

Barbara L Knutson

List of Publications by Year in descending order

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71
papers

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citations

393982

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243296

44
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71
all docs

71
docs citations

71
times ranked

2443
citing authors

#	ARTICLE	IF	CITATIONS
1	Supercritical fluids as solvents for chemical and materials processing. <i>Nature</i> , 1996, 383, 313-318.	13.7	849
2	Generation of microparticles using CO ₂ and CO ₂ -philic antisolvents. <i>AIChE Journal</i> , 2000, 46, 1850-1859.	1.8	70
3	Adsorption and Recovery of Polyphenolic Flavonoids Using TiO ₂ -Functionalized Mesoporous Silica Nanoparticles. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 32114-32125.	4.0	65
4	Elongated Silica Nanoparticles with a Mesh Phase Mesopore Structure by Fluorosurfactant Templating. <i>Langmuir</i> , 2004, 20, 6981-6984.	1.6	57
5	Liposome Fluidization and Melting Point Depression by Pressurized CO ₂ Determined by Fluorescence Anisotropy. <i>Langmuir</i> , 2005, 21, 530-536.	1.6	57
6	Pore-Size Dependent Protein Adsorption and Protection from Proteolytic Hydrolysis in Tailored Mesoporous Silica Particles. <i>ACS Applied Materials & Interfaces</i> , 2013, 5, 10111-10117.	4.0	56
7	Compressed solvents for the extraction of fermentation products within a hollow fiber membrane contactor. <i>Journal of Supercritical Fluids</i> , 2003, 25, 119-134.	1.6	55
8	Controlling Nanopore Size and Shape by Fluorosurfactant Templating of Silica. <i>Chemistry of Materials</i> , 2005, 17, 916-925.	3.2	46
9	Well-ordered mesoporous silica prepared by cationic fluorinated surfactant templating. <i>Microporous and Mesoporous Materials</i> , 2004, 73, 197-202.	2.2	45
10	Mass transfer in hollow fiber membrane contactor extraction using compressed solvents. <i>Journal of Membrane Science</i> , 2003, 227, 183-196.	4.1	36
11	Synthesis and Nanofiltration Membrane Performance of Oriented Mesoporous Silica Thin Films on Macroporous Supports. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 21806-21815.	4.0	35
12	Layer-by-Layer Synthesis of Thick Mesoporous TiO ₂ Films with Vertically Oriented Accessible Nanopores and Their Application for Lithium-Ion Battery Negative Electrodes. <i>Advanced Functional Materials</i> , 2018, 28, 1801849.	7.8	35
13	Synthesis and biocompatibility evaluation of partially fluorinated pyridinium bromides. <i>New Journal of Chemistry</i> , 2006, 30, 944-951.	1.4	32
14	Synthesis, thermal properties, and cytotoxicity evaluation of hydrocarbon and fluorocarbon alkyl β ² -D-xylopyranoside surfactants. <i>Carbohydrate Research</i> , 2012, 349, 12-23.	1.1	32
15	Synthesis and biocompatibility evaluation of fluorinated, single-tailed glucopyranoside surfactants. <i>New Journal of Chemistry</i> , 2008, 32, 2169.	1.4	31
16	CO ₂ and Fluorinated Solvent-Based Technologies for Protein Microparticle Precipitation from Aqueous Solutions. <i>Biotechnology Progress</i> , 2003, 19, 448-454.	1.3	25
17	Synthesis, surface properties, and biocompatibility of 1,2,3-triazole-containing alkyl β ² -D-xylopyranoside surfactants. <i>Carbohydrate Research</i> , 2013, 379, 68-77.	1.1	25
18	Flavonoid adsorption and stability on titania-functionalized silica nanoparticles. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2015, 478, 15-21.	2.3	23

