Ilya Polishuk

List of Publications by Year
in descending order

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97	1,889	218381	315357
papers	citations	26 h-index	38 g-index

98	98	98	631
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Standardized Critical Point-Based Numerical Solution of Statistical Association Fluid Theory Parameters: The Perturbed Chain-Statistical Association Fluid Theory Equation of State Revisited. Industrial & Engineering Chemistry Research, 2014, 53, 14127-14141.	1.8	99
2	Unnoticed Pitfalls of Soave-Type Alpha Functions in Cubic Equations of State. Industrial & Engineering Chemistry Research, 2003, 42, 5662-5673.	1.8	71
3	Simultaneous prediction of the critical and sub-critical phase behavior in mixtures using equation of state I. Carbon dioxide-alkanols. Chemical Engineering Science, 2001, 56, 6485-6510.	1.9	68
4	About the numerical pitfalls characteristic for SAFT EOS models. Fluid Phase Equilibria, 2010, 298, 67-74.	1.4	67
5	Hybridizing SAFT and Cubic EOS: What Can Be Achieved?. Industrial & Engineering Chemistry Research, 2011, 50, 4183-4198.	1.8	65
6	Novel Methodology for Analysis and Evaluation of SAFT-Type Equations of State. Industrial & Engineering Chemistry Research, 2013, 52, 13875-13885.	1.8	51
7	Addressing the issue of numerical pitfalls characteristic for SAFT EOS models. Fluid Phase Equilibria, 2011, 301, 123-129.	1.4	50
8	Prediction of the critical locus in binary mixtures using equation of state. Fluid Phase Equilibria, 2000, 172, 1-26.	1.4	46
9	Till which pressures the fluid phase EOS models might stay reliable?. Journal of Supercritical Fluids, 2011, 58, 204-215.	1.6	46
10	Simultaneous prediction of the critical and sub-critical phase behavior in mixtures using equations of state II. Carbon dioxideâ€“heavy n-alkanes. Chemical Engineering Science, 2003, 58, 2529-2550.	1.9	42
11	About the physical validity of attaching the repulsive terms of analytical EOS models by temperature dependencies. Fluid Phase Equilibria, 2010, 293, 164-167.	1.4	41
12	Prediction of the critical locus in binary mixtures using equation of state. Fluid Phase Equilibria, 1999, 164, 13-47.	1.4	40
13	Modeling of Viscosities in Extended Pressure Range Using SAFT + Cubic EoS and Modified Yarrantonâ€“Satyro Correlation. Industrial & Engineering Chemistry Research, 2012, 51, 13527-13537.	1.8	39
14	Implementation of Perturbed-Chain Statistical Associating Fluid Theory (PC-SAFT), Generalized (G)SAFT+Cubic, and Cubic-Plus-Association (CPA) for Modeling Thermophysical Properties of Selected 1-Alkyl-3-methylimidazolium Ionic Liquids in a Wide Pressure Range. Journal of Physical Chemistry A, 2013, 117, 2223-2232.	1.1	38
15	Implementation of CP-PC-SAFT for Predicting Thermodynamic Properties and Gas Solubility in 1-Alkyl-3-methylimidazolium Bis(trifluoromethylsulfonyl)imide Ionic Liquids without Fitting Binary Parameters. Industrial & Engineering Chemistry Research, 2017, 56, 7845-7857.	1.8	38
16	The group contribution method (GC) versus the critical point-based approach (CP): Predicting thermodynamic properties of weakly- and non-associated oxygenated compounds by GC-PPC-SAFT and CP-PC-SAFT. Journal of Supercritical Fluids, 2016, 110, 11-21.	1.6	37
17	The numerical challenges of SAFT EoS models. Reviews in Chemical Engineering, 2011, 27, .	2.3	34
18	Implementation of PC-SAFT and SAFT+Cubic for modeling thermodynamic properties of haloalkanes. I. 11 halomethanes. Fluid Phase Equilibria, 2012, 316, 66-73.	1.4	33

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19	Predicting phase behavior in aqueous systems without fitting binary parameters I: CPâ€PCâ€SAFT EOS, aromatic compounds. AICHE Journal, 2017, 63, 4124-4135.	1.8	33
20	Generalization of SAFT+Cubic equation of state for predicting and correlating thermodynamic properties of heavy organic substances. Journal of Supercritical Fluids, 2012, 67, 94-107.	1.6	31
