Darsh T Wasan

List of Publications by Year
in descending order

149 papers	6,570 citations	70961 41 h-index	71532 76 g-index
154 all docs	154 docs citations	154 times ranked	3875 citing authors

#	Article	IF	Citations
1	Spreading of nanofluids on solids. Nature, 2003, 423, 156-159.	13.7	790
2	Enhanced Oil Recovery (EOR) Using Nanoparticle Dispersions: Underlying Mechanism and Imbibition Experiments. Energy & Fuels, 2014, 28, 3002-3009.	2.5	341
3	Spreading of nanofluids driven by the structural disjoining pressure gradient. Journal of Colloid and Interface Science, 2004, 280, 192-201.	5.0	290
4	The wetting and spreading of nanofluids on solids: Role of the structural disjoining pressure. Current Opinion in Colloid and Interface Science, 2011, 16, 344-349.	3.4	287
5	Superspreading driven by Marangoni flow. Advances in Colloid and Interface Science, 2002, 96, 325-338.	7.0	188
6	Wetting and Spreading of Nanofluids on Solid Surfaces Driven by the Structural Disjoining Pressure: Statics Analysis and Experiments. Langmuir, 2011, 27, 3324-3335.	1.6	171
7	A Simple Calculation of Structural and Depletion Forces for Fluids/Suspensions Confined in a Film. Langmuir, 2001, 17, 4940-4947.	1.6	160
8	Chemical demulsification of petroleum emulsions using oil-soluble demulsifiers. Industrial & Engineering Chemistry Research, 1991, 30, 367-375.	1.8	153
9	Effect of Demulsifier Partitioning on the Destabilization of Water-in-Oil Emulsions. Industrial & Engineering Chemistry Research, 1996, 35, 1141-1149.	1.8	152
10	Nanoparticle Self-Structuring in a Nanofluid Film Spreading on a Solid Surface. Langmuir, 2010, 26, 7665-7670.	1.6	145
11	Enhanced Oil Recovery Driven by Nanofilm Structural Disjoining Pressure: Flooding Experiments and Microvisualization. Energy & Fuels, 2016, 30, 2771-2779.	2.5	120
12	Dynamic Spreading of Nanofluids on Solids. Part I: Experimental. Langmuir, 2012, 28, 14618-14623.	1.6	112
13	Stability of Liquid Films Containing Monodisperse Colloidal Particles. Journal of Colloid and Interface Science, 2001, 240, 105-112.	5.0	110
14	Mechanisms for lowering of interfacial tension in alkali/acidic oil systems: effect of added surfactant. Industrial & Engineering Chemistry Research, 1992, 31, 1899-1906.	1.8	94
15	Effect of Added Surfactant on Interfacial Tension and Spontaneous Emulsification in Alkali/Acidic Oil Systems. Industrial & Engineering Chemistry Research, 1994, 33, 1150-1158.	1.8	91
16	Mechanisms for lowering of interfacial tension in alkali/acidic oil systems 1. Experimental studies. Colloids and Surfaces, 1992, 68, 67-79.	0.9	89
17	Nanofluids Alter the Surface Wettability of Solids. Langmuir, 2015, 31, 5827-5835.	1.6	89
18	Dynamic Spreading of Nanofluids on Solids Part II: Modeling. Langmuir, 2012, 28, 16274-16284.	1.6	86

