Sibani Biswal

List of Publications by Year
in descending order

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138	4,952	87401	120465
papers	citations	40 h-index	65 g-index

138	138	138	4862
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Periodic deformation of semiflexible colloidal chains in eccentric time-varying magnetic fields. Journal of Physics Condensed Matter, 2022, 34, 184005.	0.7	5
2	Physicochemical Characterization of Asphaltenes Using Microfluidic Analysis. Chemical Reviews, 2022, 122, 7205-7235.	23.0	16
3	Extension of Kelvinâ€™s equation to dipolar colloids. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2117971119.	3.3	4
4	Settling dynamics of Brownian chains in viscous fluids. Physical Review Fluids, 2022, 7, .	1.0	3
5	Measuring in-situ capillary pressure of a flowing foam system in porous media. Journal of Colloid and Interface Science, 2022, 621, 321-330.	5.0	5
6	Grain boundary dynamics driven by magnetically induced circulation at the void interface of 2D colloidal crystals. Science Advances, 2022, 8, .	4.7	7
7	Hierarchical assemblies of superparamagnetic colloids in time-varying magnetic fields. Soft Matter, 2021, 17, 1120-1155.	1.2	44
8	Distinguishing the Effect of Rock Wettability from Residual Oil on Foam Generation and Propagation in Porous Media. Energy & Fuels, 2021, 35, 7681-7692.	2.5	9
9	Evaluation of Asphaltene Remediation Using Microemulsion Formulations in a Porous Media Microfluidic Device. Energy & Fuels, 2021, 35, 11162-11170.	2.5	4
10	Advances and challenges in CO2 foam technologies for enhanced oil recovery in carbonate reservoirs. Journal of Petroleum Science and Engineering, 2021, 202, 108447.	2.1	17
11	Combining ReaxFF Simulations and Experiments to Evaluate the Structureâ€“Property Characteristics of Polymeric Binders in Si-Based Li-Ion Batteries. ACS Applied Materials & Interfaces, 2021, 13, 41956-41967.	4.0	6
12	Extreme Rate Capability Cycling of Porous Silicon Composite Anodes for Lithiumâ€ion Batteries. ChemElectroChem, 2021, 8, 3318-3325.	1.7	2
13	Investigating the Compatibility of TTMSP and FEC Electrolyte Additives for LiNi_{0.5}Mn_{0.3}Co_{0.2}O₂ (NMC)â€“Silicon Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2021, 13, 2662-2673.	4.0	45
14	Exploring Low-IFT Foam EOR in Fractured Carbonates: Success and Particular Challenges of Sub-10-md Limestone. SPE Journal, 2020, 25, 867-882.	1.7	11
15	ALD-Modified LiNi_{0.33}Mn_{0.33}Co_{0.33}O₂ Paired with Macroporous Silicon for Lithium-Ion Batteries: An Investigation on Lithium Trapping, Resistance Rise, and Cycle-Life Performance. ACS Applied Energy Materials, 2020, 3, 456-468.	2.5	12
16	Effect of salinity, Mg2+ and SO42â˜ on â€œsmart waterâ€•induced carbonate wettability alteration in a model oil system. Journal of Colloid and Interface Science, 2020, 563, 145-155.	5.0	56
17	Effect of brine type and ionic strength on the wettability alteration of naphthenic-acid-adsorbed calcite surfaces. Journal of Petroleum Science and Engineering, 2020, 185, 106567.	2.1	24
18	Characterizing the spatiotemporal evolution of paramagnetic colloids in time-varying magnetic fields with Minkowski functionals. Soft Matter, 2020, 16, 8799-8805.	1.2	11

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19	A systematic approach to alkaline-surfactant-foam flooding of heavy oil: microfluidic assessment with a novel phase-behavior viscosity map. Scientific Reports, 2020, 10, 12930.	1.6	27
20	Role of Wettability on the Adsorption of an Anionic Surfactant on Sandstone Cores. Langmuir, 2020, 36, 10725-10738.	1.6	39
21	CO2 Foam Field Pilot Design and Initial Results. , 2020, , .		10