21	Thermodynamic Properties of 1,2-Dichloroethane and 1,2-Dibromoethane under Elevated Pressures: Experimental Results and Predictions of a Novel DIPPR-Based Version of FT-EoS, PC-SAFT, and CP-PC-SAFT. Industrial & Engineering Chemistry Research, 2015, 54, 9645-9656.	1.8	31
22	Implementation of GC-PPC-SAFT and CP-PC-SAFT for predicting thermodynamic properties of mixtures of weakly- and non-associated oxygenated compounds. Journal of Supercritical Fluids, 2016, 115, 65-78.	1.6	31
23	Correlation and prediction of interface tension for fluid mixtures: An approach based on cubic equations of state with the wong-sandler mixing rule. Journal of Phase Equilibria and Diffusion, 2005, 26, 215-224.	0.5	29
24	Modeling Viscosities of Pure Compounds and Their Binary Mixtures Using the Modified Yarrantonâ€“Satyro Correlation and Free Volume Theory Coupled with SAFT+Cubic EoS. Industrial & Engineering Chemistry Research, 2014, 53, 959-971.	1.8	29
25	Estimating the liquid properties of 1-alkanols from C5 to C12 by FT-EoS and CP-PC-SAFT: Simplicity versus complexity. Journal of Supercritical Fluids, 2015, 104, 193-203.	1.6	27
26	Predicting phase behavior in aqueous systems without fitting binary parameters II: Gases and nonâ€aromatic hydrocarbons. AICHE Journal, 2017, 63, 5064-5075.	1.8	26
27	A novel approach for defining parameters in a four-parameter EOS. Chemical Engineering Science, 2000, 55, 5705-5720.	1.9	25
28	Estimation of interfacial behavior using the global phase diagram approach I. Carbon dioxideâ€“n-alkanes. Thermochimica Acta, 2004, 411, 171-176.	1.2	25
29	Implementation of the critical point-based revised PC-SAFT for modelling thermodynamic properties of aromatic and haloaromatic compounds. Journal of Supercritical Fluids, 2015, 97, 133-144.	1.6	25
30	Toward Development of a Universal CP-PC-SAFT-Based Modeling Framework for Predicting Thermophysical Properties at Reservoir Conditions: Inclusion of Surface Tensions. Industrial & Engineering Chemistry Research, 2018, 57, 8819-8831.	1.8	25
31	Estimation of Liquidâˆ’Liquidâˆ’Vapor Equilibria Using Predictive EOS Models. 1. Carbon Dioxideâˆ’n-Alkanes. Journal of Physical Chemistry B, 2003, 107, 1864-1874.	1.2	24
32	A Modeling Framework for Predicting and Correlating Viscosities of Liquids in Wide Range of Conditions. Industrial & Engineering Chemistry Research, 2015, 54, 6999-7003.	1.8	23
33	Generalized Cubic Equation of State Adjusted to the Virial Coefficients of Real Gases and Its Prediction of Auxiliary Thermodynamic Properties. Industrial & Engineering Chemistry Research, 2009, 48, 10708-10717.	1.8	22
34	Implementation of SAFT + Cubic, PC-SAFT, and Soaveâ€“Benedictâ€“Webbâ€“Rubin Equations of State for Comprehensive Description of Thermodynamic Properties in Binary and Ternary Mixtures of CH₄, CO₂, and n-C₁₆H₃₄. Industrial & Engineering Chemistry Research, 2011, 50, 14175-14185.	1.8	21
35	Semi-Theoretical Versus Entirely Empirical: Comparing SAFT + Cubic and Soaveâ€“Benedictâ€“Webbâ€“Rubin (SBWR) Equations of State. Industrial & Engineering Chemistry Research, 2011, 50, 11422-11431.	1.8	21
36	Implementation of PC-SAFT and SAFTÂ+ÂCubic for modeling thermodynamic properties of haloalkanes. II. 7 Haloethanes and their mixtures. International Journal of Refrigeration, 2013, 36, 980-991.	1.8	21

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37	Estimation of Thermodynamic Properties and Phase Equilibria in Systems of Deep Eutectic Solvents by PC-SAFT EoS. Industrial & Engineering Chemistry Research, 2020, 59, 22292-22300.	1.8	21
38	Predicting phase behavior of metallic mercury in liquid and compressed gaseous hydrocarbons. Fuel, 2016, 174, 197-205.	3.4	19
