermal Decomposition of Novel Energetic 1,3,5-Triazines with Azido, Trinitroethyl, and Nitramino Groups. Journal of Physical Chemistry B, 2020, 124, 11197-11206.	1.2	5
56	Neural networks applied in kinetic analysis of complex nucleation-growth processes: Outstanding solution for fully overlapping reaction mechanisms. Journal of Non-Crystalline Solids, 2022, 588, 121640.	1.5	5
57	Atomic force microscopy in energetic materials research: A review. Energetic Materials Frontiers, 2022, 3, 290-302.	1.3	5
58	Thermally induced dehydration reactions of monosodium <scp>l</scp>-glutamate monohydrate: dehydration of solids accompanied by liquefaction. Physical Chemistry Chemical Physics, 2021, 24, 129-141.	1.3	4
59	Mechanical stimulation of energetic materials at the nanoscale. Physical Chemistry Chemical Physics, 2022, 24, 8890-8900.	1.3	4
60	Kinetic Parameters of Thermal Decomposition of Furazano-1,2,3,4-Tetrazine-1,3-Dioxide and a Binary Solution Based on It. Combustion, Explosion and Shock Waves, 2019, 55, 629-631.	0.3	3
61	What Shall We Do with the Computed Detonation Performance? Comment on â€œ1,3,4â€Oxadiazole Bridges: A Strategy to Improve Energetics at the Molecular Levelâ€• Angewandte Chemie, 2021, 133, 11672-11674.	1.6	3
62	Pyrotechnic heater setup as a calorimeter: Micro- vs. nano- Mg/Fe2O3 thermites. MATEC Web of Conferences, 2018, 243, 00004.	0.1	1
63	INTERPLAY OF THERMAL ANALYSIS AND PREDICTIVE ELECTRONIC STRUCTURE THEORY IN THE STUDY OF SOLID-STATE THERMOCHEMISTRY AND PHASE TRANSITIONS OF ENERGETIC MATERIALS. , 2019, , .		1
64	NITRONIUM BORATES. , 2019, , .		0
65	KINETICS AND MECHANISM PRIMARY DECOMPOSITION CHANNELS OF BCHMX FROM HIGH ACCURACY QUANTUM CHEMISTRY CALCULATIONS. , 2019, , .		0
66	ENVIRONMENT-FRIENDLY SYNTHESIS OF ENERGETIC COMPOUNDS AND MATERIALS IN SUSTAINABLE LIQUID GAS. , 2019, , .		0