

# Kaj Thomsen

## List of Publications by Year in descending order

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119  
papers

4,192  
citations

76196

40  
h-index

128067

60  
g-index

121  
all docs

121  
docs citations

121  
times ranked

2789  
citing authors

#	ARTICLE	IF	CITATIONS
1	Modeling of vapor-liquid-solid equilibrium in gas-aqueous electrolyte systems. <i>Chemical Engineering Science</i> , 1999, 54, 1787-1802.	1.9	241
2	Correlation and prediction of thermal properties and phase behaviour for a class of aqueous electrolyte systems. <i>Chemical Engineering Science</i> , 1996, 51, 3675-3683.	1.9	157
3	Chilled ammonia process for CO <sub>2</sub> capture. <i>International Journal of Greenhouse Gas Control</i> , 2010, 4, 131-136.	2.3	141
4	The Debye-Hückel theory and its importance in modeling electrolyte solutions. <i>Fluid Phase Equilibria</i> , 2018, 462, 130-152.	1.4	130
5	Calculation of Liquid Water-Hydrate-Methane Vapor Phase Equilibria from Molecular Simulations. <i>Journal of Physical Chemistry B</i> , 2010, 114, 5775-5782.	1.2	118
6	Chilled ammonia process for CO <sub>2</sub> capture. <i>Energy Procedia</i> , 2009, 1, 1035-1042.	1.8	117
7	Predictive screening of ionic liquids for dissolving cellulose and experimental verification. <i>Green Chemistry</i> , 2016, 18, 6246-6254.	4.6	110
8	Properties of cryobrines on Mars. <i>Icarus</i> , 2011, 212, 123-130.	1.1	99
9	Extended UNIQUAC model for correlation and prediction of vapour-liquid-solid equilibria in aqueous salt systems containing non-electrolytes. Part A. Methanol-water-salt systems. <i>Chemical Engineering Science</i> , 2000, 55, 2673-2686.	1.9	94
10	An electrolyte CPA equation of state for mixed solvent electrolytes. <i>AIChE Journal</i> , 2015, 61, 2933-2950.	1.8	92
11	Extended UNIQUAC model for thermodynamic modeling of CO <sub>2</sub> absorption in aqueous alkanolamine solutions. <i>Fluid Phase Equilibria</i> , 2009, 282, 121-132.	1.4	91
12	Equilibrium Total Pressure and CO <sub>2</sub> Solubility in Binary and Ternary Aqueous Solutions of 2-(Diethylamino)ethanol (DEEA) and 3-(Methylamino)propylamine (MAPA). <i>Journal of Chemical &amp; Engineering Data</i> , 2014, 59, 764-774.	1.0	85
13	Prediction of mineral scale formation in geothermal and oilfield operations using the Extended UNIQUAC model. <i>Geothermics</i> , 2006, 35, 239-284.	1.5	80
14	Modeling of Carbon Dioxide Absorption by Aqueous Ammonia Solutions Using the Extended UNIQUAC Model. <i>Industrial &amp; Engineering Chemistry Research</i> , 2010, 49, 12663-12674.	1.8	78
15	Comparison of the Debye-Hückel and the Mean Spherical Approximation Theories for Electrolyte Solutions. <i>Industrial &amp; Engineering Chemistry Research</i> , 2012, 51, 5353-5363.	1.8	77
16	Inhibition of Structure I and II Gas Hydrates using Synthetic and Biological Kinetic Inhibitors. <i>Energy &amp; Fuels</i> , 2011, 25, 17-23.	2.5	76
17	Extended UNIQUAC model for correlation and prediction of vapor-liquid-liquid-solid equilibria in aqueous salt systems containing non-electrolytes. Part B. Alcohol (ethanol, propanols,) Tj ETQq1 1 0.784314 rgBT /Overlock 16 Tf 50 97	1.6	76
18	Kinetics of absorption of carbon dioxide into aqueous potassium salt of proline. <i>International Journal of Greenhouse Gas Control</i> , 2012, 8, 169-179.	2.3	75

