Eric Beckman

List of Publications by Year
in descending order

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95 papers	7,069 citations	81743 39 h-index	58464 82 g-index
97 all docs	97 docs citations	97 times ranked	5377 citing authors

#	Article	IF	Citations
1	Thickening CO₂ with Direct Thickeners, CO₂-in-Oil Emulsions, or Nanoparticle Dispersions: Literature Review and Experimental Validation. Energy & Fuels, 2021, 35, 8510-8540.	2.5	20
2	Design of a well-defined poly(dimethylsiloxane)-based microbial nanoculture system. Materials Today Communications, 2021, 27, 102185.	0.9	2
3	An experimental feasibility study on the use of CO2-soluble polyfluoroacrylates for CO2 mobility and conformance control applications. Journal of Petroleum Science and Engineering, 2020, 184, 106556.	2.1	15
4	Developing a Functional Poly(dimethylsiloxane)-Based Microbial Nanoculture System Using Dimethylallylamine. ACS Applied Materials & Interfaces, 2020, 12, 50581-50591.	4.0	8
5	Sugar Acetate-based Low Molecular Weight Organogelators. Chemistry Letters, 2020, 49, 1026-1029.	0.7	0
6	Toward a Green and Sustainable Chemistry Education Road Map. Journal of Chemical Education, 2020, 97, 2104-2113.	1.1	23
7	Predicting Initial Reactant Miscibility for CO₂-Enhanced Transesterification of Triglycerides with Methanol Using a Polar Version of PC-SAFT. Industrial & Engineering Chemistry Research, 2019, 58, 22598-22608.	1.8	3
8	Fluoroacrylate-aromatic acrylate copolymers for viscosity enhancement of carbon dioxide. Journal of Supercritical Fluids, 2019, 146, 38-46.	1.6	18
9	Modelling phase behavior of biodiesel related systems with CO2 using a polar version of PC-SAFT. Fluid Phase Equilibria, 2019, 485, 32-43.	1.4	17
10	Carbon dioxide-in-oil emulsions stabilized with silicone-alkyl surfactants for waterless hydraulic fracturing. Journal of Colloid and Interface Science, 2018, 526, 253-267.	5.0	35
11	Using Ions to Control Transport in Two-Dimensional Materials for Ion-Controlled Electronics. , 2018, , .		0
12	Fluoroacrylate Polymers as CO2-soluble Conformance Control Agents. , 2018, , .		3
13	The solubility of low molecular weight Poly(Dimethyl siloxane) in dense CO2 and its use as a CO2-philic segment. Journal of Supercritical Fluids, 2017, 119, 17-25.	1.6	25
14	Small associative molecule thickeners for ethane, propane and butane. Journal of Supercritical Fluids, 2016, 114, 9-17.	1.6	15
15	Small Molecule Cyclic Amide and Urea Based Thickeners for Organic and sc-CO₂/Organic Solutions. Energy & Fuels, 2016, 30, 5601-5610.	2.5	29
16	Anthraquinone Siloxanes as Thickening Agents for Supercritical CO₂. Energy & Fuels, 2016, 30, 5990-5998.	2.5	42
17	Assessment of solubility and viscosity of ultra-high molecular weight polymeric thickeners in ethane, propane and butane for miscible EOR. Journal of Petroleum Science and Engineering, 2016, 145, 266-278.	2.1	25
18	Putting carbon dioxide to work. Nature, 2016, 531, 180-181.	13.7	30

