Alexander K Shchekin

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Work of Formation of Direct and Inverse Micelle as a Functions of Aggregation Number. Colloid Journal, 2022, 84, 109-119.	1.3	2
2	On the Ðjhoice of the Equation of State for a System of Hard Spheres in Calculations of Density Profiles and Surface Tension of Droplets and Bubbles. Russian Journal of General Chemistry, 2022, 92, 629-640.	0.8	1
3	Strict Limitations of the Approximation of Mean-Field Supersaturation in Kinetics of Nucleation and Wide Possibilities of the Excluded Volume Approach. Russian Journal of General Chemistry, 2022, 92, 641-649.	0.8	1
4	Comment on "Size dependence of bubble wetting on surfaces: breakdown of contact angle match between small sized bubbles and droplets―by H. Zhang and X. Zhang, Nanoscale, 2019, 11, 2823. Nanoscale, 2021, 13, 4308-4310.	5.6	4
5	A Unified Approach to Disjoining Pressure in Liquid and Vapor Interlayer within the Framework of the Density Functional Theory. Colloid Journal, 2021, 83, 263-269.	1.3	6
6	Regularities of non-stationary diffusion growth of overcritical gas bubbles and kinetics of bubble distribution in presence of capillary and viscous forces. Journal of Chemical Physics, 2021, 154, 144101.	3.0	3
7	Disjoining pressure in vapor layers near planar and spherical lyophobic surfaces. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2021, 615, 126277.	4.7	6
8	Localization and transformation of physically significant modes in relaxation of ensembles of spherical and cylindrical micelles. Physica A: Statistical Mechanics and Its Applications, 2021, 572, 125912.	2.6	1
9	Molecular-Thermodynamic Model of Solubilization in Direct Spherical Micelles of Nonionic Surfactants. Colloid Journal, 2021, 83, 518-529.	1.3	2
10	Molecular Dynamics of Decane Solubilization and Diffusion of Aggregates Consisting of Surfactant and Decane Molecules in Aqueous Solutions. Colloid Journal, 2021, 83, 406-417.	1.3	2
11	Calculations of Thermodynamic Characteristics of Vapor Interlayers with the Use of Gradient and Integral Density Functional Theories and Nudged Elastic Band Method. Colloid Journal, 2021, 83, 558-565.	1.3	3
12	Influence of Vapor–Gas Medium Heating due to the Condensation Heat on the Stage of Multicomponent Droplet Nucleation. Colloid Journal, 2021, 83, 737-743.	1.3	0
13	Dependence of Surface Tension of a Droplet Formed on the Molecular Condensation Nucleus or Ion on the Droplet Radius. Mechanics of Solids, 2020, 55, 55-61.	0.7	2
14	Thermodynamic properties of stable and unstable vapor shells around lyophobic nanoparticles. Physica A: Statistical Mechanics and Its Applications, 2020, 560, 125105.	2.6	9
15	Concentration profiles around and chemical composition within growing multicomponent bubble in presence of curvature and viscous effects. Pure and Applied Chemistry, 2020, 92, 1123-1133.	1.9	5
16	The Kinetic Theory for the Stage of Homogeneous Nucleation of Multicomponent Droplets and Bubbles: New Results. Colloid Journal, 2020, 82, 217-244.	1.3	9
17	A General Approach to Describing Fast Relaxation with Regard to Specific Features of Micellar Models. Colloid Journal, 2020, 82, 513-521.	1.3	3
18	Calculation of Chemical Potential of a Molecule on the Basis of Radial Distribution Functions. Colloid Journal, 2020, 82, 634-640.	1.3	1

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19	Thermodynamic Analysis of Adsorption and Line-Tension Contributions to Contact Angles of Small Sessile Droplets. Colloid Journal, 2019, 81, 455-468.	1.3	7
20	A Numerical Description of Fast Relaxation in Micellar Solutions on the Basis of the Spherocylinder Model. Colloid Journal, 2019, 81, 205-210.	1.3	2
21	The overlapping surface layers and the disjoining pressure in a small droplet. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2019, 574, 78-85.	4.7	11