22	Evaluation of a Nonionic Surfactant Foam for CO2 Mobility Control in a Heterogeneous Carbonate Reservoir. SPE Journal, 2020, 25, 3481-3493.	1.7	18
23	Crude Oil Recovery with Duomeen CTM-Stabilized Supercritical CO₂ Foams for HPHT and Ultrahigh-Salinity Carbonate Reservoirs. Energy & Fuels, 2020, 34, 15727-15735.	2.5	21
24	Probing Methane Foam Transport in Heterogeneous Porous Media: An Experimental and Numerical Case Study of Permeability-Dependent Rheology and Fluid Diversion at Field Scale. SPE Journal, 2020, 25, 1697-1710.	1.7	20
25	Isolation and mutational assessment of pancreatic cancer extracellular vesicles using a microfluidic platform. Biomedical Microdevices, 2020, 22, 23.	1.4	28
26	Comparing the Coalescence Rate of Water-in-Oil Emulsions Stabilized with Asphaltenes and Asphaltene-like Molecules. Langmuir, 2020, 36, 7894-7900.	1.6	17
27	Evaluating physicochemical properties of crude oil as indicators of low-salinityâ€“induced wettability alteration in carbonate minerals. Scientific Reports, 2020, 10, 3762.	1.6	18
28	Evaluating the capacity ratio and prelithiation strategies for extending cyclability in porous silicon composite anodes and lithium iron phosphate cathodes for high capacity lithium-ion batteries. Journal of Energy Storage, 2020, 28, 101268.	3.9	31
29	Dislocation mechanisms in the plastic deformation of monodisperse wet foams within an expansionâ€“contraction microfluidic geometry. Soft Matter, 2019, 15, 6207-6223.	1.2	6
30	Static adsorption of a switchable diamine surfactant on natural and synthetic minerals for high-salinity carbonate reservoirs. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2019, 583, 123910.	2.3	12
31	Evaluating the Transport Behavior of CO₂ Foam in the Presence of Crude Oil under High-Temperature and High-Salinity Conditions for Carbonate Reservoirs. Energy & Fuels, 2019, 33, 6038-6047.	2.5	47
32	Microfluidic Study of the Deposition Dynamics of Asphaltene Subfractions Enriched with Island and Archipelago Motifs. Energy & Fuels, 2019, 33, 1882-1891.	2.5	22
33	In-Depth Understanding of the Ultra-Low-Interfacial-Tension Foam Flood in Oil-wet Fractured Media through Simulation with an Integrative Mechanistic Foam Model. , 2019, , .		4
34	Ultralow-Interfacial-Tension Foam-Injection Strategy in High-Temperature Ultrahigh-Salinity Fractured Oil-Wet Carbonate Reservoirs. SPE Journal, 2019, 24, 2822-2840.	1.7	15
35	A 2-D simulation study on CO2 soluble surfactant for foam enhanced oil recovery. Journal of Industrial and Engineering Chemistry, 2019, 72, 133-143.	2.9	18
36	Characterizing the Influence of Organic Carboxylic Acids and Inorganic Silica Impurities on the Surface Charge of Natural Carbonates Using an Extended Surface Complexation Model. Energy & Fuels, 2019, 33, 957-967.	2.5	32

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37	Two-Step Adsorption of a Switchable Tertiary Amine Surfactant Measured Using a Quartz Crystal Microbalance with Dissipation. Langmuir, 2019, 35, 695-701.	1.6	14
38	Carbon dioxide/water foams stabilized with a zwitterionic surfactant at temperatures up to 150â€Â°C in high salinity brine. Journal of Petroleum Science and Engineering, 2018, 166, 880-890.	2.1	86
39	Ultralow-Interfacial-Tension Foam Injection Strategy Investigation in High Temperature Ultra-High Salinity Fractured Carbonate Reservoirs. , 2018, , .		14
40	Microfluidic Devices for Characterizing Pore-scale Event Processes in Porous Media for Oil Recovery Applications. Journal of Visualized Experiments, 2018, , .	0.2	9