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19	Low temperature anomalies in the properties of the electrochemical interface. Chemical Physics Letters, 1999, 308, 473-478.	1.2	78
20	Mechanisms for Antifoaming Action in Aqueous Systems by Hydrophobic Particles and Insoluble Liquids. Journal of Colloid and Interface Science, 1994, 166, 225-238.	5.0	77
21	Analysis of cell-to-bubble attachment in sparged bioreactors in the presence of cell-protecting additives. Biotechnology and Bioengineering, 1995, 47, 407-419.	1.7	76
22	Emulsion stability â€" kinetics of flocculation and coalescence. Colloids and Surfaces, 1992, 69, 135-146.	0.9	73
23	Mechanisms for lowering of interfacial tension in alkali/acidic oil systems 2. Theoretical studies. Colloids and Surfaces, 1992, 68, 81-94.	0.9	71
24	Dynamic Film and Interfacial Tensions in Emulsion and Foam Systems. Journal of Colloid and Interface Science, 1997, 187, 29-44.	5.0	66
25	Attractive Interaction between Similarly Charged Colloidal Particles. Journal of Colloid and Interface Science, 1996, 184, 268-278.	5.0	61
26	Enhanced oil displacement by nanofluidâ€™s structural disjoining pressure in model fractured porous media. Journal of Colloid and Interface Science, 2018, 511, 48-56.	5.0	61
27	A Molecular Theory of the Hydration Force in an Electrolyte Solution. Journal of Colloid and Interface Science, 1999, 210, 320-331.	5.0	57
28	Interfacial properties of cell culture media with cell-protecting additives. Biotechnology and Bioengineering, 1995, 47, 420-430.	1.7	55
29	The dynamic spreading of nanofluids on solid surfaces â€" Role of the nanofilm structural disjoining pressure. Journal of Colloid and Interface Science, 2016, 470, 22-30.	5.0	55
30	Contact angles of thin liquid films: Interferometric determination. Colloids and Surfaces, 1990, 47, 299-321.	0.9	50
31	A kinetic model for dynamic interfacial tension variation in an acidic oil/alkali/surfactant system. Chemical Engineering Science, 1998, 53, 2711-2725.	1.9	50
32	Capillary Rise: Validity of the Dynamic Contact Angle Models. Langmuir, 2017, 33, 7862-7872.	1.6	50
33	Foams: basic properties with application to porous media. Langmuir, 1986, 2, 672-677.	1.6	49
34	Thin liquid films containing micelles or nanoparticles. Current Opinion in Colloid and Interface Science, 2008, 13, 128-133.	3.4	49
35	Surface Shear Viscosity and Related Properties of Adsorbed Surfactant Films. Industrial & Engineering Chemistry Fundamentals, 1974, 13, 26-33.	0.7	46
36	An Expression for the Dispersion Force between Colloidal Particles. Journal of Colloid and Interface Science, 1997, 185, 265-268.	5.0	46

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37	Wettingâ€"dewetting films: The role of structural forces. Advances in Colloid and Interface Science, 2014, 206, 207-221.	7.0	46
38	Colloidal dispersions: Structure, stability and geometric confinement. Powder Technology, 2005, 153, 135-141.	2.1	45
39	Sedimentation in nano-colloidal dispersions: Effects of collective interactions and particle charge. Advances in Colloid and Interface Science, 2007, 134-135, 268-278.	7.0	44
40	Computer Modeling of Ionic Micelle Structuring in Thin Films. Journal of Physical Chemistry B, 2003, 107, 3927-3937.	1.2	42
41	Surfactant micelles containing solubilized oil decrease foam film thickness stability. Journal of Colloid and Interface Science, 2014, 415, 18-25.	5.0	42
42	Stability of Aqueous Foams in the Presence of Oil: On the Importance of Dispersed vs Solubilized Oil. Industrial & Engineering Chemistry Research, 2013, 52, 66-72.	1.8	41
43	Second-order Percus-Yevick theory for a confined hard-sphere fluid. Journal of Statistical Physics, 1997, 89, 233-247.	0.5	39
44	Film Stratification in the Presence of Colloidal Particles. Langmuir, 2001, 17, 2059-2062.	1.6	38
45	Interfacial turbulence and spontaneous emulsification in alkaliâ€"acidic oil systems. Chemical Engineering Science, 1993, 48, 2225-2238.	1.9	37
46	Capillary dynamics driven by molecular self-layering. Advances in Colloid and Interface Science, 2017, 243, 114-120.	7.0	36
47	Structure and stability of nanofluid films wetting solids: An overview. Advances in Colloid and Interface Science, 2019, 264, 1-10.	7.0	36
48	Attraction-driven disorder in a hard-core colloidal monolayer. Journal of Chemical Physics, 2004, 120, 1506-1510.	1.2	34
49	Foam formation and mitigation in a three-phase gasâ€"liquidâ€"particulate system. Advances in Colloid and Interface Science, 2006, 123-126, 49-61.	7.0	34
50	Cross-Flow Electrofilter for Nonaqueous Slurries. Industrial & Engineering Chemistry Fundamentals, 1980, 19, 166-175.	0.7	33
51	Structure and Pressure of a Hard Sphere Fluid in a Wedge-Shaped Cell or Meniscus. Langmuir, 1999, 15, 4311-4313.	1.6	32
52	Foaming in Simulated Radioactive Waste. Environmental Science & Technology, 2001, 35, 3941-3947.	4.6	32
53	Stability of thin liquid films containing polydisperse particles. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2002, 204, 51-62.	2.3	32
54	Foam film rheology and thickness stability of foam-based food products. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2003, 214, 13-21.	2.3	32