22	Analytical description of molecular mechanism of fast relaxation of spherical micelles with the extended Becker–Döring differential equation. Journal of Molecular Liquids, 2019, 284, 725-734.	4.9	3
23	Multicomponent condensation on the nucleation stage. Journal of Chemical Physics, 2019, 150, 054104.	3.0	9
24	The Effect of the Nonideality of a Solution in a Binary Sessile Droplet on Its Evaporation Dynamics. Colloid Journal, 2019, 81, 687-695.	1.3	3
25	The effect of a finite number of monomers available for aggregation at nucleation and micellization in a fixed volume. Journal of Chemical Physics, 2019, 151, 244903.	3.0	12
26	Improved kinetic description of fast relaxation of cylindrical micelles. Physica A: Statistical Mechanics and Its Applications, 2019, 518, 299-311.	2.6	8
27	Dynamics of ensemble of gas bubbles with account of the Laplace pressure on the nucleation stage at degassing in a gas-liqiud mixture. Fluid Phase Equilibria, 2018, 455, 63-69.	2.5	12
28	Dynamics of Complete Evaporation of a Sessile Droplet of 1-Propanol–Water Solution at Different Ambient Humidities. Colloid Journal, 2018, 80, 640-647.	1.3	9
29	PHYSICAL INTERPRETATION OF ICE CONTACT ANGLES, FITTED TO EXPERIMENTAL DATA ON IMMERSION FREEZING OF KAOLINITE PARTICLES. Interfacial Phenomena and Heat Transfer, 2018, 6, 37-74.	0.8	2
30	The Stage of Ultrafast Relaxation in Micellar Surfactant Solutions. Colloid Journal, 2018, 80, 243-247.	1.3	4
31	Numerical Solution of Generalized Smoluchowski Equations for Cylindrical Micelles. Colloid Journal, 2018, 80, 459-466.	1.3	4
32	The Effect of Simulation Cell Size on the Diffusion Coefficient of an Ionic Surfactant Aggregate. Colloid Journal, 2018, 80, 248-254.	1.3	19
33	Nucleation stage of multicomponent bubbles of gases dissolved in a decompressed liquid. Journal of Chemical Physics, 2018, 148, 234103.	3.0	9
34	Kinetics of Aggregation and Relaxation in Micellar Surfactant Solutions. Colloid Journal, 2018, 80, 107-140.	1.3	19
35	The theory of degassing and swelling of a supersaturated-by-gas solution. Physica A: Statistical Mechanics and Its Applications, 2017, 468, 228-237.	2.6	11
36	Molecular modeling of ionic aggregates at several concentrations of SDS in aqueous solution. Journal of Molecular Liquids, 2017, 236, 414-421.	4.9	16

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37	The "fine structure―of the slow micellar relaxation mode and the aggregation rates in the range between a potential hump and well in the work of aggregation. Colloid Journal, 2017, 79, 295-302.	1.3	8
38	Three stages of water microdroplet evaporation on hydrophobized surface: Comparison between steady-state theory and experiment. Colloid Journal, 2017, 79, 353-359.	1.3	5
39	Extension of the analytical kinetics of micellar relaxation: Improving a relation between the Becker–D¶ring difference equations and their Fokker–Planck approximation. Physica A: Statistical Mechanics and Its Applications, 2017, 479, 551-562.	2.6	5
40	Density functional description of size-dependent effects at nucleation on neutral and charged nanoparticles. Journal of Chemical Physics, 2017, 146, .	3.0	12
41	Diffusion in micellar systems: theory and molecular modelling. Russian Chemical Reviews, 2017, 86, 567-588.	6.5	11
42	All-atom molecular dynamics analysis of kinetic and structural properties of ionic micellar solutions. Colloid Journal, 2017, 79, 181-189.	1.3	4
43	Evaporation dynamics of a binary sessile droplet: Theory and comparison with experimental data on a droplet of a sulfuric-acid solution. Colloid Journal, 2017, 79, 779-787.	1.3	10
44	COMPARABLE EFFECTS OF ADSORPTION AND LINE TENSION ON CONTACT ANGLE OF A NUCLEATED DROPLET ON A PARTIALLY WETTABLE SUBSTRATE. Interfacial Phenomena and Heat Transfer, 2017, 5, 113-128.	0.8	5
