Alexey Vakhin

List of Publications by Year
in descending order

110 papers	1,714 citations	257101 24 h-index	395343 33 g-index
110 all docs	110 docs citations	110 times ranked	429 citing authors

#	Article	IF	Citations
1	Aquathermolysis of crude oils and natural bitumen: chemistry, catalysts and prospects for industrial implementation. Russian Chemical Reviews, 2015, 84, 1145-1175.	2.5	59
2	Changes of Asphaltenesâ€™ Structural Phase Characteristics in the Process of Conversion of Heavy Oil in the Hydrothermal Catalytic System. Energy & Fuels, 2016, 30, 773-783.	2.5	51
3	Composition of aquathermolysis catalysts forming in situ from oil-soluble catalyst precursor mixtures. Journal of Petroleum Science and Engineering, 2018, 169, 44-50.	2.1	45
4	In-Situ Heavy Oil Aquathermolysis in the Presence of Nanodispersed Catalysts Based on Transition Metals. Processes, 2021, 9, 127.	1.3	45
5	Electron Paramagnetic Resonance Study of Rotational Mobility of Vanadyl Porphyrin Complexes in Crude Oil Asphaltenes: Probing the Effect of Thermal Treatment of Heavy Oils. Energy & Fuels, 2014, 28, 6683-6687.	2.5	44
6	Transformations of hydrocarbons of Ashalâ€™hinskoe heavy oil under catalytic aquathermolysis conditions. Petroleum Chemistry, 2017, 57, 657-665.	0.4	44
7	Contribution of thermal analysis and kinetics of Siberian and Tatarstan regions crude oils for in situ combustion process. Journal of Thermal Analysis and Calorimetry, 2015, 122, 1375-1384.	2.0	42
8	Conversion of Heavy Oil with Different Chemical Compositions under Catalytic Aquathermolysis with an Amphiphilic Fe-Co-Cu Catalyst and Kaolin. Energy & Fuels, 2018, 32, 6488-6497.	2.5	41
9	Conversion Processes for High-Viscosity Heavy Crude Oil in Catalytic and Noncatalytic Aquathermolysis. Chemistry and Technology of Fuels and Oils, 2014, 50, 315-326.	0.2	38
10	Aquathermolysis of heavy oil in reservoir conditions with the use of oil-soluble catalysts: part III â€“ changes in composition resins and asphaltenes. Petroleum Science and Technology, 2018, 36, 1857-1863.	0.7	35
11	Effects of calcite and dolomite on conversion of heavy oil under subcritical condition. Petroleum Science and Technology, 2019, 37, 687-693.	0.7	35
12	Catalytic Aquathermolysis of Boca de Jaruco Heavy Oil with Nickel-Based Oil-Soluble Catalyst. Processes, 2020, 8, 532.	1.3	35
13	Extra-Heavy Oil Aquathermolysis Using Nickel-Based Catalyst: Some Aspects of In-Situ Transformation of Catalyst Precursor. Catalysts, 2021, 11, 189.	1.6	35
14	Generation of Hydrocarbons by Hydrothermal Transformation of Organic Matter of Domanik Rocks. Chemistry and Technology of Fuels and Oils, 2016, 52, 149-161.	0.2	33
15	Conversion of the Organic Matter of Domanic Shale and Permian Bituminous Rocks in Hydrothermal Catalytic Processes. Energy & Fuels, 2017, 31, 7789-7799.	2.5	33
16	The Composition and Structure of Ultra-Dispersed Mixed Oxide (II, III) Particles and Their Influence on In-Situ Conversion of Heavy Oil. Catalysts, 2020, 10, 114.	1.6	32
17	Catalytic Aquathermolysis of High-Viscosity Oil Using Iron, Cobalt, and Copper Tallates. Chemistry and Technology of Fuels and Oils, 2018, 53, 905-912.	0.2	30
18	Aquathermolysis of heavy oil in reservoir conditions with the use of oil-soluble catalysts: part II â€“ changes in composition of aromatic hydrocarbons. Petroleum Science and Technology, 2018, 36, 1850-1856.	0.7	30

