

# Josã© Paulo Mota

## List of Publications by Year in descending order

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127  
papers

3,154  
citations

136885

32  
h-index

206029

48  
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128  
all docs

128  
docs citations

128  
times ranked

2828  
citing authors

#	ARTICLE	IF	CITATIONS
1	Adsorption of natural gas and biogas components on activated carbon. Separation and Purification Technology, 2008, 62, 281-296.	3.9	211
2	Dynamics of natural gas adsorption storage systems employing activated carbon. Carbon, 1997, 35, 1259-1270.	5.4	105
3	Improved virus purification processes for vaccines and gene therapy. Biotechnology and Bioengineering, 2015, 112, 843-857.	1.7	105
4	Structural Characterization of Single-Walled Carbon Nanotube Bundles by Experiment and Molecular Simulation. Langmuir, 2005, 21, 896-904.	1.6	104
5	Theoretical and Experimental Investigation of Morphology and Temperature Effects on Adsorption of Organic Vapors in Single-Walled Carbon Nanotubes. Journal of Physical Chemistry B, 2006, 110, 7640-7647.	1.2	93
6	Adsorption site analysis of impurity embedded single-walled carbon nanotube bundles. Carbon, 2006, 44, 2376-2383.	5.4	85
7	Anion-exchange membrane chromatography for purification of rotavirus-like particles. Journal of Membrane Science, 2008, 311, 270-283.	4.1	83
8	Rational design and optimization of downstream processes of virus particles for biopharmaceutical applications: Current advances. Biotechnology Advances, 2011, 29, 869-878.	6.0	59
9	Computational-fluid-dynamics study of a Kenics static mixer as a heat exchanger for supercritical carbon dioxide. Journal of Supercritical Fluids, 2010, 55, 107-115.	1.6	58
10	Application of CFD in the study of supercritical fluid extraction with structured packing: Wet pressure drop calculations. Journal of Supercritical Fluids, 2009, 50, 61-68.	1.6	56
11	A simulation model of a high-capacity methane adsorptive storage system. Adsorption, 1995, 1, 17-27.	1.4	55
12	Absorption of Fluorinated Greenhouse Gases Using Fluorinated Ionic Liquids. Industrial & Engineering Chemistry Research, 2019, 58, 20769-20778.	1.8	55
13	Single-column simulated-moving-bed process with recycle lag. AIChE Journal, 2005, 51, 1641-1653.	1.8	52
14	Adsorption equilibrium of carbon dioxide and nitrogen on the MIL-53(Al) metal organic framework. Separation and Purification Technology, 2015, 141, 150-159.	3.9	52
15	Natural convection heat transfer in horizontal eccentric elliptic annuli containing saturated porous media. International Journal of Heat and Mass Transfer, 2000, 43, 4367-4379.	2.5	51
16	Ionic Liquid-Impregnated Metal-Organic Frameworks for CO <sub>2</sub> /CH <sub>4</sub> Separation. ACS Applied Nano Materials, 2019, 2, 7933-7950.	2.4	51
17	Impact of gas composition on natural gas storage by adsorption. AIChE Journal, 1999, 45, 986-996.	1.8	50
18	Adenovirus purification by two-column, size-exclusion, simulated countercurrent chromatography. Journal of Chromatography A, 2014, 1347, 111-121.	1.8	48