45	Full-time kinetics of self-assembly and disassembly in micellar solution via the generalized Smoluchowski equation with fusion and fission of surfactant aggregates. Journal of Chemical Physics, 2016, 145, 174105.	3.0	21
46	Molecular dynamics study of salt influence on transport and structural properties of SDS micellar solutions. Fluid Phase Equilibria, 2016, 424, 114-121.	2.5	25
47	Key thermodynamic characteristics of nucleation on charged and neutral cores of molecular sizes in terms of the gradient density functional theory. Colloid Journal, 2016, 78, 553-565.	1.3	13
48	The Stefan outflow in a multicomponent vapor–gas atmosphere around a droplet and its role for cloud expansion. Journal of Aerosol Science, 2016, 102, 72-82.	3.8	9
49	Equations for the evolution of a growing or evaporating free microdroplet under nonstationary conditions of diffusion and heat transfer in a multicomponent vapor–gas medium. Colloid Journal, 2016, 78, 340-352.	1.3	7
50	Nonstationary evolution of the size, composition, and temperature of microdroplets of nonideal two- and three-component aqueous solutions. Colloid Journal, 2016, 78, 353-362.	1.3	6
51	Dependence of the condensate chemical potential on droplet size in thermodynamics of heterogeneous nucleation within the gradient DFT. Fluid Phase Equilibria, 2016, 424, 162-172.	2.5	14
52	Relaxation times and modes of disturbed aggregate distribution in micellar solutions with fusion and fission of micelles. Journal of Chemical Physics, 2015, 143, 124902.	3.0	17
53	Determination of interfacial parameters of a soluble particle in a nonideal solution from measured deliquescence and efflorescence humidities. Atmospheric Chemistry and Physics, 2015, 15, 3851-3871.	4.9	7
54	New analytical TEMOM solutions for a class of collision kernels in the theory of Brownian coagulation. Physica A: Statistical Mechanics and Its Applications, 2015, 428, 435-442.	2.6	14

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55	Diffusion coefficients and viscosities of aqueous solutions of alkyltrimethylammonium bromides. Colloid Journal, 2015, 77, 179-185.	1.3	12
56	Diffusivities of species in ionic micellar solutions: Molecular dynamic simulation. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2015, 480, 165-170.	4.7	11
57	The stage of nucleation of supercritical droplets with thermal effects in the regime of nonstationary diffusion and heat transfer. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2015, 483, 307-315.	4.7	11
58	Diffusion coefficients of ionic surfactants with different molecular structures in aqueous solutions. Colloid Journal, 2015, 77, 492-499.	1.3	11
59	Multi-scale times and modes of fast and slow relaxation in solutions with coexisting spherical and cylindrical micelles according to the difference Becker-Döring kinetic equations. Journal of Chemical Physics, 2014, 141, 064901.	3.0	14
60	The stage of nonisothermal nucleation of supercritical particles of a new phase under nonstationary conditions of particle diffusion growth and heat transfer to a medium. Colloid Journal, 2014, 76, 701-711.	1.3	11
61	On the evolution of a multicomponent droplet during nonisothermal diffusion growth or evaporation. Colloid Journal, 2014, 76, 576-584.	1.3	12
62	Nucleation stage in supersaturated vapor with inhomogeneities due to nonstationary diffusion onto growing droplets. Physica A: Statistical Mechanics and Its Applications, 2014, 402, 255-265.	2.6	12
63	Kinetics of micellisation and relaxation of cylindrical micelles described by the difference Becker–Döring equation. Soft Matter, 2014, 10, 2619.	2.7	23
64	Kinetic modeling of self-aggregation in solutions with coexisting spherical and cylindrical micelles at arbitrary initial conditions. RSC Advances, 2014, 4, 51722-51733.	3.6	14
65	Dynamics of variations in size and composition of a binary droplet in a mixture of two condensing vapors and a passive gas under arbitrary initial conditions. Colloid Journal, 2013, 75, 571-578.	1.3	9
