

James A Ritter

List of Publications by Year in descending order

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101
papers

4,338
citations

126907

33
h-index

110387

64
g-index

101
all docs

101
docs citations

101
times ranked

3916
citing authors

#	ARTICLE	IF	CITATIONS
1	Characterization of Solâ€Gelâ€Derived Cobalt Oxide Xerogels as Electrochemical Capacitors. Journal of the Electrochemical Society, 1998, 145, 4097-4103.	2.9	451
2	Examination of the Approximations Used in Determining the Isosteric Heat of Adsorption from the Clausiusâ€Clapeyron Equation. Langmuir, 1998, 14, 6323-6327.	3.5	272
3	State-of-the-art Adsorption and Membrane Separation Processes for Carbon Dioxide Production from Carbon Dioxide Emitting Industries. Separation Science and Technology, 2009, 44, 1273-1421.	2.5	256
4	Correlation of Doubleâ€Layer Capacitance with the Pore Structure of Solâ€Gel Derived Carbon Xerogels. Journal of the Electrochemical Society, 1999, 146, 3639-3643.	2.9	184
5	Application of high gradient magnetic separation principles to magnetic drug targeting. Journal of Magnetism and Magnetic Materials, 2004, 280, 184-201.	2.3	168
6	Stateâ€ofâ€theâ€Art Adsorption and Membrane Separation Processes for Hydrogen Production in the Chemical and Petrochemical Industries. Separation Science and Technology, 2007, 42, 1123-1193.	2.5	167
7	<i>In Situ</i> FTIR Spectroscopic Analysis of Carbonate Transformations during Adsorption and Desorption of CO ₂ in K-Promoted HTlc. Chemistry of Materials, 2010, 22, 3519-3526.	6.7	152
8	Development of Carbonâ€Metal Oxide Supercapacitors from Solâ€Gel Derived Carbonâ€Ruthenium Xerogels. Journal of the Electrochemical Society, 1999, 146, 3155-3160.	2.9	127
9	Stripping PSA Cycles for CO ₂ Recovery from Flue Gas at High Temperature Using a Hydrotalcite-Like Adsorbent. Industrial & Engineering Chemistry Research, 2006, 45, 4278-4294.	3.7	100
10	Understanding the Adsorption and Desorption Behavior of CO ₂ on a K-Promoted Hydrotalcite-like Compound (HTlc) through Nonequilibrium Dynamic Isotherms. Industrial & Engineering Chemistry Research, 2006, 45, 6387-6392.	3.7	100
11	A Mathematical Model of an Electrochemical Capacitor with Doubleâ€Layer and Faradaic Processes. Journal of the Electrochemical Society, 1999, 146, 3168-3175.	2.9	90
12	New Pressure Swing Adsorption Cycles for Carbon Dioxide Sequestration. Adsorption, 2005, 11, 531-536.	3.0	88
13	On the Use of the Dual-Process Langmuir Model for Correlating Unary Equilibria and Predicting Mixed-Gas Adsorption Equilibria. Langmuir, 2011, 27, 4700-4712.	3.5	88
14	Physiochemical Pathway for Cyclic Dehydrogenation and Rehydrogenation of LiAlH ₄ . Journal of the American Chemical Society, 2006, 128, 5949-5954.	13.7	82
15	Nonequilibrium Kinetic Model That Describes the Reversible Adsorption and Desorption Behavior of CO ₂ in a K-Promoted Hydrotalcite-like Compound. Industrial & Engineering Chemistry Research, 2007, 46, 1737-1744.	3.7	80
16	Analysis of magnetic drug carrier particle capture by a magnetizable intravascular stentâ€2: Parametric study with multi-wire two-dimensional model. Journal of Magnetism and Magnetic Materials, 2005, 293, 616-632.	2.3	75
17	Magnetizable implants and functionalized magnetic carriers: A novel approach for noninvasive yet targeted drug delivery. Journal of Magnetism and Magnetic Materials, 2005, 293, 633-638.	2.3	75
18	Heavy reflux PSA cycles for CO ₂ recovery from flue gas: Part I. Performance evaluation. Adsorption, 2008, 14, 399-413.	3.0	75