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19	Selective external surface functionalization of large-pore silica materials capable of protein loading. <i>Microporous and Mesoporous Materials</i> , 2017, 244, 199-207.	2.2	20
20	Lignin-graft-PLGA drug-delivery system improves efficacy of MEK1/2 inhibitors in triple-negative breast cancer cell line. <i>Nanomedicine</i> , 2020, 15, 981-1000.	1.7	19
21	Tailoring Porous Silica Films through Supercritical Carbon Dioxide Processing of Fluorinated Surfactant Templates. <i>Journal of Physical Chemistry B</i> , 2007, 111, 363-370.	1.2	18
22	Interaction of lignin-derived dimer and eugenol-functionalized silica nanoparticles with supported lipid bilayers. <i>Colloids and Surfaces B: Biointerfaces</i> , 2020, 191, 111028.	2.5	18
23	Product Selectivity Shifts in <i>Clostridium thermocellum</i> in the Presence of Compressed Solvents. <i>Industrial & Engineering Chemistry Research</i> , 2000, 39, 4500-4505.	1.8	17
24	Synthesis, physicochemical properties and in vitro cytotoxicity of nicotinic acid ester prodrugs intended for pulmonary delivery using perfluorooctyl bromide as vehicle. <i>International Journal of Pharmaceutics</i> , 2008, 353, 35-44.	2.6	17
25	Cytotoxic activity of triazole-containing alkyl β -D-glucopyranosides on a human T-cell leukemia cell line. <i>Chemistry Central Journal</i> , 2015, 9, 3.	2.6	17
26	Gas antisolvent fractionation of semicrystalline and amorphous poly(lactic acid) using compressed CO ₂ . <i>Polymer</i> , 2002, 43, 4445-4452.	1.8	16
27	Large- and small-nanopore silica prepared with a short-chain cationic fluorinated surfactant. <i>Nanotechnology</i> , 2005, 16, S502-S507.	1.3	16
28	Direct Synthesis and Accessibility of Amine-Functionalized Mesoporous Silica Templated Using Fluorinated Surfactants. <i>Industrial & Engineering Chemistry Research</i> , 2011, 50, 5510-5522.	1.8	16
29	Effects of Pore Size and Tethering on the Diffusivity of Lipids Confined in Mesoporous Silica. <i>Advanced Materials Interfaces</i> , 2017, 4, 1601103.	1.9	15
30	Toxicity effects of compressed and supercritical solvents on thermophilic microbial metabolism. <i>Biotechnology and Bioengineering</i> , 2000, 70, 491-497.	1.7	14
31	Nanoharvesting of bioactive materials from living plant cultures using engineered silica nanoparticles. <i>Materials Science and Engineering C</i> , 2020, 106, 110190.	3.8	14
32	Experimental and Molecular Dynamics Simulation Study of the Effects of Lignin Dimers on the Gel-to-Fluid Phase Transition in DPPC Bilayers. <i>Journal of Physical Chemistry B</i> , 2019, 123, 8247-8260.	1.2	13
33	Extraction of Coal Tar Pitch Using a Mixture of Compressed CO ₂ and Toluene. <i>Industrial & Engineering Chemistry Research</i> , 1999, 38, 3360-3366.	1.8	12
34	Synthesis of Fluoro-Functionalized Mesoporous Silica and Application to Fluorophilic Separations. <i>Industrial & Engineering Chemistry Research</i> , 2008, 47, 530-538.	1.8	11
35	Fluorinated surfactant templating of vinyl-functionalized nanoporous silica. <i>Microporous and Mesoporous Materials</i> , 2005, 85, 16-24.	2.2	10
36	A Perspective on Challenges and Prospects for Applying Process Systems Engineering Tools to Fermentation-Based Biorefineries. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 2829-2844.	3.2	10

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37	Mechanistic simulation of batch acetone-butanol-ethanol (ABE) fermentation with in situ gas stripping using Aspen Plus. <i>Bioprocess and Biosystems Engineering</i> , 2018, 41, 1283-1294.	1.7	10
38	Effect of Confinement in Nanopores on RNA Interactions with Functionalized Mesoporous Silica Nanoparticles. <i>Journal of Physical Chemistry B</i> , 2020, 124, 8549-8561.	1.2	10
39	Enzymatic catalysis in cosolvent modified pressurized organic solvents. <i>Biotechnology and Bioengineering</i> , 1999, 65, 258-264.	1.7	9
40	Surface Activity of Lysozyme and Dipalmitoyl Phosphatidylcholine Vesicles at Compressed and Supercritical Fluid Interfaces. <i>Journal of Physical Chemistry B</i> , 2005, 109, 24495-24501.	1.2	9
41	Supercritical Carbon Dioxide Processing of Fluorinated Surfactant Templated Mesoporous Silica Thin Films. <i>Langmuir</i> , 2005, 21, 6145-6149.	1.6	9
42	Pore size engineering in fluorinated surfactant templated mesoporous silica powders through supercritical carbon dioxide processing. <i>Microporous and Mesoporous Materials</i> , 2008, 113, 106-113.	2.2	8
43	Fluorocarbon and hydrocarbon functional group incorporation into nanoporous silica employing fluorinated and hydrocarbon surfactants as templates. <i>Microporous and Mesoporous Materials</i> , 2010, 129, 189-199.	2.2	8
44	Supercritical carbon dioxide swelling of fluorinated and hydrocarbon surfactant templates in mesoporous silica thin films. <i>Journal of Colloid and Interface Science</i> , 2012, 367, 183-192.	5.0	8
45	Preparation and characterization of multimodal hybrid organic and inorganic nanocrystals of camptothecin and gold. <i>Acta Pharmaceutica Sinica B</i> , 2019, 9, 128-134.	5.7	8
46	Manipulation of the Liquid-Liquid Equilibrium of Vertrel-XF + Hydrocarbon Solvent Systems with the Addition of a Third Component. <i>Industrial & Engineering Chemistry Research</i> , 2002, 41, 2792-2797.	1.8	7
47	Liposome fluidization and melting point depression by compressed and liquid n-alkanes. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2006, 279, 50-57.	2.3	7
48	Molecular and phase toxicity of compressed and supercritical fluids in biphasic continuous cultures of <i>Clostridium thermocellum</i> . <i>Biotechnology and Bioengineering</i> , 2005, 89, 32-41.	1.7	6
49	Interfacial molecular imprinting of Stober particle surfaces: A simple approach to targeted saccharide adsorption. <i>Journal of Colloid and Interface Science</i> , 2014, 428, 101-110.	5.0	6
50	Nanoconfinement Effects on Redox Probe Transport in Lipid Assemblies on and in Mesoporous Silica Thin Films. <i>Advanced Materials Interfaces</i> , 2020, 7, 1901787.	1.9	5
51	Unusual Dependence of Particle Architecture on Surfactant Concentration in Partially Fluorinated Decylpyridinium Templated Silica. <i>Journal of Physical Chemistry B</i> , 2005, 109, 23225-23232.	1.2	4
52	Lipid Pore-Filled Silica Thin-Film Membranes for Biomimetic Recovery of Dilute Carbohydrates. <i>Langmuir</i> , 2017, 33, 14156-14166.	1.6	4
53	Multi-objective versus single-objective optimization of batch bioethanol production based on a time-dependent fermentation model. <i>Clean Technologies and Environmental Policy</i> , 2018, 20, 1271-1285.	2.1	4
54	Epitaxial Formation Mechanism of Multilayer TiO ₂ Films with Ordered Accessible Vertical Nanopores by Evaporation-Driven Assembly. <i>Journal of Physical Chemistry C</i> , 2020, 124, 1958-1972.	1.5	4