66	Thermodynamics of a liquid wetting film on a spherical particle with an adsorbed ion. Colloid Journal, 2013, 75, 504-513.	1.3	6
67	Size, temperature and composition of a spherical droplet as a function of time at the transient stage of nonisothermal binary condensation or evaporation. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2013, 432, 147-156.	4.7	13
68	Vapor nucleation on a wettable nanoparticle carrying a non-central discrete electric charge. Journal of Chemical Physics, 2013, 138, 194708.	3.0	9
69	Thermodynamic and kinetic theory of nucleation, deliquescence and efflorescence transitions in the ensemble of droplets on soluble particles. Journal of Chemical Physics, 2013, 138, 054704.	3.0	14
70	Micellization and relaxation in solution with spherical micelles via the discrete Becker–Döring equations at different total surfactant concentrations. Journal of Chemical Physics, 2012, 137, 044902.	3.0	24
71	Kinetic Theory of Molecular Mechanism of Micellar Relaxation. Chemistry Letters, 2012, 41, 1081-1083.	1.3	10
72	Dynamic light scattering study of cetyltrimethylammonium bromide aqueous solutions. Colloid Journal, 2012, 74, 239-247.	1.3	38

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73	Excess equimolar radius of liquid drops. Physical Review E, 2012, 85, 031605.	2.1	44
74	A self-similar regime of droplet growth with allowance for the Stefan flux and dependence of diffusion coefficient on vapor-gas medium composition. Colloid Journal, 2012, 74, 215-222.	1.3	12
75	The modified Thomson equation in the theory of heterogeneous vapor nucleation on charged solid particles. Atmospheric Research, 2011, 101, 493-502.	4.1	17
76	Simultaneous establishing of stationary growth rate and composition of supercritical droplets at isothermal binary condensation in the diffusion-controlled regime. Physica A: Statistical Mechanics and Its Applications, 2011, 390, 3308-3316.	2.6	13
77	Dynamics of variations in size and composition of supercritical droplet at binary condensation. Colloid Journal, 2011, 73, 224-233.	1.3	10
78	Thermal effects accompanying stationary binary condensation of vapors into overcritical droplet. Colloid Journal, 2011, 73, 394-405.	1.3	11
79	Micellization kinetics with allowance for fussion and fission of spherical and cylindrical micelles: 1. Set of nonlinear equations describing slow relaxation. Colloid Journal, 2011, 73, 406-417.	1.3	16
80	Aggregation work at polydisperse micellization: Ideal solution and "dressed micelle―models comparing to molecular dynamics simulations. Journal of Chemical Physics, 2010, 133, 244109.	3.0	12
81	Activation barriers for the complete dissolution of condensation nucleus and its reverse crystallization in droplets in the undersaturated solvent vapor. Colloid Journal, 2010, 72, 432-439.	1.3	7
82	New approach to defining thermodynamic surface tension of solids. Colloid Journal, 2010, 72, 673-678.	1.3	8
83	Nucleation stage with nonsteady growth of supercritical gas bubbles in a strongly supersaturated liquid solution and the effect of excluded volume. Physical Review E, 2009, 80, 061125.	2.1	19
84	Nonlinear kinetics of fast relaxation in solutions with short and lengthy micelles. Journal of Chemical Physics, 2009, 131, 074114.	3.0	16
85	Grand potential in thermodynamics of solid bodies and surfaces. Journal of Chemical Physics, 2009, 131, 161104.	3.0	26
86	The laws of establishing stationary composition in a droplet condensing in a binary vapor–gas environment. Physica A: Statistical Mechanics and Its Applications, 2009, 388, 3728-3736.	2.6	10
87	Point excesses in the theory of ordinary and micellar solutions. Russian Journal of Physical Chemistry A, 2009, 83, 223-230.	0.6	4
88	Regularities of binary condensation of vapors when one of them is undersaturated. Colloid Journal, 2009, 71, 654-659.	1.3	1