41	Oil effect on CO2 foam stabilized by a switchable amine surfactant at high temperature and high salinity. Fuel, 2018, 227, 247-255.	3.4	37
42	Viscoelastic diamine surfactant for stable carbon dioxide/water foams over a wide range in salinity and temperature. Journal of Colloid and Interface Science, 2018, 522, 151-162.	5.0	59
43	Reconfigurable paramagnetic microswimmers: Brownian motion affects non-reciprocal actuation. Soft Matter, 2018, 14, 3463-3470.	1.2	27
44	Microfluidic Investigation of Asphaltenes-Stabilized Water-in-Oil Emulsions. Energy & Fuels, 2018, 32, 4903-4910.	2.5	43
45	The Dependence of Methane Foam Transport on Rock Permeabilities and Foam Simulation on Fluid Diversion in Heterogeneous Model Reservoir. , 2018, , .		5
46	A unidirectional one-dimensional approach for asphaltene deposition in large length-to-diameter ratios scenarios. Journal of Petroleum Science and Engineering, 2018, 166, 857-870.	2.1	10
47	Destabilization, Propagation, and Generation of Surfactant-Stabilized Foam during Crude Oil Displacement in Heterogeneous Model Porous Media. Langmuir, 2018, 34, 739-749.	1.6	63
48	Experimental study of asphaltene deposition in transparent microchannels using the light absorption method. Journal of Dispersion Science and Technology, 2018, 39, 744-753.	1.3	19
49	Combined interfacial shear rheology and microstructure visualization of asphaltenes at air-water and oil-water interfaces. Journal of Rheology, 2018, 62, 1-10.	1.3	43
50	Characterizing adsorption of associating surfactants on carbonates surfaces. Journal of Colloid and Interface Science, 2018, 513, 684-692.	5.0	47
51	Bubbleâ€“bubble pinch-off in symmetric and asymmetric microfluidic expansion channels for ordered foam generation. Soft Matter, 2018, 14, 9312-9325.	1.2	20
52	Design of CO₂-in-Water Foam Stabilized with Switchable Amine Surfactants at High Temperature in High-Salinity Brine and Effect of Oil. Energy & Fuels, 2018, 32, 12259-12267.	2.5	41
53	CO2/Water Foams Stabilized with Cationic or Zwitterionic Surfactants at Temperatures up to 120 Â°C in High Salinity Brine. , 2018, , .		17
54	Probing the Effect of Oil Type and Saturation on Foam Flow in Porous Media: Core-Flooding and Nuclear Magnetic Resonance (NMR) Imaging. Energy & Fuels, 2018, 32, 11177-11189.	2.5	41

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55	Exploring Low-IFT Foam EOR in Fractured Carbonates: Success and Particular Challenges of Sub-10-mD Limestone. , 2018, , .		7
56	Low-IFT Foaming System for Enhanced Oil Recovery in Highly Heterogeneous/Fractured Oil-Wet Carbonate Reservoirs. SPE Journal, 2018, 23, 2243-2259.	1.7	35
57	An integrated model for asphaltene deposition in wellbores/pipelines above bubble pressures. Journal of Petroleum Science and Engineering, 2018, 169, 353-373.	2.1	27
58	Nonlinear multimode buckling dynamics examined with semiflexible paramagnetic filaments. Physical Review E, 2018, 98, 012602.	0.8	12
59	Recyclable amine-functionalized magnetic nanoparticles for efficient demulsification of crude oil-in-water emulsions. Environmental Science: Water Research and Technology, 2018, 4, 1553-1563.	1.2	26
60	Interfacial energetics of two-dimensional colloidal clusters generated with a tunable anharmonic interaction potential. Physical Review Materials, 2018, 2, .	0.9	21
61	Asphaltene Deposition and Fouling in Reservoirs. , 2017, , .		11
62	Low-Interfacial-Tension Foaming System for Enhanced Oil Recovery in Highly Heterogeneous/Fractured Carbonate Reservoirs. , 2017, , .		19
63	Two-dimensional melting of colloids with long-range attractive interactions. Soft Matter, 2017, 13, 1548-1553.	1.2	28