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19	Process simulation of CO <sub>2</sub> capture with aqueous ammonia using the Extended UNIQUAC model. International Journal of Greenhouse Gas Control, 2012, 10, 74-87.	2.3	74
20	Experimental measurement and modeling of the rate of absorption of carbon dioxide by aqueous ammonia. International Journal of Greenhouse Gas Control, 2011, 5, 1149-1162.	2.3	73
21	Modeling of Dielectric Properties of Aqueous Salt Solutions with an Equation of State. Journal of Physical Chemistry B, 2013, 117, 10523-10533.	1.2	73
22	Multicomponent equations of state for electrolytes. AIChE Journal, 2007, 53, 989-1005.	1.8	72
23	Modeling electrolyte solutions with the extended universal quasichemical (UNIQUAC) model. Pure and Applied Chemistry, 2005, 77, 531-542.	0.9	66
24	Prediction of mineral scale formation in geothermal and oilfield operations using the extended UNIQUAC model. Geothermics, 2005, 34, 61-97.	1.5	64
25	Design of a Eutectic Freeze Crystallization process for multicomponent waste water stream. Chemical Engineering Research and Design, 2010, 88, 1290-1296.	2.7	63
26	Propane hydrate nucleation: Experimental investigation and correlation. Chemical Engineering Science, 2008, 63, 3069-3080.	1.9	60
27	Heat of Absorption of CO <sub>2</sub> in Phase Change Solvents: 2-(Diethylamino)ethanol and 3-(Methylamino)propylamine. Journal of Chemical & Engineering Data, 2013, 58, 1974-1988.	1.0	60
28	Approach to Improve Speed of Sound Calculation within PC-SAFT Framework. Industrial & Engineering Chemistry Research, 2012, 51, 14903-14914.	1.8	58
29	Comparison of two electrolyte models for the carbon capture with aqueous ammonia. International Journal of Greenhouse Gas Control, 2012, 8, 61-72.	2.3	53
30	Inhibition of Methane Hydrate Formation by Ice-Structuring Proteins. Industrial & Engineering Chemistry Research, 2010, 49, 1486-1492.	1.8	52
31	Modeling of Dielectric Properties of Complex Fluids with an Equation of State. Journal of Physical Chemistry B, 2013, 117, 3389-3397.	1.2	52
32	Evaluating the impact of an ammonia-based post-combustion CO <sub>2</sub> capture process on a steam power plant with different cooling water temperatures. International Journal of Greenhouse Gas Control, 2012, 10, 1-14.	2.3	50
33	Phase equilibrium modeling of gas hydrate systems for CO <sub>2</sub> capture. Journal of Chemical Thermodynamics, 2012, 48, 13-27.	1.0	50
34	Simulation and optimization of fractional crystallization processes. Chemical Engineering Science, 1998, 53, 1551-1564.	1.9	49
35	Thermodynamic Analysis of Chalk-Brine-Oil Interactions. Energy & Fuels, 2017, 31, 11773-11782.	2.5	49
36	Thermodynamic promotion of carbon dioxide-clathrate hydrate formation by tetrahydrofuran, cyclopentane and their mixtures. International Journal of Greenhouse Gas Control, 2013, 17, 397-410.	2.3	46