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55	Strategy for Conjugating Oligopeptides to Mesoporous Silica Nanoparticles Using Diazirine-Based Heterobifunctional Linkers. <i>Nanomaterials</i> , 2022, 12, 608.	1.9	4
56	In Situ Fourier Transform Infrared Study of the Effects of Silica Mesopore Confinement on Hydration of Ionic Liquid 1-Butyl-3-methylimidazolium Chloride. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 22609-22618.	1.8	3
57	Interaction of lignin dimers with model cell membranes: A quartz crystal microbalance and molecular dynamics simulation study. <i>Biointerphases</i> , 2021, 16, 041003.	0.6	3
58	Formation of Vertically Oriented Channels during Calcination of Surfactant-Templated Titania-Doped Mesoporous Silica Thin Films. <i>Journal of Physical Chemistry C</i> , 2021, 125, 22262-22273.	1.5	3
59	Fluorinated Surfactant Templating of Ordered Nanoporous Silica. <i>Materials Research Society Symposia Proceedings</i> , 2003, 775, 3181.	0.1	2
60	Partitioning of homologous nicotinic acid ester prodrugs (nicotinates) into dipalmitoylphosphatidylcholine (DPPC) membrane bilayers. <i>Colloids and Surfaces B: Biointerfaces</i> , 2010, 78, 75-84.	2.5	2
61	Hydrolysis of model cellulose films by cellulosomes: Extension of quartz crystal microbalance technique to multienzymatic complexes. <i>Journal of Biotechnology</i> , 2017, 241, 42-49.	1.9	2
62	Inverted Micelle-in-Micelle Configuration in Cationic/Carbohydrate Surfactant Mixtures. <i>ChemPhysChem</i> , 2017, 18, 79-86.	1.0	2
63	Tuning the position of head groups by surfactant design in mixed micelles of cationic and carbohydrate surfactants. <i>Journal of Colloid and Interface Science</i> , 2018, 512, 428-438.	5.0	2
64	Mechanism of Mesoporous Silica Nanoparticle Interaction with Hairy Root Cultures during Nanoharvesting of Biomolecules. <i>Advanced Biology</i> , 2021, 5, 2000173.	1.4	2
65	Complexation of Lignin Dimers with β -Cyclodextrin and Binding Stability Analysis by ESI-MS, Isothermal Titration Calorimetry, and Molecular Dynamics Simulations. <i>Journal of Physical Chemistry B</i> , 2022, 126, 1655-1667.	1.2	2
66	Liquid-liquid equilibria of a hydrofluoroether + water + ethanol system. <i>Fluid Phase Equilibria</i> , 2002, 201, 97-106.	1.4	1
67	Imprinting of St β particles for chirally-resolved adsorption of target monosaccharides and disaccharides. <i>New Journal of Chemistry</i> , 2017, 41, 11525-11532.	1.4	1
68	Simulation-Based Characterization of Electrolytes and Small Molecule Diffusion in Oriented Mesoporous Silica Thin Films. <i>Springer Series in Materials Science</i> , 2021, , 521-558.	0.4	1
69	The Confounding Effects of Particle Size and Substrate Bulk Density on <i>Phanerochaete chrysosporium</i> Pretreatment of <i>Panicum virgatum</i> . <i>BioResources</i> , 2016, 11, .	0.5	1
70	Nanoconfinement Effects on the Transport of Redox Probes in Ionic Liquid-Loaded Mesoporous Silica Thin Films. <i>Industrial & Engineering Chemistry Research</i> , 2022, 61, 12107-12117.	1.8	1
71	Relating Mobility of dsRNA in Nanoporous Silica Particles to Loading and Release Behavior. <i>ACS Applied Bio Materials</i> , 2021, 4, 8267-8276.	2.3	0