89	Thermodynamic and kinetic theory of ionic micellar systems: 1. Work of aggregation. Colloid Journal, 2009, 71, 816-825.	1.3	7
90	Thermodynamic and kinetic theory of ionic micellar systems: 2. Statistical-thermodynamic relations. Colloid Journal, 2009, 71, 826-834.	1.3	7

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91	A kinetic description of the fast relaxation of coexisting spherical and cylindrical micelles. Russian Journal of Physical Chemistry A, 2008, 82, 101-107.	0.6	12
92	Power-law stage of slow relaxation in solutions with spherical micelles. Colloid Journal, 2008, 70, 244-256.	1.3	8
93	Kinetics of slow relaxation upon the competition between globular and small spherocylindrical micelles. Colloid Journal, 2008, 70, 455-461.	1.3	12
94	Generalization of the Gibbs–Kelvin–Köhler and Ostwald–Freundlich equations for a liquid film on a soluble nanoparticle. Journal of Chemical Physics, 2008, 129, 154116.	3.0	51
95	Thermodynamics of droplet formation around a soluble condensation nucleus in the atmosphere of a solvent vapor. Journal of Chemical Physics, 2008, 129, 214111.	3.0	26
96	On the formulation of the material equilibrium condition for a dissolving solid nanoparticle. Journal of Chemical Physics, 2007, 127, 191102.	3.0	9
97	The 5th International Conference on Natural and Anthropogenic Aerosols. Colloid Journal, 2007, 69, 261-261.	1.3	0
98	Relations for extrema of the work of aggregation in micellar solutions. Colloid Journal, 2007, 69, 319-327.	1.3	3
99	Boltzmann Distributions and Slow Relaxation in Systems with Spherical and Cylindrical Micelles. Langmuir, 2006, 22, 1534-1543.	3.5	24
100	Kinetics of fast relaxation of cylindrical micelles. Colloid Journal, 2006, 68, 248-252.	1.3	11
101	On the mechanical equilibrium condition for incompletely developed interfaces. Mendeleev Communications, 2005, 15, 61-63.	1.6	1
102	System of relaxation equations for materially isolated surfactant solution with spherical and cylindrical micelles. Colloid Journal, 2005, 67, 32-40.	1.3	3
103	Kinetic description of the relaxation of surfactant solutions containing spherical and cylindrical micelles. Colloid Journal, 2005, 67, 41-50.	1.3	3
104	System of relaxation equations for materially isolated surfactant solution with spherical and cylindrical micelles. Colloid Journal, 2005, 67, 32-40.	1.3	2
105	Kinetic description of the relaxation of surfactant solutions containing spherical and cylindrical micelles. Colloid Journal, 2005, 67, 41-50.	1.3	3
106	Kinetic description of the relaxation of surfactant solutions in the absence of activation barrier between spherical and cylindrical micelles. Colloid Journal, 2005, 67, 146-158.	1.3	8
107	The condition of mechanical equilibrium on the surface of a nonuniform thin film. Colloid Journal, 2005, 67, 205-212.	1.3	9
108	The Aggregation Work and Shape of Molecular Aggregates upon the Transition from Spherical to Globular and Cylindrical Micelles. Colloid Journal, 2005, 67, 324-336.	1.3	11

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109	Thermodynamics of Nucleation on the Particles of Salts-Strong Electrolytes: The Allowance for Ion Adsorption in the Droplet Surface Layer. Colloid Journal, 2005, 67, 774-787.	1.3	1
110	Nucleation in Micellization Processes. , 2005, , 312-374.		9
111	Local mechanical equilibrium conditions for interfaces and thin films of arbitrary shape *. Molecular Physics, 2005, 103, 2911-2922.	1.7	27
112	Study of nonsteady diffusional growth of a droplet in a supersaturated vapor: Treatment of the moving boundary and material balance. Journal of Chemical Physics, 2004, 121, 387.	3.0	16
113	Concentrations of Monomers and Cylindrical Micelles above the Second CMC. Colloid Journal, 2004, 66, 174-185.	1.3	15
114	The line tension and the generalized Young equation: the choice of dividing surface. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2004, 250, 263-268.	4.7	54