64	Characterizing Asphaltene Deposition in the Presence of Chemical Dispersants in Porous Media Micromodels. Energy & Fuels, 2017, 31, 11660-11668.	2.5	66
65	Surface complexation modeling of calcite zeta potential measurements in brines with mixed potential determining ions (Ca2+, CO32â˜, Mg2+, SO42â˜) for characterizing carbonate wettability. Journal of Colloid and Interface Science, 2017, 506, 169-179.	5.0	118
66	A Study of Methane Foam in Reservoir Rocks for Mobility Control at High Temperature with Varied Permeabilities: Experiment and Simulation. , 2017, , .		9
67	From strings to coils: Rotational dynamics of DNA-linked colloidal chains. Physical Review Fluids, 2017, 2, .	1.0	17
68	Three dimensional measurements of asphaltene deposition in a transparent micro-channel. Journal of Petroleum Science and Engineering, 2016, 145, 77-82.	2.1	34
69	Dynamics of paramagnetic squares in uniform magnetic fields. Journal of Magnetism and Magnetic Materials, 2016, 417, 100-105.	1.0	2
70	Static Adsorption of an Ethoxylated Nonionic Surfactant on Carbonate Minerals. Langmuir, 2016, 32, 10244-10252.	1.6	89
71	Examining Asphaltene Solubility on Deposition in Model Porous Media. Langmuir, 2016, 32, 8729-8734.	1.6	66
72	Insights on Foam Transport from a Texture-Implicit Local-Equilibrium Model with an Improved Parameter Estimation Algorithm. Industrial & Engineering Chemistry Research, 2016, 55, 7819-7829.	1.8	65

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73	Modified Mason number for charged paramagnetic colloidal suspensions. Physical Review E, 2016, 93, 062603.	0.8	10
74	Effect of Surfactant Partitioning Between Gaseous Phase and Aqueous Phase on $$hbox {CO}_{2}$$ CO 2 Foam Transport for Enhanced Oil Recovery. Transport in Porous Media, 2016, 114, 777-793.	1.2	40
75	Mobility of Ethomeen C12 and Carbon Dioxide (CO2) Foam at High Temperature/High Salinity and in Carbonate Cores. SPE Journal, 2016, 21, 1151-1163.	1.7	78
76	High Temperature CO₂-in-Water Foams Stabilized with Cationic Quaternary Ammonium Surfactants. Journal of Chemical & Engineering Data, 2016, 61, 2761-2770.	1.0	33
77	Role of Gas Type on Foam Transport in Porous Media. Langmuir, 2016, 32, 6239-6245.	1.6	79
78	Phase behavior and interfacial properties of a switchable ethoxylated amine surfactant at high temperature and effects on CO2-in-water foams. Journal of Colloid and Interface Science, 2016, 470, 80-91.	5.0	56
79	EXPERIMENTAL INVESTIGATION OF ASPHALTENE DEPOSITION IN A TRANSPARENT MICROCHANNEL. , 2016, , .		2
80	Adsorption of a Switchable Cationic Surfactant on Natural Carbonate Minerals. SPE Journal, 2015, 20, 70-78.	1.7	41
81	CO₂-in-Water Foam at Elevated Temperature and Salinity Stabilized with a Nonionic Surfactant with a High Degree of Ethoxylation. Industrial & Engineering Chemistry Research, 2015, 54, 4252-4263.	1.8	67
82	Handcrafted multilayer PDMS microchannel scaffolds for peripheral nerve regeneration. Biomedical Microdevices, 2015, 17, 109.	1.4	9
83	Switchable Nonionic to Cationic Ethoxylated Amine Surfactants for CO2 Enhanced Oil Recovery in High-Temperature, High-Salinity Carbonate Reservoirs. SPE Journal, 2014, 19, 249-259.	1.7	103
84	Switchable Diamine Surfactants for CO2 Mobility Control in Enhanced Oil Recovery and Sequestration. Energy Procedia, 2014, 63, 7709-7716.	1.8	26
85	Micro-mutual-dipolar model for rapid calculation of forces between paramagnetic colloids. Physical Review E, 2014, 90, 033310.	0.8	15
86	Adsorption of a Switchable Cationic Surfactant on Natural Carbonate Minerals. , 2014, , .		3