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37	Measuring and modelling of the combined thermodynamic promoting effect of tetrahydrofuran and cyclopentane on carbon dioxide hydrates. <i>Fluid Phase Equilibria</i> , 2014, 381, 20-27.	1.4	45
38	Absorber Model for CO <sub>2</sub> Capture by Monoethanolamine. <i>Industrial &amp; Engineering Chemistry Research</i> , 2010, 49, 3751-3759.	1.8	43
39	Heat of Absorption of CO <sub>2</sub> in Aqueous Solutions of DEEA, MAPA and their Mixture. <i>Energy Procedia</i> , 2013, 37, 1532-1542.	1.8	43
40	Prediction of the vapor-liquid equilibria and speed of sound in binary systems of 1-alkanols and n-alkanes with the simplified PC-SAFT equation of state. <i>Fluid Phase Equilibria</i> , 2013, 360, 222-232.	1.4	42
41	Low energy recycling of ionic liquids via freeze crystallization during cellulose spinning. <i>Green Chemistry</i> , 2018, 20, 493-501.	4.6	41
42	On petroleum fluid characterization with the PC-SAFT equation of state. <i>Fluid Phase Equilibria</i> , 2014, 375, 254-268.	1.4	38
43	Reverse Schreinemakers Method for Experimental Analysis of Mixed-Solvent Electrolyte Systems. <i>Journal of Solution Chemistry</i> , 2009, 38, 1-14.	0.6	35
44	Thermodynamic modeling of liquid-liquid phase change solvents for CO <sub>2</sub> capture. <i>International Journal of Greenhouse Gas Control</i> , 2016, 53, 401-424.	2.3	31
45	Thermodynamic modeling of CO <sub>2</sub> absorption in aqueous N-Methyldiethanolamine using Extended UNIQUAC model. <i>Fuel</i> , 2015, 144, 295-306.	3.4	30
46	Modeling of heavy metal salt solubility using the extended UNIQUAC model. <i>AIChE Journal</i> , 2002, 48, 2664-2689.	1.8	29
47	Vapor-liquid-solid equilibria of sulfur dioxide in aqueous electrolyte solutions. <i>Chemical Engineering Science</i> , 2000, 55, 2663-2671.	1.9	28
48	A Review of Electrolyte Equations of State with Emphasis on Those Based on Cubic and Cubic-Plus-Association (CPA) Models. <i>International Journal of Thermophysics</i> , 2022, 43, 1.	1.0	28
49	Modeling of Vapor-Liquid-Solid Equilibria in Acidic Aqueous Solutions. <i>Industrial &amp; Engineering Chemistry Research</i> , 2003, 42, 4260-4268.	1.8	27
50	A Layout for the Carbon Capture with Aqueous Ammonia without Salt Precipitation. <i>Energy Procedia</i> , 2016, 86, 134-143.	1.8	27
51	eCPA: An ion-specific approach to parametrization. <i>Fluid Phase Equilibria</i> , 2018, 470, 176-187.	1.4	27
52	CO <sub>2</sub> capture using aqueous ammonia: kinetic study and process simulation. <i>Energy Procedia</i> , 2011, 4, 1443-1450.	1.8	26
53	Aqueous Solubility of Piperazine and 2-Amino-2-methyl-1-propanol plus Their Mixtures Using an Improved Freezing-Point Depression Method. <i>Journal of Chemical &amp; Engineering Data</i> , 2011, 56, 5088-5093.	1.0	25
54	Solids Modelling and Capture Simulation of Piperazine in Potassium Solvents. <i>Energy Procedia</i> , 2013, 37, 844-859.	1.8	25