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19	Application of CFD in the study of supercritical fluid extraction with structured packing: Dry pressure drop calculations. <i>Journal of Supercritical Fluids</i> , 2008, 47, 17-24.	1.6	45
20	Determination of the surface area and porosity of carbon nanotube bundles from a Langmuirian analysis of sub- and supercritical adsorption data. <i>Carbon</i> , 2009, 47, 948-956.	5.4	42
21	On chaotic advection in a static mixer. <i>Chemical Engineering Journal</i> , 2012, 187, 289-298.	6.6	41
22	Charge dynamics of a methane adsorption storage system: Intraparticle diffusional effects. <i>Adsorption</i> , 1997, 3, 117-125.	1.4	40
23	Simulation of a new hybrid membrane/pressure swing adsorption process for gas separation. <i>Desalination</i> , 2002, 148, 275-280.	4.0	40
24	CO <sub>2</sub> /N <sub>2</sub> gas separation using Fe(BTC)-based mixed matrix membranes: A view on the adsorptive and filler properties of metal-organic frameworks. <i>Separation and Purification Technology</i> , 2018, 202, 174-184.	3.9	39
25	Experimental assessment of simulated moving bed and varicol processes using a single-column setup. <i>Journal of Chromatography A</i> , 2007, 1142, 69-80.	1.8	38
26	Gas Separation by a Novel Hybrid Membrane/Pressure Swing Adsorption Process. <i>Industrial &amp; Engineering Chemistry Research</i> , 2007, 46, 5723-5733.	1.8	37
27	A new multicolumn, open-loop process for center-cut separation by solvent-gradient chromatography. <i>Journal of Chromatography A</i> , 2010, 1217, 8257-8269.	1.8	37
28	Experimental and computational study of ethane and ethylene adsorption in the MIL-53(Al) metal organic framework. <i>Microporous and Mesoporous Materials</i> , 2016, 230, 154-165.	2.2	37
29	Binderless shaped metal-organic framework particles: Impact on carbon dioxide adsorption. <i>Microporous and Mesoporous Materials</i> , 2019, 275, 111-121.	2.2	36
30	Robust design of adenovirus purification by two-column, simulated moving-bed, size-exclusion chromatography. <i>Journal of Biotechnology</i> , 2015, 213, 109-119.	1.9	35
31	Adsorption of fluorinated greenhouse gases on activated carbons: evaluation of their potential for gas separation. <i>Journal of Chemical Technology and Biotechnology</i> , 2020, 95, 1892-1905.	1.6	34
32	Cr-based MOF/IL composites as fillers in mixed matrix membranes for CO <sub>2</sub> separation. <i>Separation and Purification Technology</i> , 2021, 276, 119303.	3.9	34
33	Use of Single-Column Models for Efficient Computation of the Periodic State of a Simulated Moving-Bed Process. <i>Industrial &amp; Engineering Chemistry Research</i> , 2006, 45, 5314-5325.	1.8	33
34	Experimental and Theoretical Studies of Supercritical Methane Adsorption in the MIL-53(Al) Metal Organic Framework. <i>Journal of Physical Chemistry C</i> , 2011, 115, 20628-20638.	1.5	33
35	Thermodynamics of adsorption of light alkanes and alkenes in single-walled carbon nanotube bundles. <i>Physical Review B</i> , 2009, 79, .	1.1	32
36	Impact of ligand density on the optimization of ion-exchange membrane chromatography for viral vector purification. <i>Biotechnology and Bioengineering</i> , 2011, 108, 1347-1359.	1.7	32

