James Vrentas

List of Publications by Year
in descending order

62 papers	1,667 citations	361045 20 h-index	288905 40 g-index
62 all docs	62 docs citations	62 times ranked	937 citing authors

#	Article	IF	Citations
1	Effect of axial diffusion on impurity adsorption in a circular tube. Journal of Engineering Mathematics, 2019, 114, 131-139.	0.6	0
2	Dependence of Heat Transfer in a Circular Tube with Prescribed Wall Flux on Peclet Number and on Heating Length. Chemical Engineering Communications, 2015, 202, 964-970.	1.5	1
3	Effect of the polymer glass transition on the chromatographic retention volumes. Journal of Applied Polymer Science, 2005, 97, 793-796.	1.3	0
4	Diffusion-controlled polymer dissolution and drug release. Journal of Applied Polymer Science, 2004, 93, 92-99.	1.3	7
5	Theoretical aspects of fiber spinning. Journal of Applied Polymer Science, 2004, 93, 986-993.	1.3	2
6	Steady viscoelastic diffusion. Journal of Applied Polymer Science, 2003, 88, 3256-3263.	1.3	9
7	Effect of glass transition on the concentration dependence of self-diffusion coefficients. Journal of Applied Polymer Science, 2003, 89, 1682-1684.	1.3	6
8	Prediction of the molecular-weight dependence of mutual diffusion coefficients in polymer-solvent systems. Journal of Applied Polymer Science, 2003, 89, 2778-2779.	1.3	6
9	Evaluation of the free-volume theory of diffusion. Journal of Polymer Science, Part B: Polymer Physics, 2003, 41, 501-507.	2.4	35
10	Diffusion in glassy polymers. Journal of Polymer Science, Part B: Polymer Physics, 2003, 41, 785-788.	2.4	23
11	Viscoelastic diffusion. Journal of Polymer Science, Part B: Polymer Physics, 2001, 39, 1529-1547.	2.4	15
12	Prediction of mutual diffusion coefficients for polymer-solvent systems. Journal of Applied Polymer Science, 2000, 77, 3195-3199.	1.3	16
13	Differential sorption in glassy polymers. Journal of Applied Polymer Science, 1999, 71, 1431-1440.	1.3	13
14	Validity of the first-order fluid model. Journal of Applied Polymer Science, 1999, 73, 547-552.	1.3	0
15	Differential sorption in glassy polymers. , 1999, 71, 1431.		1
16	Integral sorption in rubbery polymers. Journal of Polymer Science, Part B: Polymer Physics, 1998, 36, 171-180.	2.4	9
17	Dissolution of rubbery and glassy polymers. Journal of Polymer Science, Part B: Polymer Physics, 1998, 36, 2607-2614.	2.4	21
18	Slow bubble growth and dissolution in a viscoelastic fluid. Journal of Applied Polymer Science, 1998, 67, 2093-2103.	1.3	12

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19	Temperature Dependence of Partition Coefficients for Polymerâ^'Solvent Systems. Macromolecules, 1998, 31, 5539-5541.	2.2	6
20	Strain-coupling effects in steady flows. Journal of Applied Polymer Science, 1997, 64, 689-697.	1.3	0
21	Anticipation of anomalous effects in differential sorption experiments. Journal of Applied Polymer Science, 1997, 64, 2007-2013.	1.3	13
22	Effect of Solvent Size on Solvent Self-Diffusion in Polymerâ^'Solvent Systems. Macromolecules, 1996, 29, 3272-3276.	2.2	76
23	Hysteresis Effects for Sorption in Glassy Polymers. Macromolecules, 1996, 29, 4391-4396.	2.2	70
24	Surface concentration effects in the drying of solvent-coated polymer films. Journal of Applied Polymer Science, 1996, 60, 1049-1055.	1.3	16
25	Drying of solvent-coated polymer films. Journal of Polymer Science, Part B: Polymer Physics, 1994, 32, 187-194.	2.4	62
26	Evaluation of a sorption equation for polymerâ€"solvent systems. Journal of Applied Polymer Science, 1994, 51, 1791-1795.	1.3	13
27	Strain-Coupling effects in extensional flows. Journal of Applied Polymer Science, 1993, 49, 733-740.	1.3	3
28	Strain-coupling effects in branched polymers. Rheologica Acta, 1993, 32, 74-81.	1.1	2
29	Evaluation of free-volume theories for solvent self-diffusion in polymerâ€"solvent systems. Journal of Polymer Science, Part B: Polymer Physics, 1993, 31, 69-76.	2.4	34
30	Fickian diffusion in glassy polymer-solvent systems. Journal of Polymer Science, Part B: Polymer Physics, 1992, 30, 1005-1011.	2.4	54
31	Isotherm shape for penetrant sorption in glassy polymers. Journal of Applied Polymer Science, 1992, 45, 1497-1500.	1.3	8
32	Solvent self-diffusion in crosslinked polymers. Journal of Applied Polymer Science, 1991, 42, 1931-1937.	1.3	32
33	Step-strain deformations for viscoelastic fluids: Formulation of a strain-coupling constitutive equation. Journal of Polymer Science, Part B: Polymer Physics, 1991, 29, 537-545.	2.4	11
34	Predictions of volumetric behavior for glassy polymer-penetrant systems. Journal of Polymer Science, Part B: Polymer Physics, 1990, 28, 241-244.	2.4	11
35	Influence of solvent size on the diffusion process for polymer-solvent systems. Journal of Polymer Science, Part C: Polymer Letters, 1990, 28, 379-383.	0.7	11
36	Step strain deformations for viscoelastic fluids: Experiment. Journal of Rheology, 1990, 34, 657-684.	1.3	41