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19	Native Vanadyl Complexes in Crude Oil as Polarizing Agents for In Situ Proton Dynamic Nuclear Polarization. Energy & Fuels, 2019, 33, 10923-10932.	2.5	29
20	Chemical evaluation and kinetics of Siberian, north regions of Russia and Republic of Tatarstan crude oils. Energy Sources, Part A: Recovery, Utilization and Environmental Effects, 2016, 38, 1031-1038.	1.2	28
21	Conversion of High-Carbon Domanic Shale in Sub- and Supercritical Waters. Energy & Fuels, 2020, 34, 1329-1336.	2.5	25
22	Application of Aromatic and Industrial Solvents for Enhancing Heavy Oil Recovery from the Ashalcha Field. Energy & Fuels, 2021, 35, 374-385.	2.5	25
23	Deep Insights into Heavy Oil Upgrading Using Supercritical Water by a Comprehensive Analysis of GC, GCâ€"MS, NMR, and SEMâ€"EDX with the Aid of EPR as a Complementary Technical Analysis. ACS Omega, 2021, 6, 135-147.	1.6	25
24	Change in the structural-group composition of bitumen asphaltenes upon thermal bitumen recovery. Petroleum Chemistry, 2017, 57, 198-202.	0.4	24
25	Influence of Hydrothermal and Pyrolysis Processes on the Transformation of Organic Matter of Dense Low-Permeability Rocks from Domanic Formations of the Romashkino Oil Field. Geofluids, 2018, 2018, 1-14.	0.3	24
26	Impact of Iron Tallate on the Kinetic Behavior of the Oxidation Process of Heavy Oils. Energy & Fuels, 2019, 33, 7678-7683.	2.5	24
27	The composition of aromatic destruction products of Domanic shale kerogen after aquathermolysis. Petroleum Science and Technology, 2019, 37, 390-395.	0.7	24
28	Hydrothermal transformations of asphaltenes. Petroleum Chemistry, 2012, 52, 5-14.	0.4	23
29	Conversion of extra-heavy Ashalâ€™chinskoe oil in hydrothermal catalytic system. Petroleum Chemistry, 2015, 55, 104-111.	0.4	23
30	The Role of Nanodispersed Catalysts in Microwave Application during the Development of Unconventional Hydrocarbon Reserves: A Review of Potential Applications. Processes, 2021, 9, 420.	1.3	23
31	Aquathermolysis of High-Viscosity Oil in the Presence of an Oil-Soluble Iron-Based Catalyst. Chemistry and Technology of Fuels and Oils, 2017, 53, 666-674.	0.2	22
32	In Situ Combustion of Heavy, Medium, and Light Crude Oils: Low-Temperature Oxidation in Terms of a Chain Reaction Approach. Energy & Fuels, 2022, 36, 7710-7721.	2.5	22
33	Iron oxide nanoparticles impact on improving reservoir rock minerals catalytic effect on heavy oil aquathermolysis. Fuel, 2022, 327, 124956.	3.4	22
34	Intraformation Transformation of Heavy Oil by Mixed Fe(II, III) Oxides. Chemistry and Technology of Fuels and Oils, 2018, 54, 574-580.	0.2	21
35	Catalytic Hydrothermal Conversion of Heavy Oil in the Porous Media. Energy & Fuels, 2021, 35, 1297-1307.	2.5	20
36	Comparative Kinetic Study on Heavy Oil Oxidation in the Presence of Nickel Tallate and Cobalt Tallate. Energy & Fuels, 2019, 33, 9107-9113.	2.5	19