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19	Development of Small Molecule CO2 Thickeners for EOR and Fracturing. , 2014, , .		14
20	Effect of System Conditions for Biodiesel Production via Transesterification Using Carbon Dioxideâ€“Methanol Mixtures in the Presence of a Heterogeneous Catalyst. ACS Sustainable Chemistry and Engineering, 2014, 2, 387-395.	3.2	23
21	Ambient carboxylation on a supported reversible CO2 carrier: ketone to Î²-keto ester. Green Chemistry, 2011, 13, 376.	4.6	34
22	Tuning catalyst solubility in CO2by changing molar volume. Green Chemistry Letters and Reviews, 2010, 3, 319-328.	2.1	8
23	Influence of tert-amine groups on the solubility of polymers in CO2. Polymer, 2009, 50, 2436-2444.	1.8	42
24	Effect of Incubation of CO₂ and Lewis Acid on the Generation of Toluic Acid from Toluene and CO₂. Industrial & Engineering Chemistry Research, 2009, 48, 1059-1062.	1.8	28
25	Design and Evaluation of Nonfluorous CO₂-Soluble Oligomers and Polymers. Journal of Physical Chemistry B, 2009, 113, 14971-14980.	1.2	69
26	One-pot green synthesis of propylene oxide using in situ generated hydrogen peroxide in carbon dioxide. Green Chemistry, 2008, 10, 934.	4.6	69
27	Cellulose triacetate oligomers exhibit high solubility in dense CO2. Green Chemistry, 2008, 10, 756.	4.6	13
28	Phase Behavior of Oxygen-Containing Polymers in CO2. Macromolecules, 2007, 40, 1332-1341.	2.2	95
29	Direct synthesis of H2O2 from O2 and H2 over precious metal loaded TS-1 in CO2. Green Chemistry, 2007, 9, 802.	4.6	47
30	Inverse Emulsion Polymerization in Carbon Dioxide. , 2006, , 139-156.		0
31	Solubility of several analogues of triphenylphosphine in carbon dioxide. Green Chemistry, 2005, 7, 590.	4.6	19
32	Oxygenated Hydrocarbon Ionic Surfactants Exhibit CO2Solubility. Journal of the American Chemical Society, 2005, 127, 11754-11762.	6.6	85
33	Synthesis and characterization of alkylatedN-vinylformamide monomers and their polymers. Journal of Polymer Science Part A, 2004, 42, 4994-5004.	2.5	5
34	A challenge for green chemistry: designing molecules that readily dissolve in carbon dioxide. Chemical Communications, 2004, , 1885.	2.2	145
35	Poly(ethylene glycol)-block-poly(N-vinylformamide) Copolymers Synthesized by the RAFT Methodology. Macromolecules, 2003, 36, 2563-2567.	2.2	81
36	The high CO2-solubility of per-acetylated Î±-, Î²-, and Î³-cyclodextrin. Fluid Phase Equilibria, 2003, 211, 211-217.	1.4	66

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37	Oxidation Reactions in CO2:Â Academic Exercise or Future Green Processes?. Environmental Science & Technology, 2003, 37, 5289-5296.	4.6	35
38	Effect of Grafted Lewis Base Groups on the Phase Behavior of Model Poly(dimethyl siloxanes) in CO2. Industrial & Engineering Chemistry Research, 2003, 42, 6415-6424.	1.8	99
39	Production of H2O2 in CO2 and its use in the direct synthesis of propylene oxideThis work was presented at the Green Solvents for Catalysis Meeting held in Bruchsal, Germany, 13?16th October, 2002.. Green Chemistry, 2003, 5, 332.	4.6	60
40	Enzyme Activity Using a Perfluoropolyether-Modified NAD(H) in Fluorous Solvents and Carbon Dioxide. ACS Symposium Series, 2002, , 64-81.	0.5	4
41	Peer Reviewed: Using CO2 to Produce Chemical Producs Sustainably. Environmental Science & Technology, 2002, 36, 347A-353A.	4.6	33
42	Peracetylated Sugar Derivatives Show High Solubility in Liquid and Supercritical Carbon Dioxide. Organic Letters, 2002, 4, 2333-2335.	2.4	95
43	H2O2 in CO2/H2O Biphasic Systems:â€‰ Green Synthesis and Epoxidation Reactions. Industrial & Engineering Chemistry Research, 2002, 41, 4466-4474.	1.8	73
44	Remediation of Metal-Bearing Aqueous Waste Streams via Direct Carbonation. Energy & Fuels, 2001, 15, 256-262.	2.5	32
45	Design of Ligands for the Extraction of PtCl62-into Liquid CO2. Industrial & Engineering Chemistry Research, 2001, 40, 2897-2903.	1.8	11
46	Generation of hydrogen peroxide directly from H2 and O2 using CO2 as the solvent. Green Chemistry, 2001, 3, 80-86.	4.6	77
47	Semi-Fluorinated Trialkyltin Fluorides and Fluorinated Telechelic Ionomers as Viscosity-Enhancing Agents for Carbon Dioxide. Industrial & Engineering Chemistry Research, 2001, 40, 908-913.	1.8	50
48	Synthesis and Properties of some É›-Caprolactone-Based Di- and Triblock Polymers by Anionic Polymerization. Macromolecular Materials and Engineering, 2001, 286, 497-505.	1.7	8
49	Use of a batch-stirred reactor to rationally tailor biocatalytic polytransesterification. , 2000, 67, 424-434.		16
50	Photoswitchable PEG-CA hydrogels and factors that affect their photosensitivity. Journal of Polymer Science Part A, 2000, 38, 1466-1476.	2.5	21
51	Non-fluorous polymers with very high solubility in supercritical CO2 down to low pressures. Nature, 2000, 405, 165-168.	13.7	425
52	Combined Reaction-Separation Processes in CO2. ACS Symposium Series, 2000, , 78-95.	0.5	0
53	Design and Synthesis of Low Cost, Sustainable CO2-philes. Industrial & Engineering Chemistry Research, 2000, 39, 4678-4683.	1.8	128
54	Enhancement of the Viscosity of Carbon Dioxide Using Styrene/Fluoroacrylate Copolymers. Macromolecules, 2000, 33, 5437-5442.	2.2	113