115	Title is missing!. Colloid Journal, 2003, 65, 145-154.	1.3	13
116	Title is missing!. Colloid Journal, 2003, 65, 459-468.	1.3	7
117	Diffusion of Vapor in the Presence of a Growing Droplet. Colloid Journal, 2003, 65, 740-744.	1.3	5
118	The work of droplet formation on a charged condensation nucleus exposed to an external electric field. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2003, 223, 277-285.	4.7	6
119	The Macroscopic Effects of Internal and External Electric Fields on Profile and Thermodynamics of a Dielectric Droplet. Aerosol Science and Technology, 2002, 36, 318-328.	3.1	12
120	Title is missing!. Colloid Journal, 2002, 64, 112-119.	1.3	1
121	The Complete Condition of Mechanical Equilibrium at a Curved Nonspherical Surface. Colloid Journal, 2002, 64, 186-189.	1.3	2
122	Nanostructural Models of Micelles and Primicellar Aggregates. Russian Journal of General Chemistry, 2002, 72, 607-621.	0.8	23
123	Title is missing!. Colloid Journal, 2002, 64, 499-507.	1.3	1
124	Title is missing!. Colloid Journal, 2002, 64, 488-498.	1.3	6
125	Title is missing!. Colloid Journal, 2002, 64, 605-615.	1.3	28
126	The condition of mechanical equilibrium for a non-spherical interface between phases with a non-diagonal stress tensor. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2001, 192, 357-362.	4.7	9

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127	Three-Dimensional Aspect of the Surface Tension: An Approach Based on the Total Pressure Tensor. Colloid Journal, 2001, 63, 365-375.	1.3	8
128	Title is missing!. Colloid Journal, 2001, 63, 197-204.	1.3	19
129	Thermodynamic and Kinetic Foundations of the Micellization Theory: 5. Hierarchy of Kinetic Times. Colloid Journal, 2001, 63, 723-730.	1.3	18
130	Theory of heterogeneous nucleation for vapor undergoing a gradual metastable state formation. Physics-Uspekhi, 2001, 44, 331-370.	2.2	61
131	Thermodynamics and kinetics of condensation on wettable macroscopic nuclei: New results. AIP Conference Proceedings, 2000, , .	0.4	0
132	The characteristic times of establishing the steady rate of nucleation on soluble aerosol particles containing surfactants. AIP Conference Proceedings, 2000, , .	0.4	0
133	The thermodynamic theory of effects of internal and external electric field in nucleation. AIP Conference Proceedings, 2000, , .	0.4	1
134	The effects of external electric field in thermodynamics of formation of dielectric droplet. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1999, 148, 283-290.	4.7	29
135	Validity of Tolman's equation: How large should a droplet be?. Journal of Chemical Physics, 1998, 109, 4063-4070.	3.0	120
136	Condensation on macroscopic nuclei at low dynamic supersaturations of the vapour phase. Mendeleev Communications, 1997, 7, 165-166.	1.6	2
137	Phase and aggregative characterization of micellar systems. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1997, 128, 13-16.	4.7	8
138	Role of surface forces in heterogeneous nucleation on wettable nuclei. Advances in Colloid and Interface Science, 1996, 65, 71-124.	14.7	61
139	On the Phase Approach in the Thermodynamics of Aggregative Systems. Mendeleev Communications, 1995, 5, 93-94.	1.6	2
140	The Effect of the Surface Activity of Soluble Condensation Nuclei on the Thermodynamics of Heterogeneous Nucleation in Vapours. Mendeleev Communications, 1995, 5, 202-203.	1.6	3
141	Propagation of a boundary disturbance in a stratified gas for arbitrary knudsen number. Journal of Applied Mechanics and Technical Physics, 1994, 34, 660-668.	0.5	0
142	A Theory of Condensation on Soluble Surfactant Nuclei. Mendeleev Communications, 1993, 3, 196-197.	1.6	3
143	Kinetics of the establishment of steady homogeneous condensation of a supersaturated vapor. Theoretical and Mathematical Physics(Russian Federation), 1982, 52, 699-706.	0.9	1