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37	Thermal Study on Stabilizing the Combustion Front via Bimetallic Mn@Cu Tallates during Heavy Oil Oxidation. Energy & Fuels, 2020, 34, 5121-5127.	2.5	19
38	Effect of Ligand Structure on the Kinetics of Heavy Oil Oxidation: Toward Biobased Oil-Soluble Catalytic Systems for Enhanced Oil Recovery. Industrial & Engineering Chemistry Research, 2021, 60, 14713-14727.	1.8	19
39	Thermal Behavior of Heavy Oil Catalytic Pyrolysis and Aquathermolysis. Catalysts, 2022, 12, 449.	1.6	19
40	Kinetic Study on Heavy Oil Oxidation by Copper Tallates. Energy & Fuels, 2019, 33, 12690-12695.	2.5	18
41	Influence of rock-forming and catalytic additives on transformation of highly viscous heavy oil. Petroleum Chemistry, 2016, 56, 21-26.	0.4	17
42	MÃ¶ssbauer study of products of the thermocatalytic treatment of kerogen-containing rocks. Bulletin of the Russian Academy of Sciences: Physics, 2017, 81, 817-821.	0.1	17
43	Influence of the Nature of Metals and Modifying Additives on Changes in the Structure of Heavy Oil in a Catalytic Aquathermolysis System. Petroleum Chemistry, 2018, 58, 190-196.	0.4	17
44	Changes in the subfractional composition of heavy oil asphaltenes under aquathermolysis with oil-soluble CO-based catalyst. Petroleum Science and Technology, 2019, 37, 1589-1595.	0.7	17
45	Thermal Transformation of the Mobile-Hydrocarbon Composition of Domanik Deposits of Volga-Ural Oil-and Gas-Bearing Province. Chemistry and Technology of Fuels and Oils, 2017, 53, 511-519.	0.2	15
46	Effect of the Natural Minerals Pyrite and Hematite on the Transformation of Domanik Rock Organic Matter in Hydrothermal Processes. Petroleum Chemistry, 2019, 59, 24-33.	0.4	15
47	Changes in Heavy Oil Saturates and Aromatics in the Presence of Microwave Radiation and Iron-Based Nanoparticles. Catalysts, 2022, 12, 514.	1.6	15
48	The material balance of organic matter of Domanic shale formation after thermal treatment. Petroleum Science and Technology, 2019, 37, 756-762.	0.7	14
49	Heavy Oil Hydrocarbons and Kerogen Destruction of Carbonateâ€“Siliceous Domanic Shale Rock in Sub- and Supercritical Water. Processes, 2020, 8, 800.	1.3	14
50	Molecular Dynamics and Proton Hyperpolarization via Synthetic and Crude Oil Porphyrin Complexes in Solid and Solution States. Langmuir, 2021, 37, 6783-6791.	1.6	14
51	A Review on the Role of Amorphous Aluminum Compounds in Catalysis: Avenues of Investigation and Potential Application in Petrochemistry and Oil Refining. Processes, 2021, 9, 1811.	1.3	14
52	Composition of Oils of Carbonate Reservoirs in Current and Ancient Waterâ€”Oil Contact Zones. Chemistry and Technology of Fuels and Oils, 2015, 51, 117-126.	0.2	13
53	Characteristic features of the hydrocarbon composition of Spiridonovskoe (Tatarstan) and Pitch Lake (Trinidad and Tobago) asphaltites. Petroleum Chemistry, 2016, 56, 572-579.	0.4	13
54	The transformation of high-viscosity oil of carbonate rock in the presence of CO[AcAc]₃ catalyst in a vapor-air medium. Petroleum Science and Technology, 2018, 36, 1001-1006.	0.7	13

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55	Transformation of Resinous Components of the Ashalcha Field Oil during Catalytic Aquathermolysis in the Presence of a Cobalt-Containing Catalyst Precursor. Catalysts, 2021, 11, 745.	1.6	13
56	Composition of the high-molecular-mass components of oil- and bitumen-bearing rocks and their hydrothermal transformation products. Petroleum Chemistry, 2011, 51, 231-242.	0.4	12
57	Study of the Rheological Properties of Heat-Treatment Products of Asphaltic Oils in the Presence of Rock-Forming Minerals. Chemistry and Technology of Fuels and Oils, 2015, 51, 133-139.	0.2	12
58	Study of Fractional Composition of Asphaltenes in Hydrocarbon Material. Chemistry and Technology of Fuels and Oils, 2018, 54, 44-50.	0.2	12
59	Influence of nanosized iron oxides (II, III) on conversion of biodegradated oil. Petroleum Science and Technology, 2019, 37, 971-976.	0.7	12
60	Development of a catalyst based on mixed iron oxides for intensification the production of heavy hydrocarbon feedstocks. Fuel, 2022, 312, 123005.	3.4	12
61	Promising Aspects of Heavy Oil and Native Asphalt Conversion Under Field Conditions. Chemistry and Technology of Fuels and Oils, 2014, 50, 185-188.	0.2	11
62	Application of Thermal Investigation Methods in Developing Heavy-Oil Production Technologies. Chemistry and Technology of Fuels and Oils, 2015, 50, 569-578.	0.2	11
63	The aquathermolysis of heavy oil from Riphean-Vendian complex with iron-based catalyst: FT-IR spectroscopy data. Petroleum Science and Technology, 2019, 37, 1410-1416.	0.7	11
64	Microwave Radiation Impact on Heavy Oil Upgrading from Carbonate Deposits in the Presence of Nano-Sized Magnetite. Processes, 2021, 9, 2021.	1.3	11
65	Transformation of Organic Matter of Domanik Rock from the Romashkino Oilfield in Sub- and Supercritical Water. Petroleum Chemistry, 2020, 60, 683-692.	0.4	10
66	Thermal Decomposition of Kerogen in High-Carbon Domanic Rock of the Romashkino Oilfield in Sub- and Supercritical Water. Energy & Fuels, 2022, 36, 3549-3562.	2.5	10
67	Composition features of hydrocarbons and rocks of Domanic deposits of different oil fields in the Tatarstan territory. Petroleum Science and Technology, 2019, 37, 374-381.	0.7	9
68	Differentiation of Romashkino crude oils according to biomarker hydrocarbon parameters. Petroleum Chemistry, 2006, 46, 314-323.	0.4	8
69	The influence of transition metals â€“ Fe, Co, Cu on transformation of organic matters from Domanic rocks in hydrothermal catalytic system. Petroleum Science and Technology, 2018, 36, 1382-1388.	0.7	8
70	Road bitumen's based on the vacuum residue of heavy oil and natural asphaltite: Part II â€“ physical and mechanical properties. Petroleum Science and Technology, 2017, 35, 1687-1691.	0.7	7
71	Comparative Study of Changes in the Composition of Organic Matter of Rocks from Different Sampling-Depth Intervals of Domanik and Domankoid Deposits of the Romashkino Oilfield. Petroleum Chemistry, 2019, 59, 1124-1137.	0.4	7
72	Transformation of Carbon-Rich Organic Components of a Domanik Rock in Sub- and Supercritical Aqueous Fluids. Petroleum Chemistry, 2021, 61, 608-623.	0.4	7