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37	Practical Modeling of Heterogeneous Bundles of Single-Walled Carbon Nanotubes for Adsorption Applications: Estimating the Fraction of Open-Ended Nanotubes in Samples. <i>Journal of Physical Chemistry C</i> , 2007, 111, 13747-13755.	1.5	30
38	Optimal design and operation of a certain class of asynchronous simulated moving bed processes. <i>Journal of Chromatography A</i> , 2006, 1132, 76-89.	1.8	29
39	Adsorption of light alkanes and alkenes onto single-walled carbon nanotube bundles: Langmuirian analysis and molecular simulations. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2010, 357, 43-52.	2.3	29
40	Regioselective Competitive Adsorption of Water and Organic Vapor Mixtures on Pristine Single-Walled Carbon Nanotube Bundles. <i>Langmuir</i> , 2008, 24, 5746-5754.	1.6	28
41	Chaotic advection and heat transfer enhancement in Stokes flows. <i>International Journal of Heat and Fluid Flow</i> , 2003, 24, 310-321.	1.1	27
42	Synchronous and asynchronous SMB processes for gas separation. <i>AIChE Journal</i> , 2007, 53, 1192-1203.	1.8	27
43	Dynamic modelling of an adsorption storage tank using a hybrid approach combining computational fluid dynamics and process simulation. <i>Computers and Chemical Engineering</i> , 2004, 28, 2421-2431.	2.0	26
44	New dual colorimetric/fluorimetric probes for Hg <sup>2+</sup> detection & extraction based on mesoporous SBA-16 nanoparticles containing porphyrin or rhodamine chromophores. <i>Dyes and Pigments</i> , 2019, 161, 427-437.	2.0	26
45	Modeling and simulation of an industrial-scale parex process. <i>AIChE Journal</i> , 2015, 61, 1345-1363.	1.8	25
46	Streamlined, two-column, simulated countercurrent chromatography for binary separation. <i>Journal of Chromatography A</i> , 2010, 1217, 3382-3391.	1.8	24
47	Maize cob waste pre-treatments to enhance biogas production through co-anaerobic digestion with OFMSW. <i>Waste Management</i> , 2018, 72, 193-205.	3.7	24
48	Evaluation of activated carbons produced from Maize Cob Waste for adsorption-based CO <sub>2</sub> separation and biogas upgrading. <i>Journal of Environmental Chemical Engineering</i> , 2022, 10, 107065.	3.3	24
49	Adsorbent Evaluation Based on Experimental Breakthrough Curves: Separation of <i>p</i> -Xylene from <i>m</i> -Xylene Isomers. <i>Chemical Engineering and Technology</i> , 2012, 35, 1777-1785.	0.9	23
50	Fixed-bed adsorption of aromatic C <sub>8</sub> isomers: Breakthrough experiments, modeling and simulation. <i>Separation and Purification Technology</i> , 2012, 90, 246-256.	3.9	23
51	Biomethane production through anaerobic co-digestion with Maize Cob Waste based on a biorefinery concept: A review. <i>Journal of Environmental Management</i> , 2019, 249, 109351.	3.8	22
52	Evaluation of Novel Large Cut-Off Ultrafiltration Membranes for Adenovirus Serotype 5 (Ad5) Concentration. <i>PLoS ONE</i> , 2014, 9, e115802.	1.1	22
53	Chiral separation by two-column, semi-continuous, open-loop simulated moving-bed chromatography. <i>Journal of Chromatography A</i> , 2010, 1217, 5407-5419.	1.8	21
54	On the optimization of mixing protocol in a certain class of three-dimensional Stokes flows. <i>Physics of Fluids</i> , 2003, 15, 1505.	1.6	20

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55	Relay simulated moving bed chromatography: Concept and design criteria. Journal of Chromatography A, 2012, 1260, 132-142.	1.8	20
56	Impact of grafting on the design of new membrane adsorbers for adenovirus purification. Journal of Biotechnology, 2014, 181, 1-11.	1.9	20
57	Dynamic model of a countercurrent packed column operating at high pressure conditions. Journal of Supercritical Fluids, 2004, 32, 183-192.	1.6	19
58	Optimal design and experimental validation of synchronous, asynchronous and flow-modulated, simulated moving-bed processes using a single-column setup. Journal of Chromatography A, 2007, 1162, 14-23.	1.8	19
59	Simplified gauge-cell method and its application to the study of capillary phase transition of propane in carbon nanotubes. Adsorption, 2007, 13, 21-32.	1.4	19
60	Rational development of two flowthrough purification strategies for adenovirus type 5 and retro virus-like particles. Journal of Chromatography A, 2015, 1426, 91-101.	1.8	19
61	Two-column simulated moving-bed process for binary separation. Journal of Chromatography A, 2008, 1180, 42-52.	1.8	17
62	Static mixers as heat exchangers in supercritical fluid extraction processes. Journal of Supercritical Fluids, 2008, 43, 477-483.	1.6	17
63	Endohedral confinement of a DNA dodecamer onto pristine carbon nanotubes and the stability of the canonical B form. Journal of Chemical Physics, 2014, 140, 225103.	1.2	17
64	Structural Transitions in the MIL-53(Al) Metal-Organic Framework upon Cryogenic Hydrogen Adsorption. Journal of Physical Chemistry C, 2017, 121, 24252-24263.	1.5	17
65	3D-printed hybrid zeolitic/carbonaceous electrically conductive adsorbent structures. Chemical Engineering Research and Design, 2021, 174, 442-453.	2.7	17
66	Dynamic model of a supercritical carbon dioxide heat exchanger. Journal of Supercritical Fluids, 2005, 35, 167-173.	1.6	16
67	Optimal design of simulated moving-bed processes under flow rate uncertainty. AIChE Journal, 2007, 53, 2630-2642.	1.8	16
68	Modeling protein binding and elution over a chromatographic surface probed by surface plasmon resonance. Journal of Chromatography A, 2010, 1217, 2032-2041.	1.8	16
69	Chaotic advection in a three-dimensional stokes flow. AIChE Journal, 2003, 49, 2749-2758.	1.8	15
70	On-line enantiomeric analysis using high-performance liquid chromatography in chiral separation by simulated moving bed. Journal of Chromatography A, 2008, 1189, 292-301.	1.8	15
71	Free energy landscapes of the encapsulation mechanism of DNA nucleobases onto carbon nanotubes. RSC Advances, 2014, 4, 1310-1321.	1.7	15
72	Single-Column Simulated Moving-Bed Process with Recycle Lag: Analysis and Applications. Adsorption Science and Technology, 2007, 25, 647-659.	1.5	14