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19	Pressure swing adsorption: experimental and theoretical study on air purification and vapor recovery. <i>Industrial & Engineering Chemistry Research</i> , 1991, 30, 1023-1032.	3.7	70
20	Theoretical analysis of a transdermal ferromagnetic implant for retention of magnetic drug carrier particles. <i>Journal of Magnetism and Magnetic Materials</i> , 2005, 293, 605-615.	2.3	68
21	Analysis of magnetic drug carrier particle capture by a magnetizable intravascular stent: 1. Parametric study with single wire correlation. <i>Journal of Magnetism and Magnetic Materials</i> , 2004, 284, 181-194.	2.3	64
22	Limitations of Breakthrough Curve Analysis in Fixed-Bed Adsorption. <i>Industrial & Engineering Chemistry Research</i> , 2016, 55, 4734-4748.	3.7	59
23	In vitro study of ferromagnetic stents for implant assisted-magnetic drug targeting. <i>Journal of Magnetism and Magnetic Materials</i> , 2007, 311, 306-311.	2.3	57
24	Implant assisted-magnetic drug targeting: Comparison of in vitro experiments with theory. <i>Journal of Magnetism and Magnetic Materials</i> , 2008, 320, 2704-2713.	2.3	52
25	Equilibrium theory analysis of rectifying PSA for heavy component production. <i>AIChE Journal</i> , 2002, 48, 1679-1691.	3.6	48
26	Reversible hydrogen storage properties of NaAlH ₄ catalyzed with scandium. <i>Journal of Alloys and Compounds</i> , 2008, 450, 293-300.	5.5	47
27	New approximate model for nonlinear adsorption and diffusion in a single particle. <i>Chemical Engineering Science</i> , 1997, 52, 3161-3172.	3.8	45
28	Pressure Swing Adsorption~Solvent Vapor Recovery:~Process Dynamics and Parametric Study. <i>Industrial & Engineering Chemistry Research</i> , 1996, 35, 2299-2312.	3.7	43
29	Isosteric Heats of Adsorption on Carbon Predicted by Density Functional Theory. <i>Industrial & Engineering Chemistry Research</i> , 1998, 37, 1159-1166.	3.7	42
30	Equilibrium theory analysis of dual reflux PSA for separation of a binary mixture. <i>AIChE Journal</i> , 2004, 50, 2418-2429.	3.6	42
31	Ferromagnetic seeding for the magnetic targeting of drugs and radiation in capillary beds. <i>Journal of Magnetism and Magnetic Materials</i> , 2007, 310, 131-144.	2.3	38
32	HIGH-GRADIENT MAGNETIC SEPARATION FOR THE TREATMENT OF HIGH-LEVEL RADIOACTIVE WASTES. <i>Separation Science and Technology</i> , 1999, 34, 1333-1350.	2.5	35
33	Enriching Reflux and Parallel Equalization PSA Process for Concentrating Trace Components in Air. <i>Industrial & Engineering Chemistry Research</i> , 2003, 42, 1795-1803.	3.7	35
34	Carbon dioxide capture from flue gas by pressure swing adsorption at high temperature using a K-promoted HTLc: Effects of mass transfer on the process performance. <i>Environmental Progress</i> , 2006, 25, 334-342.	0.7	35
35	On the Reversibility of Hydrogen Storage in Novel Complex Hydrides. <i>Adsorption</i> , 2005, 11, 811-816.	3.0	34
36	Enriching PSA Cycle for the Production of Nitrogen from Air. <i>Industrial & Engineering Chemistry Research</i> , 2006, 45, 3256-3264.	3.7	34