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73	Underground Upgrading of the Heavy Crude Oil in Content-Saturated Sandstone with Aquathermolysis in the Presence of an Iron Based Catalyst. Catalysts, 2021, 11, 1255.	1.6	7
74	Transformation of residual oil in producing formations of the Romashkino oil field during hydrothermal treatment. Petroleum Chemistry, 2007, 47, 318-330.	0.4	6
75	Road bitumen's based on the vacuum residue of heavy oil and natural asphaltite: Part I â€“ chemical composition. Petroleum Science and Technology, 2017, 35, 1680-1686.	0.7	6
76	Hydrothermal Transformations of Organic Matter of Carbon-Rich Domanik Rock in Carbon Dioxide Environment at Different Temperatures. Petroleum Chemistry, 2020, 60, 278-290.	0.4	6
77	Hydrothermal Impact on Hydrocarbon Generation from Low-Permeable Domanic Sedimentary Rocks with Different Lithofacies. Energy & Fuels, 2021, 35, 11223-11238.	2.5	6
78	Influence of Naphthenic Hydrocarbons and Polar Solvents on the Composition and Structure of Heavy-Oil Aquathermolysis Products. Industrial & Engineering Chemistry Research, 2021, 60, 13191-13203.	1.8	6
79	Composition of Hydrothermalâ€“Catalytic Conversion Products of Asphaltite from the Spiridonovskoe Oilfield. Petroleum Chemistry, 2019, 59, 48-56.	0.4	5
80	Catalytic Oxidation of Heavy Residual Oil by Pulsed Nuclear Magnetic Resonance. Processes, 2021, 9, 158.	1.3	5
81	Aquathermolysis of heavy oil in the presence of bimetallic catalyst that form in-situ from the mixture of oil-soluble iron and cobalt precursors. Georesursy, 2019, 21, 62-67.	0.3	5
82	Oils and lubricants based on high-viscosity heavy crude oil from the Ashalâ€™chinskoe field. Chemistry and Technology of Fuels and Oils, 2013, 49, 333-341.	0.2	4
83	On Certain Characteristics of Ultrasound Attenuation in Suspensions of High-Molecular Oil Components. Acoustical Physics, 2018, 64, 567-571.	0.2	4
84	Composition of Shale Oil from Poorly Permeable Carbonate Rocks of Domanikovian Deposits of Dankov-Lebedyan Horizon of Romashkino Field. Chemistry and Technology of Fuels and Oils, 2018, 54, 173-186.	0.2	4
85	A Thermal Study on Peat Oxidation Behavior in the Presence of an Iron-Based Catalyst. Catalysts, 2021, 11, 1344.	1.6	4
86	Hydrocarbon Composition of Products Formed by Transformation of the Organic Matter of Rocks from Tatarstan Domanik Deposits in Supercritical Water. Petroleum Chemistry, 2022, 62, 199-213.	0.4	4
87	Influence of High-Molecular <i>n</i>-Alkane Associates on Rheological Behavior of the Crude Oil Residue. Energy & Fuels, 2022, 36, 6755-6770.	2.5	4
88	Detection of biomarkers in the organic matter of rocks from the Romashkinskoe oil field using gas chromatography-mass spectrometry. Journal of Analytical Chemistry, 2010, 65, 438-444.	0.4	3
89	Change in the Hydrocarbon and Component Compositions of Heavy Crude Ashalchinsk Oil Upon Catalytic Aquathermolysis. Chemistry and Technology of Fuels and Oils, 2017, 53, 173-180.	0.2	3
90	Hydrothermal transformation of heavy oil and organic matter from carbonate rocks of oil fields of Tatarstan. Petroleum Science and Technology, 2019, 37, 528-534.	0.7	3