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55	Cleansing dynamics of oily soil using nanofluids. Journal of Colloid and Interface Science, 2013, 396, 293-306.	5.0	31
56	Separation of metal ions by ligand-accelerated transfer through liquid surfactant membranes. Faraday Discussions of the Chemical Society, 1984, 77, 67.	2.2	30
57	Dispersion coalescence: Kinetic stability of creamed dispersions. AIChE Journal, 1993, 39, 322-334.	1.8	30
58	The Effect of Many-Body Interactions on the Sedimentation of Monodisperse Particle Dispersions. Journal of Colloid and Interface Science, 1998, 197, 160-169.	5.0	30
59	Fat Particle Structure and Stability of Food Emulsions. Journal of Food Science, 1998, 63, 183-188.	1.5	30
60	Calculation of the surface potential and surface charge density by measurement of the three-phase contact angle. Journal of Colloid and Interface Science, 2012, 385, 218-224.	5.0	30
61	Dewetting Film Dynamics Inside a Capillary Using a Micellar Nanofluid. Langmuir, 2014, 30, 9430-9435.	1.6	30
62	New vistas in dispersion science and engineering. AIChE Journal, 2003, 49, 550-556.	1.8	29
63	Mechanisms of the Assembly of Nano- and Microparticle Two-Dimensional Structures in a Wedge Film. Industrial & Engineering Chemistry Research, 2009, 48, 2320-2326.	1.8	29
64	Effects of Surfactant on Multiple Stepwise Coalescence of Single Drops at Liquid-Liquid Interfaces. Industrial & Engineering Chemistry Research, 1995, 34, 3653-3661.	1.8	28
65	Mechanisms of Antifoam Deactivation. Journal of Colloid and Interface Science, 1996, 181, 124-135.	5.0	28
66	Stability of films with nanoparticles. Journal of Colloid and Interface Science, 2004, 272, 167-171.	5.0	28
67	Structural disjoining pressure induced solid particle removal from solid substrates using nanofluids. Journal of Colloid and Interface Science, 2017, 500, 96-104.	5.0	28
68	Texture and stability of aerated food emulsionsâ€"â€"effects of buoyancy and Ostwald ripening. Journal of Food Engineering, 2004, 62, 169-175.	2.7	27
69	Spreading of a Water Drop Triggered by the Surface Tension Gradient Created by the Localized Addition of a Surfactant. Industrial & Engineering Chemistry Research, 2007, 46, 2987-2995.	1.8	27
70	Hydrodynamics of a lamella electrosettler. AIChE Journal, 1989, 35, 714-724.	1.8	26
71	Depletion and Structural Forces between Two Macrosurfaces Immersed in a Bidisperse Colloidal Suspension. Journal of Colloid and Interface Science, 2001, 243, 116-127.	5.0	25
72	Stratification of a Foam Film Formed from a Nonionic Micellar Solution: Experiments and Modeling. Langmuir, 2016, 32, 4837-4847.	1.6	22