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73	Optimal Design and Experimental Assessment of Time-Variable Simulated Moving Bed for Gas Separation. <i>Industrial &amp; Engineering Chemistry Research</i> , 2007, 46, 6978-6988.	1.8	14
74	Non-isothermal dynamic model of a supercritical fluid extraction packed column. <i>Journal of Supercritical Fluids</i> , 2007, 41, 20-30.	1.6	14
75	Adsorption Equilibrium and Kinetics of the Parex <sup>®</sup> Feed and Desorbent Streams from Batch Experiments. <i>Chemical Engineering and Technology</i> , 2014, 37, 1541-1551.	0.9	14
76	Improving the downstream processing of vaccine and gene therapy vectors with continuous chromatography. <i>Pharmaceutical Bioprocessing</i> , 2015, 3, 489-505.	0.8	14
77	Development, Construction, and Operation of a Multisample Volumetric Apparatus for the Study of Gas Adsorption Equilibrium. <i>Journal of Chemical Education</i> , 2015, 92, 757-761.	1.1	13
78	Optimization of heat-transfer rate into time-periodic two-dimensional Stokes flows. <i>International Journal for Numerical Methods in Fluids</i> , 2007, 53, 915-931.	0.9	12
79	Natural convection heat transfer in the annular region between porous confocal ellipses. <i>International Journal for Numerical Methods in Fluids</i> , 1999, 31, 513-522.	0.9	11
80	Simulating the Two Phase Flow on Column Trays. <i>Chemical Engineering Research and Design</i> , 2005, 83, 1410-1424.	2.7	11
81	Effect of dead volumes on the performance of an industrial-scale simulated moving-bed Parex unit for ethylene purification. <i>AIChE Journal</i> , 2016, 62, 241-255.	1.8	11
82	On the numerical solution of partial differential equations with two spatial scales. <i>Computers and Chemical Engineering</i> , 1997, 21, 387-397.	2.0	10
83	Calculations of Multicomponent Adsorption-Column Dynamics Combining the Potential and Ideal Adsorbed Solution Theories. <i>Industrial &amp; Engineering Chemistry Research</i> , 2000, 39, 2459-2467.	1.8	10
84	Determination of competitive isotherms of enantiomers by a hybrid inverse method using overloaded band profiles and the periodic state of the simulated moving-bed process. <i>Journal of Chromatography A</i> , 2008, 1189, 302-313.	1.8	10
85	The role of the intermolecular potential on the dynamics of ethylene confined in cylindrical nanopores. <i>RSC Advances</i> , 2011, 1, 270.	1.7	10
86	A study of mixing by chaotic advection in two three-dimensional open flows. <i>Chemical Engineering Science</i> , 2012, 81, 179-190.	1.9	10
87	On the reduction of natural convection heat transfer in horizontal eccentric annuli containing saturated porous media. <i>International Journal of Numerical Methods for Heat and Fluid Flow</i> , 1997, 7, 401-416.	1.6	9
88	Enantioselective Hydrolysis of meso-Diester Using Pig Liver Esterase in a Two-Phase Stirred Tank Reactor. <i>Industrial &amp; Engineering Chemistry Research</i> , 2003, 42, 5516-5525.	1.8	9
89	Analysis of adsorption of a baculovirus bioreaction bulk on an ion-exchange surface by surface plasmon resonance. <i>Journal of Biotechnology</i> , 2010, 148, 171-181.	1.9	9
90	Adsorption Equilibria of Light Organics on Single-Walled Carbon Nanotube Heterogeneous Bundles: Thermodynamical Aspects. <i>Journal of Physical Chemistry C</i> , 2011, 115, 2622-2629.	1.5	9