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37	Equilibrium theory for solvent vapor recovery by pressure swing adsorption: analytical solution for process performance. <i>Chemical Engineering Science</i> , 1997, 52, 3147-3160.	3.8	33
38	Synthesis of Metal Complex Hydrides for Hydrogen Storage. <i>Journal of Physical Chemistry C</i> , 2007, 111, 14917-14924.	3.1	33
39	In vitro study of magnetic particle seeding for implant assisted-magnetic drug targeting. <i>Journal of Magnetism and Magnetic Materials</i> , 2008, 320, 2640-2646.	2.3	33
40	Separation of Landfill Gas CH ₄ from N ₂ Using Pressure Vacuum Swing Adsorption Cycles with Heavy Reflux. <i>Energy & Fuels</i> , 2018, 32, 3488-3498.	5.1	30
41	Temperature Dependence of the Nonequilibrium Kinetic Model That Describes the Adsorption and Desorption Behavior of CO ₂ in K-Promoted HTLc. <i>Industrial & Engineering Chemistry Research</i> , 2010, 49, 3328-3336.	3.7	27
42	On the Use of the Dual Process Langmuir Model for Predicting Unary and Binary Isothermic Heats of Adsorption. <i>Langmuir</i> , 2012, 28, 6935-6941.	3.5	26
43	Evaluation of Model Approximations in Simulating Pressure Swing Adsorption Solvent Vapor Recovery. <i>Industrial & Engineering Chemistry Research</i> , 1997, 36, 1767-1778.	3.7	25
44	Periodic State Heat Effects in Pressure Swing Adsorption-Solvent Vapor Recovery. <i>Adsorption</i> , 1998, 4, 159-172.	3.0	25
45	Purification of helium from a cryogenic natural gas nitrogen rejection unit by pressure swing adsorption. <i>Separation and Purification Technology</i> , 2018, 193, 91-102.	7.9	25
46	Simulation of gasoline vapor recovery by pressure swing adsorption. <i>Separation and Purification Technology</i> , 2000, 20, 111-127.	7.9	24
47	Arithmetic approach for complex PSA cycle scheduling. <i>Adsorption</i> , 2010, 16, 113-126.	3.0	23
48	In vitro study of magnetic nanoparticles as the implant for implant assisted magnetic drug targeting. <i>Journal of Magnetism and Magnetic Materials</i> , 2011, 323, 1903-1908.	2.3	22
49	Isolated swine heart ventricle perfusion model for implant assisted-magnetic drug targeting. <i>International Journal of Pharmaceutics</i> , 2008, 361, 202-208.	5.2	21
50	In vitro study of magnetic particle seeding for implant-assisted-magnetic drug targeting: Seed and magnetic drug carrier particle capture. <i>Journal of Magnetism and Magnetic Materials</i> , 2009, 321, 1586-1590.	2.3	21
51	Biodegradable nanocomposite magnetite stent for implant-assisted magnetic drug targeting. <i>Journal of Magnetism and Magnetic Materials</i> , 2010, 322, 3094-3100.	2.3	21
52	New correlation for the capture cross section in high-gradient magnetic separation. <i>AIChE Journal</i> , 2001, 47, 303-313.	3.6	20
53	On the use of different parabolic concentration profiles for nonlinear adsorption and diffusion in a single particle. <i>Chemical Engineering Science</i> , 1998, 53, 4135-4146.	3.8	19
54	New Virial-Type Model for Predicting Single- and Multicomponent Isothermic Heats of Adsorption. <i>Industrial & Engineering Chemistry Research</i> , 1998, 37, 684-696.	3.7	19