39	Association and molecular chain length effects on interfacial behaviorÂ§. Physics and Chemistry of Liquids, 2006, 44, 45-59.	0.4	18
40	Prediction of Highâ€Pressure Phase Equilibria using Cubic EOS: What Can Be Learned?. Canadian Journal of Chemical Engineering, 2002, 80, 927-942.	0.9	18
41	Implementation of CP-PC-SAFT and CS-SAFT-VR-Mie for Predicting the Thermodynamic Properties of C₁â€“C₃ Halocarbon Systems. II. Inter-Relation between Solubilities in Ionic Liquids, Their Pressure, Volume, and Temperature, and Critical Constants. Industrial & Engineering Chemistry Research, 2021, 60, 13084-13093.	1.8	17
42	Measurements and modeling of the VLE properties of n-hexadecane in supercritical binary propane+n-butane solvent. Fluid Phase Equilibria, 2020, 510, 112502.	1.4	16
43	Closed loops of liquidâ€“liquid immiscibility predicted by semi-empirical cubic equations of state and classical mixing rules. Physical Chemistry Chemical Physics, 2002, 4, 879-883.	1.3	15
44	Implementation of SAFT+Cubic and PC-SAFT for comprehensive description of thermodynamic properties of n-octane and its mixtures. Journal of Supercritical Fluids, 2012, 62, 47-54.	1.6	15
45	Speeds of sound in ionic liquids under elevated pressures. New experimental data and CP-PC-SAFT modelling. Journal of Molecular Liquids, 2020, 303, 112669.	2.3	15
46	Estimation of Liquidâˆ’Liquidâˆ’Vapor Equilibria in Binary Mixtures of n-Alkanes. Industrial & Engineering Chemistry Research, 2004, 43, 5957-5964.	1.8	14
47	Implementation of PC-SAFT and SAFT+Cubic for modeling thermodynamic properties of eight 1-alkenes and their mixtures. Journal of Chemical Thermodynamics, 2012, 54, 155-164.	1.0	14
48	High-pressure phase equilibrium in the {carbon dioxide (1) + 1-chloropropane (2)} binary system. Journal of Chemical Thermodynamics, 2015, 91, 165-171.	1.0	14
49	Comparison of SAFT-VR-Mie and CP-PC-SAFT in predicting phase behavior of associating systems I. Ammoniaâ€“water, methanol, ethanol and hydrazine. Journal of Molecular Liquids, 2018, 265, 639-653.	2.3	14
50	A Novel Equation of State for the Prediction of Thermodynamic Properties of Fluids. Journal of Physical Chemistry B, 2005, 109, 5977-5984.	1.2	13
51	Experimental Determination and Modeling Thermophysical Properties of 1-Chlorononane in a Wide Range of Conditions: Is It Possible To Predict a Contribution of Chlorine Atom?. Industrial & Engineering Chemistry Research, 2018, 57, 5142-5150.	1.8	13
52	Comparison of SAFT-VR-Mie and CP-PC-SAFT in predicting phase behavior of associating systems II. Ammonia â€“ Hydrocarbons. Journal of Molecular Liquids, 2018, 269, 657-665.	2.3	13
53	Wide-ranging prediction of phase behavior in complex systems by CP-PC-SAFT with universal kij values. I. Mixtures of non-associating compounds with [C2mim][EtSO4], [C4mim][MeSO4], and [C2mim][MeSO3] ionic liquids. Journal of Molecular Liquids, 2020, 310, 113266.	2.3	13
54	Transitional behavior of phase diagrams predicted by the Redlichâ€“Kwong equation of state and classical mixing rules. Physical Chemistry Chemical Physics, 1999, 1, 4245-4250.	1.3	12

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55	Phase Stability Analysis in Binary Systems. Physics and Chemistry of Liquids, 2000, 38, 277-331.	0.4	12
56	Comparison of SAFT-VR-Mie and CP-PC-SAFT in predicting phase behavior of associating systems III. Aliphatic hydrocarbons - 1-propanol, 1-butanol and 1-pentanol. Journal of Molecular Liquids, 2019, 279, 492-502.	2.3	12
57	Implementation of CP-PC-SAFT and CS-SAFT-VR-Mie for Predicting Thermodynamic Properties of C₁â€“C₃ Halocarbon Systems. I. Pure Compounds and Mixtures with Nonassociating Compounds. Industrial & Engineering Chemistry Research, 2021, 60, 9624-9636.	1.8	12
58	About the Relation between the Empirical and the Theoretically Based Parts of van der Waals-like Equations of State. Industrial & Engineering Chemistry Research, 2002, 41, 4414-4421.	1.8	11