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91	Sorption characterization and actuation of a gas-gap heat switch. <i>Sensors and Actuators A: Physical</i> , 2011, 171, 324-331.	2.0	9
92	Stokes flow heat transfer in an annular, rotating heat exchanger. <i>Applied Thermal Engineering</i> , 2011, 31, 1499-1507.	3.0	9
93	Nanosopic Characterization of DNA within Hydrophobic Pores: Thermodynamics and Kinetics. <i>Biochemical Engineering Journal</i> , 2015, 104, 41-47.	1.8	9
94	Two-column relay simulated moving-bed process for gas-phase separations. <i>Separation and Purification Technology</i> , 2017, 182, 19-28.	3.9	9
95	Low-Temperature Thermodynamic Study of the Metastable Empty Clathrate Hydrates Using Molecular Simulations. <i>ACS Earth and Space Chemistry</i> , 2019, 3, 789-799.	1.2	9
96	Extrusion and Characterization of High Si/Al Ratio ZSM-5 Using Silica Binder. <i>Energies</i> , 2020, 13, 1201.	1.6	8
97	Cryogenic neon adsorption on Co <sub>3</sub> (ndc) <sub>3</sub> (dabco) metal-organic framework. <i>Microporous and Mesoporous Materials</i> , 2020, 298, 110055.	2.2	8
98	Automatic Filtering and Reodorization of Adsorbed Natural Gas Storage Systems. <i>Adsorption</i> , 2005, 11, 905-910.	1.4	7
99	A Molecular Simulation Study of Propane and Propylene Adsorption onto Single-Walled Carbon Nanotube Bundles. <i>Journal of Nanoscience and Nanotechnology</i> , 2010, 10, 2537-2546.	0.9	7
100	Neon Adsorption on HKUST-1 and UiO-66 Metal-Organic Frameworks over Wide Pressure and Temperature Ranges. <i>Journal of Chemical &amp; Engineering Data</i> , 2019, 64, 5407-5414.	1.0	7
101	Modelling $C_{14}$ adsorption in aqueous solutions of cholinium lysinate ionic liquid. <i>Chemical Engineering Journal</i> , 2021, 421, 127875.	6.6	7
102	Adsorption of Carbon Dioxide, Methane, and Nitrogen on Zn(dcpa) Metal-Organic Framework. <i>Energies</i> , 2021, 14, 5598.	1.6	7
103	Surface Area and Porosity of Co <sub>3</sub> (ndc) <sub>3</sub> (dabco) Metal-Organic Framework and Its Methane Storage Capacity: A Combined Experimental and Simulation Study. <i>Journal of Physical Chemistry C</i> , 2021, 125, 2411-2423.	1.5	7
104	Modelling and Simulation of a Complete Supercritical Fluid Extraction Plant with Countercurrent Fractionation Column. <i>Separation Science and Technology</i> , 2011, 46, 2088-2098.	1.3	6
105	Molecular Simulation of Adsorption Processes. 1. Isothermal Stirred-tank Adsorber. <i>Molecular Simulation</i> , 2004, 30, 387-396.	0.9	5
106	MIXING ENHANCEMENT BY FREQUENCY-SELECTIVE CHAOTIC ADVECTION IN A 3-D TIME-PERIODIC STOKES FLOW. <i>Chemical Engineering Communications</i> , 2006, 193, 743-753.	1.5	5
107	Hybrid Membrane/PSA Processes for CO <sub>2</sub> /N <sub>2</sub> Separation. <i>Adsorption Science and Technology</i> , 2007, 25, 693-715.	1.5	5
108	Adsorbed Natural Gas Technology. NATO Science for Peace and Security Series C: Environmental Security, 2008, , 177-192.	0.1	5