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55	Simplified graphical approach for complex PSA cycle scheduling. <i>Adsorption</i> , 2011, 17, 337-345.	3.0	19
56	Fractional factorial design study of a pressure swing adsorption-solvent vapor recovery process. <i>Adsorption</i> , 1997, 3, 151-163.	3.0	18
57	NEW MAGNETIC FIELD-ENHANCED PROCESS FOR THE TREATMENT OF AQUEOUS WASTES. <i>Separation Science and Technology</i> , 1999, 34, 1277-1300.	2.5	16
58	Pressure swing adsorption cycles for improved solvent vapor enrichment. <i>AIChE Journal</i> , 2000, 46, 540-551.	3.6	16
59	Thermal Treatment of Sol-Gel Derived Nickel Oxide Xerogels. <i>Journal of Sol-Gel Science and Technology</i> , 2003, 28, 133-141.	2.4	16
60	New Model That Describes Adsorption of Laterally Interacting Gas Mixtures on Random Heterogeneous Surfaces. 1. Parametric Study and Correlation with Binary Data. <i>Langmuir</i> , 1998, 14, 6528-6538.	3.5	15
61	Solvent Vapor Recovery by Pressure Swing Adsorption. III. Comparison of Simulation with Experiment for the Butane-Activated Carbon System. <i>Separation Science and Technology</i> , 1999, 34, 1545-1576.	2.5	15
62	Title is missing!. <i>Adsorption</i> , 1999, 5, 373-380.	3.0	15
63	Graphical approach for complex PSA cycle scheduling. <i>Adsorption</i> , 2009, 15, 406-421.	3.0	15
64	Synergistic effects of bimetallic catalysis on the cycling behavior of NaAlH ₄ Co-Doped with Zr and Fe. <i>Journal of Alloys and Compounds</i> , 2012, 539, 242-248.	5.5	15
65	New Pressure Swing Adsorption Cycle Schedules for Producing High-Purity Oxygen Using Carbon Molecular Sieve. <i>Industrial & Engineering Chemistry Research</i> , 2016, 55, 10758-10770.	3.7	15
66	On the use of the dual process Langmuir model for binary gas mixture components that exhibit single process or linear isotherms. <i>Adsorption</i> , 2019, 25, 1511-1523.	3.0	15
67	New Approach for Modeling Hybrid Pressure Swing Adsorption-Distillation Processes. <i>Industrial & Engineering Chemistry Research</i> , 2012, 51, 9343-9355.	3.7	14
68	Tapered Pressure Swing Adsorption Columns for Simultaneous Air Purification and Solvent Vapor Recovery. <i>Industrial & Engineering Chemistry Research</i> , 1998, 37, 2783-2791.	3.7	13
69	Theoretical Analysis of a Magnetic Separator Device for Ex Vivo Blood Detoxification. <i>Separation Science and Technology</i> , 2008, 43, 996-1020.	2.5	13
70	Comparison of Finite Difference Techniques for Simulating Pressure Swing Adsorption. <i>Adsorption</i> , 1998, 4, 337-344.	3.0	12
71	New Model That Describes Adsorption of Laterally Interacting Gas Mixtures on Random Heterogeneous Surfaces. 2. Correlation of Complex Binary and Prediction of Multicomponent Adsorption Equilibria. <i>Langmuir</i> , 1999, 15, 7732-7744.	3.5	12
72	Binary Isothermic Heats of Adsorption in Carbon Predicted from Density Functional Theory. <i>Langmuir</i> , 1999, 15, 4570-4578.	3.5	12