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55	Production of Hydrogen Peroxide in Liquid CO2. 3. Oxidation of CO2-Philic Anthrahydroquinones. Industrial & Engineering Chemistry Research, 2000, 39, 2843-2848.	1.8	22
56	Use of a batch-stirred reactor to rationally tailor biocatalytic polytransesterification. Biotechnology and Bioengineering, 2000, 67, 424.	1.7	1
57	Green processing using ionic liquids and CO2. Nature, 1999, 399, 28-29.	13.7	1,848
58	Enzymatic synthesis of carbonate monomers and polycarbonates. , 1999, 62, 259-266.		35
59	Enzyme-catalyzed polycondensation reactions for the synthesis of aromatic polycarbonates and polyesters. , 1999, 65, 485-489.		28
60	Photoimmobilization of organophosphorus hydrolase within a PEG-based hydrogel. , 1999, 65, 579-588.		46
61	The Gelation of CO2: A Sustainable Route to the Creation of Microcellular Materials. Science, 1999, 286, 1540-1543.	6.0	204
62	Making Polymers from Carbon Dioxide. Science, 1999, 283, 946-947.	6.0	128
63	Production of Hydrogen Peroxide in Liquid CO2. 1. Design, Synthesis, and Phase Behavior of CO2-Miscible Anthraquinones. Industrial & Engineering Chemistry Research, 1999, 38, 2824-2832.	1.8	15
64	Homopolymerization and Copolymerization of Cyclohexene Oxide with Carbon Dioxide Using Zinc and Aluminum Catalysts. Macromolecules, 1999, 32, 6904-6912.	2.2	64
65	Toward the Development of â€œCO2-philicâ€•Hydrocarbons. 1. Use of Side-Chain Functionalization to Lower the Miscibility Pressure of Polydimethylsiloxanes in CO2. Journal of Physical Chemistry B, 1999, 103, 6441-6444.	1.2	110
66	Generation of Microcellular Biodegradable Polymers Using Supercritical Carbon Dioxide. ACS Symposium Series, 1999, , 181-193.	0.5	2
67	Rapid biocatalytic polytransesterification: Reaction kinetics in an exothermic reaction. , 1998, 59, 428-437.		9
68	Creating molecular barriers to acute platelet deposition on damaged arteries with reactive polyethylene glycol. , 1998, 41, 251-256.		46
69	One-Step Biocatalytic Synthesis of Linear Polyesters with Pendant Hydroxyl Groups. Journal of the American Chemical Society, 1998, 120, 9475-9480.	6.6	123
70	Affinity Extraction into CO2. 2. Extraction of Heavy Metals into CO2from Low-pH Aqueous Solutions. Industrial & Engineering Chemistry Research, 1998, 37, 4768-4773.	1.8	23
71	Affinity Extraction into Carbon Dioxide. 1. Extraction of Avidin Using a Biotin-Functional Fluoroether Surfactant. Industrial & Engineering Chemistry Research, 1997, 36, 5366-5370.	1.8	25
72	Phase Behavior of Carbon Dioxide + 1,2-Epoxycyclohexane Mixtures. Journal of Chemical & Engineering Data, 1997, 42, 664-667.	1.0	18