87	Non-uniqueness, Numerical Artifacts, and Parameter Sensitivity in Simulating Steady-State and Transient Foam Flow Through Porous Media. Transport in Porous Media, 2014, 102, 325-348.	1.2	60
88	Numerical calculation of interaction forces between paramagnetic colloids in two-dimensional systems. Physical Review E, 2014, 89, 043306.	0.8	26
89	Lipid Bilayer Phase Transformations Detected Using Microcantilevers. Journal of Physical Chemistry B, 2014, 118, 171-178.	1.2	5
90	Salt- and temperature-stable quantum dot nanoparticles for porous media flow. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2014, 443, 492-500.	2.3	23

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91	Improved Methylene Blue Two-Phase Titration Method for Determining Cationic Surfactant Concentration in High-Salinity Brine. Analytical Chemistry, 2014, 86, 11055-11061.	3.2	29
92	Probing the association of triblock copolymers with supported lipid membranes using microcantilevers. Soft Matter, 2014, 10, 6417-6424.	1.2	20
93	Visualizing oil displacement with foam in a microfluidic device with permeability contrast. Lab on A Chip, 2014, 14, 3968-3977.	3.1	213
94	Directing Assembly of DNA-Coated Colloids with Magnetic Fields To Generate Rigid, Semiflexible, and Flexible Chains. Langmuir, 2014, 30, 9045-9052.	1.6	66
95	Evaporative Assembly of MEH-PPV Rings Using Mixed Solvents at the Air/Water Interface. Langmuir, 2014, 30, 4236-4242.	1.6	9
96	Rapid Detection of Pathogenic Bacteria and Screening of Phage-Derived Peptides Using Microcantilevers. Analytical Chemistry, 2014, 86, 1671-1678.	3.2	56
97	Switchable Amine Surfactants for Stable CO2/Brine Foams in High Temperature, High Salinity Reservoirs. , 2014, , .		22
98	Characterizing Î±-Helical Peptide Aggregation on Supported Lipid Membranes Using Microcantilevers. Analytical Chemistry, 2014, 86, 10084-10090.	3.2	6
99	Adsorption of cationic and anionic surfactants on natural and synthetic carbonate materials. Journal of Colloid and Interface Science, 2013, 408, 164-172.	5.0	154
100	Neighbor-induced bubble pinch-off: novel mechanisms of in situ foam generation in microfluidic channels. Soft Matter, 2013, 9, 10971.	1.2	70
101	Magnetic field directed assembly of two-dimensional fractal colloidal aggregates. Soft Matter, 2013, 9, 9167.	1.2	37
102	Estimation of Parameters for the Simulation of Foam Flow through Porous Media. Part 1: The Dry-Out Effect. Energy & Fuels, 2013, 27, 2363-2375.	2.5	166
103	Generating an in situ tunable interaction potential for probing 2-D colloidal phase behavior. Soft Matter, 2013, 9, 6867.	1.2	48
104	Estimation of Parameters for the Simulation of Foam Flow through Porous Media: Part 3; Non-Uniqueness, Numerical Artifact and Sensitivity. , 2013, , .		7
105	Porous Silicon as Anode Material for Lithium-Ion Batteries. Springer Series in Materials Science, 2013, , 1-23.	0.4	1
106	DNA-Linked Magnetic Particles: A Model Macromolecule. Biophysical Journal, 2012, 102, 639a.	0.2	0
107	Inexpensive method for producing macroporous silicon particulates (MPSPs) with pyrolyzed polyacrylonitrile for lithium ion batteries. Scientific Reports, 2012, 2, 795.	1.6	97
108	Surface Properties of Bottlebrush Polymer Thin Films. Macromolecules, 2012, 45, 7118-7127.	2.2	112

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109	Freestanding Macroporous Silicon and Pyrolyzed Polyacrylonitrile As a Composite Anode for Lithium Ion Batteries. Chemistry of Materials, 2012, 24, 2998-3003.	3.2	110
110	Characteristics of spontaneously formed nanoemulsions in octane/AOT/brine systems. Journal of Colloid and Interface Science, 2012, 385, 111-121.	5.0	15