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55	A new aqueous activity model for geothermal brines in the system Na-K-Ca-Mg-H-Cl-SO <sub>4</sub> -H <sub>2</sub> O from 25 to 300°C. <i>Chemical Geology</i> , 2014, 381, 78-93.	1.4	24
56	A Low Energy Aqueous Ammonia CO <sub>2</sub> Capture Process. <i>Energy Procedia</i> , 2014, 63, 614-623.	1.8	22
57	Modeling the liquid-liquid equilibrium of petroleum fluid and polar compounds containing systems with the PC-SAFT equation of state. <i>Fluid Phase Equilibria</i> , 2015, 406, 147-155.	1.4	22
58	A group contribution-based prediction method for the electrical conductivity of ionic liquids. <i>Fluid Phase Equilibria</i> , 2020, 509, 112462.	1.4	22
59	Freezing Point Depressions of Aqueous MEA, MDEA, and MEA-MDEA Measured with a New Apparatus. <i>Journal of Chemical &amp; Engineering Data</i> , 2011, 56, 995-1000.	1.0	21
60	Alternative Layouts for the Carbon Capture with the Chilled Ammonia Process. <i>Energy Procedia</i> , 2013, 37, 2076-2083.	1.8	21
61	Thermodynamic and kinetic properties of NH <sub>3</sub> -K <sub>2</sub> CO <sub>3</sub> -CO <sub>2</sub> -H <sub>2</sub> O system for carbon capture applications. <i>International Journal of Greenhouse Gas Control</i> , 2019, 85, 121-131.	2.3	21
62	Comparison of activity coefficient models for electrolyte systems. <i>AIChE Journal</i> , 2010, 56, 1334-1351.	1.8	20
63	Modelling of tetrahydrofuran promoted gas hydrate systems for carbon dioxide capture processes. <i>Fluid Phase Equilibria</i> , 2014, 375, 45-65.	1.4	20
64	Modeling of the Mixed Solvent Electrolyte System CO <sub>2</sub> -Na <sub>2</sub> CO <sub>3</sub> -NaHCO <sub>3</sub> -Monoethylene Glycol-Water. <i>Industrial &amp; Engineering Chemistry Research</i> , 2009, 48, 4565-4578.	1.8	19
65	Thermodynamic modeling of hydrogen sulfide absorption by aqueous N-methyldiethanolamine using the Extended UNIQUAC model. <i>Fluid Phase Equilibria</i> , 2015, 392, 24-32.	1.4	19
66	Modelling of cyclopentane promoted gas hydrate systems for carbon dioxide capture processes. <i>Fluid Phase Equilibria</i> , 2014, 375, 89-103.	1.4	18
67	Thermodynamic modelling of acid gas removal from natural gas using the Extended UNIQUAC model. <i>Fluid Phase Equilibria</i> , 2017, 442, 38-43.	1.4	18
68	Vapor-Liquid Equilibrium Measurements and Modeling of the Propyl Mercaptan + Methane + Water System. <i>Journal of Chemical &amp; Engineering Data</i> , 2010, 55, 842-846.	1.0	17
69	Dynamic Operation and Simulation of Post-Combustion CO <sub>2</sub> Capture. <i>Energy Procedia</i> , 2016, 86, 205-214.	1.8	17
70	Simultaneous Description of Activity Coefficients and Solubility with eCPA. <i>Industrial &amp; Engineering Chemistry Research</i> , 2017, 56, 1074-1089.	1.8	17
71	Freezing Point Depressions of Phase Change CO <sub>2</sub> Solvents. <i>Journal of Chemical &amp; Engineering Data</i> , 2013, 58, 1918-1926.	1.0	15
72	Solubility of hydrogen sulfide in aqueous solutions of N-methyldiethanolamine at high pressures. <i>Fluid Phase Equilibria</i> , 2015, 393, 33-39.	1.4	14