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73	Complex dielectric properties of macroemulsions in the microwave region. Journal of Colloid and Interface Science, 1990, 139, 1-13.	5.0	21
74	An automatic apparatus for measuring interfacial and film tension under static and dynamic conditions. Review of Scientific Instruments, 1994, 65, 3555-3562.	0.6	21
75	Flocculation of food dispersions by gums: isotropic/anisotropic dispersion separation by xanthan gum. Food Hydrocolloids, 1998, 12, 43-53.	5.6	21
76	Phase separation in fluid additive hard sphere mixtures?. Molecular Physics, 1998, 95, 131-135.	0.8	21
77	Effective interaction between large spheres immersed into a multicomponent hard-sphere fluid. Journal of Chemical Physics, 2003, 119, 11989-11997.	1.2	21
78	Shear-induced fat particle structure variation and the stability of food emulsions: I. Effects of shear history, shear rate and temperature. Journal of Food Engineering, 2005, 66, 97-105.	2.7	21
79	Two-phase displacement dynamics in capillaries-nanofluid reduces the frictional coefficient. Journal of Colloid and Interface Science, 2018, 532, 153-160.	5.0	21
80	Current opinion in superspreading mechanisms. Advances in Colloid and Interface Science, 2015, 222, 517-529.	7.0	20
81	Measurement of Ultralow Interfacial Tension with Application to Surfactant-Enhanced Alkaline Systems. Industrial & Engineering Chemistry Research, 1998, 37, 2301-2306.	1.8	19
82	Density-functional theory for an electrolyte confined by thin charged walls. Physical Review E, 2000, 61, 3896-3903.	0.8	19
83	Foam stability: The importance of film size and the micellar structuring phenomenon. Canadian Journal of Chemical Engineering, 2014, 92, 2039-2045.	0.9	19
84	Rise of the main meniscus in rectangular capillaries: Experiments and modeling. Journal of Colloid and Interface Science, 2016, 461, 195-202.	5.0	18
85	Hydrodynamics of electroluidization: Separation of pyrites from coal. AIChE Journal, 1987, 33, 1322-1333.	1.8	17
86	Surfactant-Enhanced Alkaline Flooding: Buffering at Intermediate Alkaline pH. SPE Reservoir Engineering, 1993, 8, 275-280.	0.5	17
87	Particle Structure and Stability of Colloidal Dispersions as Probed by the Kossel Diffraction Technique. Journal of Colloid and Interface Science, 1997, 191, 471-481.	5.0	17
88	New Paradigms for Spreading of Colloidal Fluids on Solid Surfaces. Advances in Polymer Science, 2008, , 117-141.	0.4	17
89	The effect of surfactants on interphase solute transport. A theory of interfacial resistance. Industrial & Engineering Chemistry Fundamentals, 1986, 25, 662-668.	0.7	16
90	Integral Equation Study of the Solvation Force between Macroscopic Surfaces Separated by Thin Films of Diatomic, Chain, and Network Solvents. Journal of Physical Chemistry B, 1999, 103, 7495-7504.	1.2	16

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91	Shear-induced fat particle structure variation and the stability of food emulsions: II. Effects of surfactants, protein, and fat substitutes. Journal of Food Engineering, 2005, 66, 107-116.	2.7	16
92	Emulsion Stability in the Presence of Nonionic Surfactant Micelles: Role of Micellar Ordering and Ostwald Ripening. Industrial & Engineering Chemistry Research, 2010, 49, 5299-5303.	1.8	16
93	Axial Dispersion in the Turbulent Flow of Power-Law Fluids in Straight Tubes. Industrial & Engineering Chemistry Fundamentals, 1974, 13, 56-62.	0.7	15
94	Controlled drop tensiometer for measuring dynamic interfacial and film tension. AICHE Journal, 1995, 41, 915-923.	1.8	15
95	Structural Transitions in Colloidal Suspensions in Confined Films. ACS Symposium Series, 1999, , 40-53.	0.5	15
96	Foamingâ˘Antifoaming in Boiling Suspensionsâ€. Industrial & Engineering Chemistry Research, 2004, 43, 3812-3816.	1.8	15
97	Sedimentation of concentrated monodisperse colloidal suspensions: Role of collective particle interaction forces. Journal of Colloid and Interface Science, 2008, 322, 180-189.	5.0	15
98	Effects of Micellar Structuring and Solubilized Oil on the Kinetic Stability of Aqueous Foams. Industrial & Engineering Chemistry Research, 2014, 53, 18891-18899.	1.8	15
99	Stepwise thinning dynamics of a foam film formed from an anionic micellar solution. Journal of Colloid and Interface Science, 2017, 487, 217-222.	5.0	15
100	Marangoni flow alters wetting: Coffee ring and superspreading. Current Opinion in Colloid and Interface Science, 2021, 51, 101387.	3.4	15
101	Relationship between surface viscosity and surface composition of adsorbed surfactant films. Industrial & Engineering Chemistry Fundamentals, 1982, 21, 27-31.	0.7	14
102	A generalized mean spherical approximation of the anomalies in the electrochemical double layer for strong ionic interactions. Chemical Physics Letters, 2000, 325, 655-660.	1.2	14
103	Oil lenses on the airâ€"water surface and the validity of Neumann's rule. Advances in Colloid and Interface Science, 2017, 244, 174-183.	7.0	14
104	Tears of wine: The dance of the droplets. Advances in Colloid and Interface Science, 2018, 256, 94-100.	7.0	14
105	In-Layer Structuring of Like-Charged Macroions in a Thin Film. Industrial & Engineering Chemistry Research, 2005, 44, 1175-1180.	1.8	13
106	Computer Simulation of Macroion Layering in a Wedge Film. Langmuir, 2005, 21, 10240-10250.	1.6	13
107	Foamability of Liquid Particle Suspensions: A Modeling Study. Industrial & Engineering Chemistry Research, 2009, 48, 8180-8185.	1.8	13
108	Interaction between a Macrosphere and a Flat Wall Mediated by a Hard-Sphere Colloidal Suspension. Langmuir, 2004, 20, 7036-7044.	1.6	12