111	Visualization of improved sweep with foam in heterogeneous porous media using microfluidics. Soft Matter, 2012, 8, 10669.	1.2	192
112	Characterizing the Interactions of Lipid Bilayers with Antimicrobial Peptide and Phospholipase A2. Biophysical Journal, 2012, 102, 92a.	0.2	0
113	Sensitive Detection of TNT using Competition Assay on Quartz Crystal Microbalance. Journal of Biosensors & Bioelectronics, 2012, 03, .	0.4	3
114	Surface wrinkling in liquid crystal elastomers. Soft Matter, 2012, 8, 7138.	1.2	76
115	Templating CdSe tetrapods at the air/water interface with POPC lipids. Journal of Colloid and Interface Science, 2012, 378, 58-63.	5.0	7
116	Gold-coated porous silicon films as anodes for lithium ion batteries. Journal of Power Sources, 2012, 205, 426-432.	4.0	123
117	Probing Insertion and Solubilization Effects of Lysolipids on Supported Lipid Bilayers Using Microcantilevers. Analytical Chemistry, 2011, 83, 4794-4801.	3.2	9
118	Monitoring DNA Binding to Escherichia coli Lactose Repressor Using Quartz Crystal Microbalance with Dissipation. Langmuir, 2011, 27, 4900-4905.	1.6	12
119	Wettability control and patterning of PDMS using UVâ€“ozone and water immersion. Journal of Colloid and Interface Science, 2011, 363, 371-378.	5.0	70
120	Axial Thermal Rotation of Slender Rods. Physical Review Letters, 2011, 106, 188302.	2.9	10
121	A high throughput microelectroporation device to introduce a chimeric antigen receptor to redirect the specificity of human T cells. Biomedical Microdevices, 2010, 12, 855-863.	1.4	30
122	Non-Layer-by-Layer Assembly and Encapsulation Uses of Nanoparticle-Shelled Hollow Spheres. Advances in Polymer Science, 2010, , 89-114.	0.4	5
123	Measuring short-range repulsive forces by imaging directed magnetic-particle assembly title. Soft Matter, 2010, 6, 239-242.	1.2	22
124	Using Microcantilevers to Study the Interactions of Lipid Bilayers with Solid Surfaces. Analytical Chemistry, 2010, 82, 7527-7532.	3.2	13
125	Microfluidic Formation of Ionically Cross-Linked Polyamine Gels. Langmuir, 2010, 26, 6650-6656.	1.6	12
126	Bending dynamics of DNA-linked colloidal particle chains. Soft Matter, 2010, 6, 4197.	1.2	41

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127	Combination of Gene Therapy and Nanoparticle Imaging for Improving T-Cell Therapy.. Blood, 2010, 116, 1479-1479.	0.6	6
128	Large scale generation of genetically modified T-cells using micro-electroporators for cancer treatments. , 2009, , .		0
129	Probing the Stability of Magnetically Assembled DNA-Linked Colloidal Chains. Langmuir, 2009, 25, 8944-8950.	1.6	24
130	Micro- and Nanocantilever Systems for Molecular Analysis. , 2008, , 82-97.		1
131	Using a Microcantilever Array for Detecting Phase Transitions and Stability of DNA. Clinics in Laboratory Medicine, 2007, 27, 163-171.	0.7	9
132	Nanomechanical Detection of DNA Melting on Microcantilever Surfaces. Analytical Chemistry, 2006, 78, 7104-7109.	3.2	67
133	Using a Microcantilever Array for Detecting Phase Transitions and Stability of DNA. Journal of the Association for Laboratory Automation, 2006, 11, 222-226.	2.8	6
134	Rotational dynamics of semiflexible paramagnetic particle chains. Physical Review E, 2004, 69, 041406.	0.8	128
135	Micromixing with Linked Chains of Paramagnetic Particles. Analytical Chemistry, 2004, 76, 6448-6455.	3.2	159
136	Mechanics of semiflexible chains formed by poly(ethylene glycol)-linked paramagnetic particles. Physical Review E, 2003, 68, 021402.	0.8	100
137	Magnetically Actuated Colloidal Chains in Microchannels. , 2002, , 760-762.		0
138	Semiflexible Chains of Magnetic Particles. , 2001, , 149-150.		0