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73	Solubility Measurements in the Mixed Solvent Electrolyte System $\text{Na}_2\text{CO}_3\text{-NaHCO}_3\text{-Monoethylene Glycol-Water}$ . <i>Industrial &amp; Engineering Chemistry Research</i> , 2009, 48, 2218-2228.	1.8	13
74	Equilibrium Solubility of $\text{CO}_2$ in Alkanolamines. <i>Energy Procedia</i> , 2014, 51, 217-223.	1.8	13
75	Modeling of Dissolution Effects on Waterflooding. <i>Transport in Porous Media</i> , 2015, 106, 545-562.	1.2	13
76	Solid Formation in Piperazine Rate-based Simulation. <i>Energy Procedia</i> , 2014, 63, 1074-1083.	1.8	12
77	Comparative analysis of experimental methods for quantification of small amounts of oil in water. <i>Journal of Petroleum Science and Engineering</i> , 2016, 147, 459-467.	2.1	12
78	Results from Process Modeling of the Mixed-salt Technology for $\text{CO}_2$ Capture from Post-combustion-related Applications. <i>Energy Procedia</i> , 2017, 114, 771-780.	1.8	12
79	Freezing Point Determination of Water-Ionic Liquid Mixtures. <i>Journal of Chemical &amp; Engineering Data</i> , 2017, 62, 2374-2383.	1.0	12
80	Application of the cubic-plus-association (CPA) equation of state to model the fluid phase behaviour of binary mixtures of water and tetrahydrofuran. <i>Fluid Phase Equilibria</i> , 2013, 356, 209-222.	1.4	11
81	Thermodynamic modeling of the solubility of $\text{CO}_2$ in aqueous alkanolamine solutions using the extended UNIQUAC model application to monoethanolamine and methyldiethanolamine. <i>Energy Procedia</i> , 2009, 1, 861-867.	1.8	10
82	Modeling the binary system $\text{Mn}(\text{NO}_3)_2\text{-H}_2\text{O}$ with the extended universal quasichemical (UNIQUAC) model. <i>Fluid Phase Equilibria</i> , 2015, 397, 126-130.	1.4	9
83	Experimental study of the aqueous $\text{CO}_2\text{-NH}_3$ rate of reaction for temperatures from $15^\circ\text{C}$ to $35^\circ\text{C}$ , $\text{NH}_3$ concentrations from 5% to 15% and $\text{CO}_2$ loadings from 0.2 to 0.6. <i>International Journal of Greenhouse Gas Control</i> , 2018, 70, 117-127.	2.3	9
84	Brine Crude Oil Interactions at the Oil-Water Interface. , 2015, , .		8
85	Multivariable Optimization of the Piperazine $\text{CO}_2$ Post-Combustion Process. <i>Energy Procedia</i> , 2016, 86, 229-238.	1.8	8
86	Synthesis and analysis of processes with electrolyte mixtures. <i>Computers and Chemical Engineering</i> , 1995, 19, 27-32.	2.0	7
87	$\text{CO}_2$ Capture with Liquid-Liquid Phase Change Solvents: A Thermodynamic Study. <i>Energy Procedia</i> , 2017, 114, 1671-1681.	1.8	7
88	Determination of Zinc Sulfide Solubility to High Temperatures. <i>Journal of Solution Chemistry</i> , 2017, 46, 1805-1817.	0.6	7
89	Solubility and Freezing Points of Disodium Terephthalate in Water-Ethylene Glycol Mixtures. <i>Journal of Chemical &amp; Engineering Data</i> , 2021, 66, 2143-2152.	1.0	7
90	Formation of robust CEI film on high voltage $\text{LiNi}_{0.6}\text{Co}_{0.2}\text{Mn}_{0.2}\text{O}_2$ cathode enabled by functional [PVM][TFSA] ionic liquid additive. <i>Electrochimica Acta</i> , 2022, 424, 140679.	2.6	7

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91	Rate-based Modelling and Validation of a Pilot Absorber Using MDEA Enhanced with Carbonic Anhydrase (CA). Energy Procedia, 2017, 114, 707-718.	1.8	6
92	Design and Simulation of Rate-based CO <sub>2</sub> Capture Processes Using Carbonic Anhydrase (CA) Applied to Biogas. Energy Procedia, 2017, 114, 1434-1443.	1.8	6
93	Density, Viscosity, and Conductivity of [VAlM][TFSI] in Mixtures for Lithium-Ion Battery Electrolytes. Journal of Chemical & Engineering Data, 2020, 65, 495-502.	1.0	6
94	Experimental measurement and modeling of the distribution of solvent and ions between an aqueous phase and an ion exchange resin. Fluid Phase Equilibria, 2005, 228-229, 247-260.	1.4	5
95	Solid-Liquid equilibria for binary and ternary systems with the Cubic-Plus-Association (CPA) equation of state. Fluid Phase Equilibria, 2010, 293, 121-129.	1.4	5
96	Interactions of Fines with Base Fractions of Oil and its Implication in Smart Water Flooding. , 2015, , .		4
97	Determining Optimum Aging Time Using Novel Core Flooding Equipment. , 2016, , .		4
98	Kinetic study of a Layout for the Carbon Capture with Aqueous Ammonia without Salt Precipitation. Energy Procedia, 2017, 114, 1352-1359.	1.8	4
99	Water-Oil Emulsions with Fines in Smart Water Enhanced Oil Recovery. , 2017, , .		4
100	Review of barium sulphate solubility measurements. Geothermics, 2022, 104, 102465.	1.5	4
101	Importance of Fines in Smart Water Enhanced Oil Recovery (SmW-EOR) for Chalk Outcrops. , 2015, , .		3
102	Solubility Modeling of the Binary Systems Fe(NO <sub>3</sub> ) <sub>3</sub> ·H <sub>2</sub> O, Co(NO <sub>3</sub> ) <sub>2</sub> ·H <sub>2</sub> O and the Ternary System Fe(NO <sub>3</sub> ) <sub>3</sub> ·Co(NO <sub>3</sub> ) <sub>2</sub> ·H <sub>2</sub> O with the Extended Universal Quasichemical (UNIQUAC) Model. Journal of Solution Chemistry, 2016, 45, 534-545.	0.6	3
103	Comparison of the Kinetic Promoter Piperazine and Carbonic Anhydrase for CO <sub>2</sub> Absorption. Energy Procedia, 2017, 114, 719-725.	1.8	3
104	Measurement of iron and lead sulfide solubility below 100 °C. Fluid Phase Equilibria, 2018, 475, 118-126.	1.4	3
105	Solid-Liquid Equilibrium and Binodal Curves for Aqueous Solutions of NH <sub>3</sub> , NH <sub>4</sub> HCO <sub>3</sub> , MDEA, and K <sub>2</sub> CO <sub>3</sub> . Journal of Chemical & Engineering Data, 2021, 66, 3038-3046.	1.0	3
106	Modeling vapor-liquid-liquid-solid equilibrium for acetone-water-salt system. Pure and Applied Chemistry, 2020, 92, 1663-1672.	0.9	3
107	Computer-Aided Multifunctional Ionic Liquid Design for the Electrolyte in LTO Rechargeable Batteries. Journal of Physical Chemistry C, 2022, 126, 11498-11509.	1.5	3
108	Solubility Modeling of the Systems Ni(NO <sub>3</sub> ) <sub>2</sub> ·H <sub>2</sub> O and Fe(NO <sub>3</sub> ) <sub>3</sub> ·Ni(NO <sub>3</sub> ) <sub>2</sub> ·H <sub>2</sub> O with the Extended Universal Quasichemical (UNIQUAC) Model. Journal of Solution Chemistry, 2017, 46, 1220-1229.	0.6	2