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109	Mixing by chaotic advection in a magneto-hydrodynamic driven flow. <i>Physics of Fluids</i> , 2013, 25, .	1.6	5
110	Conformational Thermodynamics of DNA Strands in Hydrophilic Nanopores. <i>Journal of Physical Chemistry C</i> , 2016, 120, 20357-20367.	1.5	5
111	Batch chromatography with recycle lag. II – Physical realization and experimental validation. <i>Journal of Chromatography A</i> , 2020, 1623, 461211.	1.8	4
112	Molecular Simulation of Gas Separation by Equilibrium-Based Adsorption Processes. <i>Adsorption</i> , 2005, 11, 319-324.	1.4	3
113	Heat-Transfer Enhancement by Chaotic Advection in the Eccentric Helical Annular Flow. <i>Journal of Heat Transfer</i> , 2008, 130, .	1.2	3
114	Waste Conversion into Activated Carbon for Heavy Metal Removal from Waste Water. <i>NATO Science for Peace and Security Series C: Environmental Security</i> , 2008, , 133-146.	0.1	2
115	Dynamics of B-DNA in Electrically Charged Solid Nanopores. <i>Journal of Physical Chemistry C</i> , 2017, 121, 16568-16575.	1.5	2
116	Structure and thermodynamics of empty clathrate hydrates below the freezing point of water. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 16033-16043.	1.3	2
117	Heat Transfer Enhancement in Annular Stokes Flows. <i>Journal of Enhanced Heat Transfer</i> , 2006, 13, 197-214.	0.5	2
118	Batch chromatography with recycle lag. I – Concept and design. <i>Journal of Chromatography A</i> , 2020, 1623, 461199.	1.8	1
119	IMPROVING DISCHARGE PERFORMANCE OF ADSORBED NATURAL GAS VEHICULAR STORAGE SYSTEMS. , 2000, , .		0
120	Dynamic modelling of an adsorption storage tank using a hybrid approach combining computational fluid dynamics and process simulation. <i>Computer Aided Chemical Engineering</i> , 2003, 14, 797-802.	0.3	0
121	Towards the atomistic description of equilibrium-based separation processes. 1. Isothermal stirred-tank adsorber. <i>Computer Aided Chemical Engineering</i> , 2003, 14, 791-796.	0.3	0
122	On-line monitoring and control of a biological denitrification process for drinking-water treatment. <i>Computer Aided Chemical Engineering</i> , 2003, 14, 1079-1084.	0.3	0
123	Optimization of mixing protocol in a 3-d time-periodic stokes flow. <i>Computer Aided Chemical Engineering</i> , 2004, , 271-276.	0.3	0
124	A Tribute to a Global Scientist: Preface to the Professor Alvaro Egídio Rodrigues Festschrift. <i>Industrial &amp; Engineering Chemistry Research</i> , 2014, 53, 15301-15302.	1.8	0
125	Conformational Thermodynamics of DNA Strands in Hydrophilic Nanopores. <i>Journal of Physical Chemistry B</i> , 2016, , .	1.2	0
126	Nonlinear Control for Infinite-dimensional Process Systems: Fault-tolerant distributed application for Heat Exchangers * *This work was partly supported by FCT (Portugal) under project UID/CEC/50021/2013.. <i>IFAC-PapersOnLine</i> , 2017, 50, 6723-6728.	0.5	0



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127	Equilibrium and Transport Distributions of a DNA Dodecamer in Hydrophilic Nanopores. Materials Today: Proceedings, 2020, 20, 249-264.	0.9	0