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37	Molecular weight dependence of the diffusion coefficient for the polystyrene-toluene system. Journal of Polymer Science, Part B: Polymer Physics, 1989, 27, 465-468.	2.4	10
38	Predictive capabilities of a free-volume theory for solvent self-diffusion coefficients. Journal of Polymer Science, Part B: Polymer Physics, 1989, 27, 1179-1184.	2.4	21
39	A Green's function method for the solution of diffusion-reaction problems. AICHE Journal, 1988, 34, 347-349.	1.8	3
40	Dispersion in laminar tube flow at low Peclet numbers or short times. AICHE Journal, 1988, 34, 1423-1430.	1.8	39
41	History dependence of diffusion coefficients for glassy polymerâ€"penetrant systems. Journal of Applied Polymer Science, 1988, 36, 1933-1934.	1.3	10
42	Influence of the glass transition on solvent self-diffusion in amorphous polymers. Journal of Polymer Science, Part B: Polymer Physics, 1988, 26, 1059-1065.	2.4	24
43	Evaluation of Oneâ€Dimensional Solutions for CVD Reactors. Journal of the Electrochemical Society, 1988, 135, 3167-3169.	1.3	0
44	Determination of free-volume parameters from diffusivity data in glassy polymers. Journal of Applied Polymer Science, 1987, 33, 2581-2586.	1.3	15
45	Concentration dependence of solvent self-diffusion coefficients. Journal of Applied Polymer Science, 1987, 34, 587-592.	1.3	4
46	Unsteady diffusion with a first-order homogeneous reaction. AICHE Journal, 1987, 33, 167-168.	1.8	4
47	Segmentwise diffusion in molten polystyrene. Journal of Applied Polymer Science, 1986, 31, 739-745.	1.3	12
48	Free-volume theories for self-diffusion in polymerâ€"solvent systems. I. Conceptual differences in theories. Journal of Polymer Science, Polymer Physics Edition, 1985, 23, 275-288.	1.0	107
49	Free-volume theories for self-diffusion in polymerâ€"solvent systems. II. Predictive capabilities. Journal of Polymer Science, Polymer Physics Edition, 1985, 23, 289-304.	1.0	114
50	Evaluation of theories for diffusion in polymerâ€"solvent systems. Journal of Polymer Science, Polymer Physics Edition, 1985, 23, 2469-2475.	1.0	15
51	Enhancement of impurity removal from polymer films. Journal of Applied Polymer Science, 1985, 30, 4499-4516.	1.3	68
52	Downstream boundary conditions for vertical jets. AICHE Journal, 1985, 31, 1044-1046.	1.8	7
53	Anomalous sorption in poly(ethyl methacrylate). Journal of Applied Polymer Science, 1984, 29, 399-406.	1.3	84
54	Orientation in amorphous polymers I. Preparation and testing of oriented samples. Polymer Engineering and Science, 1984, 24, 956-964.	1.5	8

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55	Orientation in amorphous polymers II. Characterization of orientation. Polymer Engineering and Science, 1984, 24, 965-973.	1.5	7
56	Self-diffusion in polymer-solvent-solvent systems. Journal of Polymer Science, Polymer Physics Edition, 1984, 22, 459-469.	1.0	78
57	Existence of solutions to spherical moving boundary problems. Journal of Chemical Physics, 1982, 77, 5256-5257.	1.2	3
58	Excess Pressure Drops in Entrance Flows. Journal of Rheology, 1982, 26, 347-357.	1.3	9
59	Prediction of diffusion coefficients for polymer-solvent systems. AIChE Journal, 1982, 28, 279-285.	1.8	281
60	Solvent diffusion in molten polyethylene. Journal of Applied Polymer Science, 1982, 27, 3987-3997.	1.3	26
61	Solvent diffusion in amorphous polymers. Journal of Applied Polymer Science, 1981, 26, 3735-3744.	1.3	59
62	Pressure losses in nonâ€Newtonian entrance flows. Canadian Journal of Chemical Engineering, 1972, 50, 671-674.	0.9	20