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109	Solubility of $\text{NaHCO}_3$ in Systems of Aqueous Glycols (Monoethylene Glycol, Diethylene Glycol) & Engineering Data, 2021, 66, 222-233.	1.0	2
110	SOLID-LIQUID EQUILIBRIA FOR THE BINARY MIXTURES 1,4-XYLENE+ETHYLBENZENE AND 1,4-XYLENE+TOLUENE. Chemical Engineering Communications, 2004, 191, 1017-1023.	1.5	1
111	Inhibition of Gas Hydrate Formation by Low-dosage, Environmentally Benign Inhibitors. , 2010, , 445-453.		1
112	Experimental data of the aqueous $\text{NH}_3$ and $\text{CO}_2$ absorption at temperatures from $15^\circ\text{C}$ to $35^\circ\text{C}$ , $\text{NH}_3$ concentrations from 5% to 15% and $\text{CO}_2$ loadings from 0.2 to 0.6 measured with the Wetted Wall Column. Data in Brief, 2018, 17, 1240-1244.	0.5	1
113	A simple model for estimating hydrogen sulfide solubility in aqueous alkanolamines in the high pressure-high gas loading region. Journal of Sulfur Chemistry, 2021, 42, 410-425.	1.0	1
114	Solid-Liquid Phase Boundaries in the System: $\text{Glycine}-\text{NaOH}-\text{NaHCO}_3-\text{H}_2\text{O}$ . Journal of Chemical & Engineering Data, 2022, 67, 1550-1564.	1.0	1
115	Significance of Fines and their Correlation to Reported Oil Recovery. , 2015, , .		0
116	Fine Formation During Brine-Crude Oil-Calcite Interaction in Smart Water Enhanced Oil Recovery for Caspian Carbonates. , 2015, , .		0
117	Formation of Anhydrite Due to Interaction Between Water Soluble $\text{CO}_2(\text{aq})$ and Calcite Mineral During Enhanced Oil Recovery. , 2015, , .		0
118	Prediction and Experimental Determination of the Solubility of Exotic Scales at High Temperatures - Zinc Sulfide. , 2016, , .		0
119	Modelling of the terephthalic acid - disodium terephthalate - sodium chloride - sodium hydroxide - ethylene glycol - water system. Fluid Phase Equilibria, 2022, 561, 113524.	1.4	0