59	Predicting phase behavior of metallic mercury in liquid and compressed gaseous hydrocarbons II: Further examination of CP-PC-SAFT in the light of new data. Fuel, 2017, 203, 686-689.	3.4	11
60	Phase behavior of Dieterici fluids. Physical Chemistry Chemical Physics, 2004, 6, 5189-5194.	1.3	10
61	Rebuttal to the Comments of Paul M. Mathias on â€œUnnoticed Pitfalls of Soave-Type Alpha Functions in Cubic Equations of Stateâ€• Industrial & Engineering Chemistry Research, 2004, 43, 1895-1896.	1.8	10
62	Limiting conditions for the critical pressure step point behavior in the Global Phase Diagram of binary mixtures composed by spherical molecules of equal sizes. Journal of Supercritical Fluids, 2009, 48, 108-119.	1.6	10
63	Comparison of SAFT-VR-Mie and CP-PC-SAFT in predicting phase behavior of associating systems IV. Methanolâ€“aliphatic hydrocarbons. Journal of Molecular Liquids, 2019, 291, 111321.	2.3	10
64	Comparison of CP-PC-SAFT and SAFT-VR-Mie in Predicting Phase Equilibria of Binary Systems Comprising Gases and 1-Alkyl-3-methylimidazolium Ionic Liquids. Molecules, 2021, 26, 6621.	1.7	9
65	Simultaneous prediction of the critical and sub-critical phase behavior in mixtures using equations of state III. Methaneâ€“n-alkanes. Chemical Engineering Science, 2003, 58, 4363-4376.	1.9	8
66	An Empirical Modification of Classical Mixing Rule for the Cohesive Parameter: The Triple Interactions in Binary Systems Considered. Industrial & Engineering Chemistry Research, 2010, 49, 4989-4994.	1.8	8
67	Prediction of sound velocity for selected ionic liquids using a multilayer feed-forward neural network. Journal of Molecular Liquids, 2022, 347, 118376.	2.3	8
68	Some Observations Regarding the Association Kernel of SAFT-VR-Mie. Is the Molecularly Inspired Contribution Always Necessary?. Industrial & Engineering Chemistry Research, 2018, 57, 15869-15883.	1.8	7
69	Some Observations Regarding the SAFT-VR-Mie Equation of State. The Open Thermodynamics Journal, 2011, 5, 18-28.	0.6	7
70	Simultaneous prediction of the critical and sub-critical phase behavior in mixtures using equations of state IV. Mixtures of chained n-alkanes. Chemical Engineering Science, 2004, 59, 633-643.	1.9	6
71	Prediction of phase equilibria in the systems carbon dioxide (1)â€“fatty acids (2) by two cubic EOS models and classical mixing rules without binary adjustable parameters. Fluid Phase Equilibria, 2010, 289, 90-93.	1.4	6
72	Viscosities of 1-Iodoalkanes. New Experimental Data, Prediction, and Analysis. Industrial & Engineering Chemistry Research, 2019, 58, 20116-20124.	1.8	6

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73	Thermophysical Properties of the Medium-Chain 1-Alkyl Halides in a Wide Range of Conditions: New Experimental Data and Predictions of CP-PC-SAFT and FT-EOS. Industrial & Engineering Chemistry Research, 2019, 58, 5725-5732.	1.8	6
74	Comparison of SAFT-VR-Mie and CP-PC-SAFT in Estimating the Phase Behavior of Acetone + n-Alkane Systems. Industrial & Engineering Chemistry Research, 2020, 59, 21567-21578.	1.8	6
75	Interfacial properties of fluorinated (F)-gases in azeotropic condition. Journal of Molecular Liquids, 2022, 350, 118604.	2.3	6
76	A novel EOS that combines van der Waals and Dieterici potentials. AIChE Journal, 2005, 51, 2077-2088.	1.8	5
77	Azeotropic behavior of Dieterici binary fluids. Fluid Phase Equilibria, 2007, 257, 18-26.	1.4	5
78	Some observations regarding the prediction of isochoric heat capacities by engineering EOS models. Fluid Phase Equilibria, 2009, 277, 121-125.	1.4	5
79	Estimation of phase behavior in mixtures of CO2and C20+n-alkanes using predictive eos models. Physics and Chemistry of Liquids, 2003, 41, 623-637.	0.4	4
80	Novel Four-Parameter EOS with Temperature-Independent Parameters. Industrial & Engineering Chemistry Research, 2007, 46, 9248-9256.	1.8	4