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73	Design of Highly CO2-Soluble Chelating Agents. 2. Effect of Chelate Structure and Process Parameters on Extraction Efficiency. Industrial & Engineering Chemistry Research, 1997, 36, 2368-2374.	1.8	42
74	Radical Reactions with Alkyl and Fluoroalkyl (Fluorous) Tin Hydride Reagents in Supercritical CO2. Journal of the American Chemical Society, 1997, 119, 7406-7407.	6.6	90
75	Biocatalytic Solvent-Free Polymerization To Produce High Molecular Weight Polyesters. Biotechnology Progress, 1997, 13, 318-325.	1.3	81
76	Determination of Mark-Houwink parameters for poly(N-vinylformamide). Journal of Polymer Science Part A, 1997, 35, 2533-2534.	2.5	14
77	Biocatalytic polyester synthesis: Analysis of the evolution of molecular weight and end group functionality. , 1997, 55, 227-239.		40
78	Photoscissable Hydrogel Synthesis via Rapid Photopolymerization of Novel PEG-Based Polymers in the Absence of PhotoinitiatorsâŠ¥. Journal of the American Chemical Society, 1996, 118, 6235-6240.	6.6	93
79	Control of Subtilisin Substrate Specificity by Solvent Engineering in Organic Solvents and Supercritical Fluoroform. Journal of the American Chemical Society, 1996, 118, 12891-12901.	6.6	76
80	Design, Synthesis, and Evaluation of Novel, Highly CO2-Soluble Chelating Agents for Removal of Metals. Industrial & Engineering Chemistry Research, 1996, 35, 3644-3652.	1.8	80
81	Characterization of Synthetic Polymers Using Matrix-Assisted Laser Desorption/Ionizationâ^'Time of Flight Mass Spectrometry. Macromolecules, 1996, 29, 2213-2221.	2.2	46
82	Nucleation and growth in microcellular materials: Supercritical CO2 as foaming agent. AICHE Journal, 1995, 41, 357-367.	1.8	114
83	Design of highly CO‹sub›2‹/sub›-soluble chelating agents for carbon dioxide extraction of heavy metals. Journal of Materials Research, 1995, 10, 530-537.	1.2	44
84	Enzyme Activity in Supercritical Fluids. Critical Reviews in Biotechnology, 1995, 15, 41-71.	5.1	187
85	Generation of microcellular polymeric foams using supercritical carbon dioxide. I: Effect of pressure and temperature on nucleation. Polymer Engineering and Science, 1994, 34, 1137-1147.	1.5	482
86	Generation of microcellular polymeric foams using supercritical carbon dioxide. II: Cell growth and skin formation. Polymer Engineering and Science, 1994, 34, 1148-1156.	1.5	229
87	Thermally reversible polymeric sorbents for acid gases: CO2, SO2, and NOx. Journal of Applied Polymer Science, 1994, 53, 857-875.	1.3	65
88	Highly CO2-Soluble Chelating Agents for Supercritical Extraction and Recovery of Heavy Metals. Materials Research Society Symposia Proceedings, 1994, 344, 211.	0.1	3
89	Molecular redesign of expanded polystyrene to allow use of carbon dioxide as a foaming agent. I. Reversible binding of CO2. Journal of Applied Polymer Science, 1993, 50, 835-844.	1.3	16
90	Immobilization of glucose oxidase in thin polypyrrole films: Influence of polymerization conditions and film thickness on the activity and stability of the immobilized enzyme. Biotechnology and Bioengineering, 1993, 42, 1037-1045.	1.7	52

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91	Separation of Thermoplastics by Density Using Near-Critical and Supercritical Carbon Dioxide and Sulfur Hexafluoride. ACS Symposium Series, 1992, , 172-185.	0.5	9
92	Solubilization and Activity of Proteins in Compressible-Fluid Based Microemulsions. Nature Biotechnology, 1992, 10, 1584-1588.	9.4	6
93	Protein extraction and activity in reverse micelles of a nonionic detergent. Biotechnology and Bioengineering, 1992, 39, 806-814.	1.7	71
94	Patents and literature. Applied Biochemistry and Biotechnology, 1991, 31, 197-211.	1.4	18
95	Work in Progress: A Vision for the First â€œProduct Innovation Sequenceâ€•for Chemical Engineers. , 0, , .		0