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109	Collective Particle Interactions in the Sedimentation of Charged Colloidal Suspensions. Industrial & Engineering Chemistry Research, 2009, 48, 80-84.	1.8	12
110	Stepwise dynamics of an anionic micellar film â€" Formation of crown lenses. Journal of Colloid and Interface Science, 2017, 496, 60-65.	5.0	12
111	Complex dielectric properties of macroemulsions using a calibrated microwave resonance dielectrometer. Journal of Colloid and Interface Science, 1985, 108, 528-540.	5.0	11
112	Study of Drop-Interface Coalescence Using Piezoimaging. Industrial & Engineering Chemistry Research, 1996, 35, 2933-2938.	1.8	11
113	The Importance of Oscillatory Structural Forces in the Sedimentation of a Binary Hard-Sphere Colloidal Suspension. Industrial & Engineering Chemistry Research, 2009, 48, 6641-6651.	1.8	11
114	Separation of oil dispersions from water by fibrous bed coalescence. Environmental Science & Technology, 1972, 6, 905-910.	4.6	10
115	Aerosol transport through a porous sampling probe with transpiration air flow. Journal of Colloid and Interface Science, 1976, 56, 42-52.	5.0	10
116	Complex dielectric properties of macroemulsions using microwave interferometric dielectrometer. Journal of Colloid and Interface Science, 1990, 137, 425-432.	5.0	9
117	Vertical Spreading of Aqueous Trisiloxane Solution Driven by a Spontaneously Developing Surface Tension Gradient. Industrial & Engineering Chemistry Research, 2008, 47, 3639-3644.	1.8	9
118	Effective interaction between two giant spheres suspended in a size polydisperse hard-sphere fluid. Molecular Physics, 2004, 102, 2081-2090.	0.8	8
119	The destabilization of aerated food products. Journal of Food Engineering, 2006, 76, 256-260.	2.7	8
120	Foams and Emulsions: the Importance of Structural Forces. Australian Journal of Chemistry, 2007, 60, 633.	0.5	8
121	Role of Collective Interactions in Selfâ€Assembly of Charged Particles at Liquid Interfaces. Canadian Journal of Chemical Engineering, 2007, 85, 562-569.	0.9	8
122	Air bubble bursting phenomenon at the air-water interface monitored by the piezoelectric-acoustic method. Advances in Colloid and Interface Science, 2019, 272, 101998.	7.0	8
123	Methods to monitor water-in-oil film thinning and stability: An application to bitumen demulsification. Journal of Colloid and Interface Science, 2021, 598, 147-154.	5.0	8
124	Nanofluid Structural Forces Alter Solid Wetting, Enhancing Oil Recovery. Colloids and Interfaces, 2022, 6, 33.	0.9	8
125	Low Water Content Determination Using Microwave Interferometric Dielectrometery. Journal of Colloid and Interface Science, 1994, 162, 252-253.	5.0	7
126	Ethanol-Based Foam Stability As Probed by Foam Lamella Thinning. Industrial & Engineering Chemistry Research, 2003, 42, 2634-2638.	1.8	6