81	IMPLEMENTATION OF MATHEMATICA FOR DEVELOPMENT AND APPLICATION OF EOS MODELS. II: DERIVATION OF THE GENERALIZED EXPRESSION FOR THE FUGACITY COEFFICIENTS OF COMPOUNDS IN A MIXTURE. Chemical Engineering Communications, 2008, 196, 448-453.	1.5	4
82	IMPLEMENTATION OF MATHEMATICA FOR DEVELOPMENT AND APPLICATION OF EOS MODELS. I: DERIVATION OF THE EXPRESSIONS FOR HARD-CHAIN AND HARD-SPHERE COMPRESSIBILITY FACTORS. Chemical Engineering Communications, 2008, 196, 443-447.	1.5	4
83	Measurements and predictions of densities and viscosities in CO2Â+Âhydrocarbon mixtures at high pressures and temperatures: CO2Â+Ân-pentane and CO2Â+Ân-hexane blends. Journal of Molecular Liquids, 2022, 360, 119518.	2.3	4
84	Simultaneous Prediction of the Critical and Subcritical Phase Behavior in Mixtures of Ethaneâ^'n-Alkanes. Industrial & Engineering Chemistry Research, 2005, 44, 2292-2300.	1.8	3
85	IMPLEMENTATION OF MATHEMATICA FOR DEVELOPMENT AND APPLICATION OF EOS MODELS. III: CALCULATION OF HEAT CAPACITIES, ENTHALPY AND ENTROPY OF EVAPORATION, AND SPEED OF SOUND. Chemical Engineering Communications, 2009, 196, 1291-1299.	1.5	3
86	Second-Order Differential Accelerators Based on the Geometry of Equilibrium for Thermodynamic Calculations. Part I. Pure Fluids. Industrial & Engineering Chemistry Research, 2019, 58, 20838-20846.	1.8	3
87	Reference materials for phase equilibrium studies. 1. Liquidâ€“liquid equilibria (IUPAC Technical Report). Pure and Applied Chemistry, 2021, 93, 811-827.	0.9	3
88	Simultaneous Prediction of the Critical and Subcritical Phase Behavior in Mixtures of Perfluoromethane (1)â^'Alkanes (2). Industrial & Engineering Chemistry Research, 2006, 45, 6765-6769.	1.8	2
89	Comments on â€œJouleâ^'Thomson Inversion Curves and Third Virial Coefficients for Pure Fluids from Molecular-Based Modelsâ€•and â€œPredicted Inversion Curve and Third Virial Coefficients of Carbon Dioxide at High Temperaturesâ€• Industrial & Engineering Chemistry Research, 2009, 48, 6901-6903.	1.8	2
90	The additivity of surface and volumetric properties of Î±,Ï‰-dihalogenoalkanes. Journal of Chemical Thermodynamics, 2019, 132, 222-228.	1.0	2

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91	Comparison of CP-PC-SAFT and PC-SAFT with k12 = 0 and PPR78 in Predicting Binary Systems of Hydrocarbons with Squalane, n-dodecylbenzene, cis-decalin, Tetralin, and Naphthalene at High Pressures. Industrial & Engineering Chemistry Research, 0, , .	1.8	2
92	Interfacial properties of hydrogen-methane system from inhomogeneous fluid theories. International Journal of Hydrogen Energy, 2021, 46, 39719-39727.	3.8	2
93	Surface anomalies in ethanol plus n-octane mixture: An effect of molecular orientations and hydrogen bonds. Journal of Molecular Liquids, 2022, 361, 119630.	2.3	2
94	Comments on â€œVLE predictions with the Pengâ€“Robinson equation of state and temperature dependent kij calculated through a group contribution methodâ€•by J.-N. Jaubert and F. Mutelet [Fluid Phase Equilibria, 224 (2004) 285â€“304]. Fluid Phase Equilibria, 2006, 249, 198-199.	1.4	1
95	Comments on â€œDevelopment of a Universal Group Contribution Equation of State. 2. Prediction of Vaporâ^'Liquid Equilibria for Asymmetric Systemsâ€•by Jens Ahlers and JÃ¼rgen Gmehling [Ind. Eng. Chem.Res.2002,41, 3489â^'3498]. Industrial & Engineering Chemistry Research, 2002, 41, 6634-6634.	1.8	0
96	Effect of size disparity on the gas-liquid interfacial properties of Lennard-Jones monomer plus dimer mixtures. Journal of Molecular Liquids, 2020, 311, 113280.	2.3	0
97	Correlation and Prediction of Interface Tension for Fluid Mixtures: An Approach Based on Cubic Equations of State with the Wong-Sandler Mixing Rule. Journal of Phase Equilibria and Diffusion, 2005, 26, 215-224.	0.5	0