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91	Investigation of Structural Phase Conversions of an Iron-Containing Catalyst by Mossbauer Spectroscopy (Part 1). Journal of Applied Spectroscopy, 2020, 87, 680-684.	0.3	3
92	Investigation of Structural-Phase Conversion of an Iron-Containing Catalyst by MÃ¶ssbauer Spectroscopy (Part 2). Journal of Applied Spectroscopy, 2021, 88, 92-96.	0.3	3
93	Composition and Distribution of Microelements in Rocks, Extracts, and Asphaltenes from Domanik Deposits of Various Lithologo-Facial Types of Romashkino Oilfield. Petroleum Chemistry, 2021, 61, 576-587.	0.4	3
94	Composition of Oil after Hydrothermal Treatment of Cabonate-Siliceous and Carbonate Domanic Shale Rocks. Processes, 2021, 9, 1798.	1.3	3
95	Transformation of the Organic Matter of Low-Permeability Domanik Rock in Supercritical Water and 1-Propanol (A Review). Petroleum Chemistry, 2022, 62, 62-82.	0.4	3
96	Thermogravimetric Study on Peat Catalytic Pyrolysis for Potential Hydrocarbon Generation. Processes, 2022, 10, 974.	1.3	3
97	Hydrogenation processes for white-oil production from Ashalâ€™cha heavy crude. Chemistry and Technology of Fuels and Oils, 2012, 48, 262-272.	0.2	2
98	Influence of the Structure of Heavy Oil Disperse System on its Rheological Properties Under Steam-Heat Treatment Conditions. Chemistry and Technology of Fuels and Oils, 2017, 53, 470-479.	0.2	2
99	Peculiarities of Hydrocarbon Generation in Procsses of Transformation of Organic Matter of Domanikovian Rocks in Various Media of Hydrothermal System. Chemistry and Technology of Fuels and Oils, 2018, 54, 446-456.	0.2	2
100	A new approach for measuring rheology of polymer solutions in reservoir conditions. Journal of Petroleum Science and Engineering, 2019, 181, 106160.	2.1	2
101	The Oil-Bearing Strata of Permian Deposits of the Ashalâ€™cha Oil Field Depending on the Content, Composition, and Thermal Effects of Organic Matter Oxidation in the Rocks. Geofluids, 2020, 2020, 1-19.	0.3	2
102	Microelemental Composition of Petroleum Extracts and Asphaltenes from Rocks of High-Carbon Domanik Sediments of Tatarstan. Petroleum Chemistry, 2022, 62, 383-396.	0.4	2
103	Petroleum crudes and products â€" Soil pollutants. Attempted classification based on biodegradation. Chemistry and Technology of Fuels and Oils, 1999, 35, 315-324.	0.2	1
104	Intensification of oil production by hydraulic fracturing method from terrigenous reservoirs in depleting oil field. Petroleum Science and Technology, 2018, 36, 591-596.	0.7	1
105	Resonator Method for Studying Dielectric Characteristics of Ð¡austobiolithes. Journal of Siberian Federal University: Chemistry, 2021, 14, 315-324.	0.1	1
106	Features of the elemental, structural-group, and microelement composition of asphaltenes from natural bitumens of the Permian deposits of Tatarstan. Petroleum Science and Technology, 2020, 38, 18-23.	0.7	0
107	Corrigendum to â€œThe Oil-Bearing Strata of Permian Deposits of the Ashalâ€™cha Oil Field Depending on the Content, Composition, and Thermal Effects of Organic Matter Oxidation in the Rocksâ€• Geofluids, 2020, 2020, 1-1.	0.3	0
108	Features of the Isotopeâ€"Geochemical Carbon Composition of Oil in Fields at the South Tatar Arch. Geochemistry International, 2021, 59, 548-558.	0.2	0

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109	Conversion of Organic Matter of Carbonate Deposits in the Hydrothermal Fluid. Processes, 2021, 9, 1893.	1.3	0
110	Aquathermolysis of high-viscosity oil terrigenic sediments in the presence of iron oxide (II, III). , 2021, 3, 75-81.		0