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73	New Kinetic Model That Describes the Reversible Adsorption and Desorption Behavior of CO ₂ in a Solid Amine Sorbent. Energy & Fuels, 2015, 29, 4492-4502.	5.1	12
74	Simulation of an Enriching Reflux PSA Process with Parallel Equalization for Concentrating a Trace Component in Air. Industrial & Engineering Chemistry Research, 2006, 45, 6243-6250.	3.7	11
75	Mass Transfer Mechanisms and Rates of CO ₂ and N ₂ in 13X Zeolite from Volumetric Frequency Response. Industrial & Engineering Chemistry Research, 2019, 58, 21679-21690.	3.7	11
76	Effect of H ₂ O Vapor on the Adsorption and Desorption Behavior of CO ₂ in a Solid Amine Sorbent. Energy & Fuels, 2016, 30, 10653-10660.	5.1	10
77	MAGNETIC FIELD ORIENTATION AND SPATIAL EFFECTS ON THE RETENTION OF PARAMAGNETIC NANOPARTICLES WITH MAGNETITE. Separation Science and Technology, 2002, 37, 3727-3753.	2.5	9
78	Adsorption of Binary Gas Mixtures in Heterogeneous Carbon Predicted by Density Functional Theory: On the Formation of Adsorption Azeotropes. Langmuir, 2010, 26, 13968-13975.	3.5	9
79	New analytical solution for nonlinear adsorption and diffusion in a single particle. Chemical Engineering Science, 2002, 57, 1197-1204.	3.8	8
80	Development of a Pressure Swing Adsorption Cycle for Producing High Purity CO ₂ from Dilute Feed Streams. Part I: Feasibility Study. Industrial & Engineering Chemistry Research, 2018, 57, 8011-8022.	3.7	8
81	<i>110th Anniversary:</i> New Volumetric Frequency Response System for Determining Mass Transfer Mechanisms in Microporous Adsorbents. Industrial & Engineering Chemistry Research, 2019, 58, 17462-17474.	3.7	8
82	Importance of Incorporating a Vacuum Pump Performance Curve in Dynamic Adsorption Process Simulation. Industrial & Engineering Chemistry Research, 2020, 59, 856-873.	3.7	8
83	Graphical unit block approach for complex PSA cycle scheduling of parallel interacting trains of columns and tanks. Adsorption, 2015, 21, 229-241.	3.0	6
84	Retention of Paramagnetic Particles by Magnetite Particle Clusters with Multifunctional Character. Separation Science and Technology, 2004, 39, 2785-2808.	2.5	5
85	New linear driving force correlation spanning long and short cycle time pressure swing adsorption processes. Adsorption, 2016, 22, 939-950.	3.0	5
86	On the use of single, dual and three process langmuir models for binary gas mixtures that exhibit unique combinations of these processes. Adsorption, 2021, 27, 637-658.	3.0	5
87	Retention of Iron Oxide Particles by Stainless Steel and Magnetite Magnetic Matrix Elements in High-Gradient Magnetic Separation. Separation Science and Technology, 2004, 39, 2863-2890.	2.5	4
88	Graphical approach for formulating pressure swing adsorption cycle schedules with unlimited equalization steps. Adsorption, 2018, 24, 221-232.	3.0	4
89	Effective Radial Thermal Conductivity of a Parallel Channel Corrugated Metal Structured Adsorbent. Industrial & Engineering Chemistry Research, 2019, 58, 16922-16933.	3.7	4
90	Theoretical Analysis of the Necessary and Sufficient Conditions for the Formation of Adsorption Azeotropes in Binary Gas Mixtures. Langmuir, 2021, 37, 13584-13594.	3.5	4

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91	New Model for Nonlinear Adsorption and Diffusion Based on a Quartic Concentration Profile Approximation. Industrial & Engineering Chemistry Research, 2002, 41, 4353-4361.	3.7	3
92	Further Validation of the Quartic Concentration Profile Approximation for Describing Intraparticle Transport in Cyclic Adsorption Processes. Adsorption, 2005, 11, 295-314.	3.0	3
93	Two Dimensional Model for the Design of Metal Hydride Hydrogen Storage Systems. Adsorption, 2005, 11, 871-876.	3.0	3
94	Carbon monoxide isotope enrichment and separation by pressure swing adsorption. Adsorption, 2013, 19, 11-23.	3.0	2
95	Equilibrium Theory Analysis of Pressure Equalization Steps in Pressure Swing Adsorption. Industrial & Engineering Chemistry Research, 2021, 60, 9928-9939.	3.7	2
96	Ideal cascade theory applied to carbon monoxide isotope separation by pressure swing adsorption. Adsorption, 2015, 21, 467-478.	3.0	1
97	METAL-DOPED SODIUM ALUMINIUM HYDRIDE AS A REVERSIBLE HYDROGEN STORAGE MATERIAL. , 2003, , .		1
98	TWO STAGE PSA FOR ENRICHMENT OF TRACE XENON FROM ATMOSPHERIC AIR. , 2000, , .		1
99	Editorial: Physisorption of Gases: Adsorbent Characterization, Adsorbent-Adsorbate Equilibrium and Kinetics. Frontiers in Chemistry, 2021, 9, 668553.	3.6	0
100	DUAL REFLUX PRESSURE SWING ADSORPTION CYCLE FOR GAS SEPARATION AND PURIFICATION. , 2003, , .		0
101	NON-EQUILIBRIUM DYNAMIC ADSORPTION AND DESORPTION ISOTHERMS OF CO ₂ ON A K-PROMOTED HTLC. , 2007, , .		0