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127	Effect of Depletion Force on the Stability of Food Emulsions. Journal of Dispersion Science and Technology, 2005, 25, 817-821.	1.3	6
128	Ring Formation and Emulsion Texture and Stability in a Foodâ€Beverage System. Journal of Dispersion Science and Technology, 2006, 27, 579-585.	1.3	6
129	Dispersion of Charged Particles in a Turbulent Air Stream under Transverse Flow Conditions. Industrial & Engineering Chemistry Fundamentals, 1972, 11, 57-66.	0.7	5
130	Emulsion Texture and Stability: Role of Surfactant Micellar Interactions in the Presence of Proteins. Industrial & Engineering Chemistry Research, 2008, 47, 9108-9114.	1.8	5
131	Step-Wise Velocity of an Air Bubble Rising in a Vertical Tube Filled with a Liquid Dispersion of Nanoparticles. Langmuir, 2017, 33, 2920-2928.	1.6	5
132	Escherichia coli removal from model substrates: Underlying mechanism based on nanofluid structural forces. Journal of Colloid and Interface Science, 2017, 498, 112-122.	5.0	5
133	How the capillarity and ink-air flow govern the performance of a fountain pen. Journal of Colloid and Interface Science, 2020, 578, 660-667.	5.0	5
134	The foam film's stepwise thinning phenomenon and role of oscillatory forces. Advances in Colloid and Interface Science, 2022, 303, 102636.	7.0	5
135	Response to Kostas S. Avramidis' "Comments on 'Measurement of Interfacial Dilatational Viscosity at High Rates of Interface Expansion Using the Maximum Bubble Pressure Method'". Journal of Colloid and Interface Science, 1993, 155, 518-519.	5.0	4
136	The apparent attraction between like-charged particles next to an oppositely charged planar surface. Journal of Molecular Liquids, 2004, 109, 109-113.	2.3	4
137	Estimation of structural film viscosity based on the bubble rise method in a nanofluid. Journal of Colloid and Interface Science, 2018, 516, 312-316.	5.0	4
138	Novel approach for calculating the equilibrium foam nanofilm-meniscus contact angle and the film free energy. Journal of Colloid and Interface Science, 2019, 557, 591-597.	5.0	4
139	Particles Driven Up the Wall by Bursting Bubbles. Langmuir, 2008, 24, 9933-9936.	1.6	3
140	A novel defoamer for processing nuclear waste: Testing and performance. Environmental Progress and Sustainable Energy, 2021, 40, e13607.	1.3	3
141	Solvation forces versus the nano-colloidal structural forces under the film confinement: Layer to in-layer structural transition in wetting solids. Current Opinion in Colloid and Interface Science, 2022, 57, 101539.	3.4	3
142	Dissipative Structures in Ligand-Accelerated Metal Extraction Systems. Separation Science and Technology, 1991, 26, 539-557.	1.3	2
143	Computer Simulations of a Monolayer of Like-charged Particles Condensed on an Oppositely-charged Flat Area. Molecular Simulation, 2003, 29, 755-760.	0.9	2
144	Prediction of the rate of the rise of an air bubble in nanofluids in a vertical tube. Journal of Colloid and Interface Science, 2018, 525, 115-118.	5.0	2

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145	Closedâ€end capillary riseâ€"An experimental study. AIChE Journal, 2020, 66, e16964.	1.8	2
146	The Correlation Functions of a Suspension of Large Particles in Amorphous Polybutadiene: A Molecular Dynamics Simulation Study. Journal of Colloid and Interface Science, 2000, 232, 39-44.	5.0	1
147	Workshop on particle technology â€" research needs and priorities. Powder Technology, 1976, 14, 191.	2.1	0
148	Introduction to papers presented at the 8th annual fine particle society conference, Chicago, August, 1976. Powder Technology, 1977, 18, 1.	2.1	0
149	Micellar Films: Thinning and Structure. , 0, , 4297-4312.		0