

Thierry Tassaing

List of Publications by Year in descending order

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106
papers

4,064
citations

94269

37
h-index

128067

60
g-index

106
all docs

106
docs citations

106
times ranked

3472
citing authors

#	ARTICLE	IF	CITATIONS
1	Organocatalyzed coupling of carbon dioxide with epoxides for the synthesis of cyclic carbonates: catalyst design and mechanistic studies. <i>Catalysis Science and Technology</i> , 2017, 7, 2651-2684.	2.1	403
2	Drug loading of polymer implants by supercritical CO ₂ assisted impregnation: A review. <i>Journal of Controlled Release</i> , 2015, 209, 248-259.	4.8	191
3	Solubility in CO ₂ and carbonation studies of epoxidized fatty acid diesters: towards novel precursors for polyurethane synthesis. <i>Green Chemistry</i> , 2010, 12, 2205.	4.6	143
4	The structure of supercritical heavy water as studied by neutron diffraction. <i>Journal of Chemical Physics</i> , 1997, 107, 2942-2949.	1.2	122
5	CO ₂ -Sourced α -Alkylidene Cyclic Carbonates: A Step Forward in the Quest for Functional Regioregular Poly(urethane)s and Poly(carbonate)s. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 10394-10398.	7.2	109
6	Theoretical study on the chemical fixation of carbon dioxide with propylene oxide catalyzed by ammonium and guanidinium salts. <i>Catalysis Science and Technology</i> , 2014, 4, 1585.	2.1	106
7	Fluorinated Alcohols as Activators for the Solvent-Free Chemical Fixation of Carbon Dioxide into Epoxides. <i>ChemSusChem</i> , 2015, 8, 1845-1849.	3.6	102
8	Novel green fatty acid-based bis-cyclic carbonates for the synthesis of isocyanate-free poly(hydroxyurethane amide)s. <i>RSC Advances</i> , 2014, 4, 25795-25803.	1.7	94
9	Organocatalytic promoted coupling of carbon dioxide with epoxides: a rational investigation of the cocatalytic activity of various hydrogen bond donors. <i>Catalysis Science and Technology</i> , 2015, 5, 4636-4643.	2.1	91
10	Infrared spectroscopic study of hydrogen-bonding in water at high temperature and pressure. <i>Journal of Molecular Liquids</i> , 2002, 101, 149-158.	2.3	86
11	CO ₂ -Ethanol Interaction Studied by Vibrational Spectroscopy in Supercritical CO ₂ . <i>Journal of Physical Chemistry A</i> , 2004, 108, 2617-2624.	1.1	85
12	Vibrational Spectra of CO ₂ -Electron Donor-Acceptor Complexes from ab Initio. <i>Journal of Physical Chemistry A</i> , 2002, 106, 11831-11840.	1.1	80
13	Hydrogen Bonding in Supercritical Ethanol Assessed by Infrared and Raman Spectroscopies. <i>Journal of Physical Chemistry A</i> , 2004, 108, 3902-3909.	1.1	69
14	Ionization Reaction in Iodine/Pyridine Solutions: What Can We Learn from Conductivity Measurements, Far-Infrared Spectroscopy, and Raman Scattering?. <i>Journal of Physical Chemistry A</i> , 1997, 101, 2803-2808.	1.1	65
15	The partial pair correlation functions of dense supercritical water. <i>Europhysics Letters</i> , 1998, 42, 265-270.	0.7	65
16	Structure-Property Relationships in CO ₂ -philic (Co)polymers: Phase Behavior, Self-Assembly, and Stabilization of Water/CO ₂ Emulsions. <i>Chemical Reviews</i> , 2016, 116, 4125-4169.	23.0	64
17	On the chemical fixation of supercritical carbon dioxide with epoxides catalyzed by ionic salts: an in situ FTIR and Raman study. <i>Catalysis Science and Technology</i> , 2013, 3, 1046.	2.1	62
18	Organocatalytic synthesis of bio-based cyclic carbonates from CO ₂ and vegetable oils. <i>RSC Advances</i> , 2015, 5, 53629-53636.	1.7	60

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19	Chemo- and Regioselective Additions of Nucleophiles to Cyclic Carbonates for the Preparation of Self-Blowing Non-isocyanate Polyurethane Foams. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 17033-17041.	7.2	60
20	In situ FTIR micro-spectroscopy to investigate polymeric fibers under supercritical carbon dioxide: CO ₂ sorption and swelling measurements. <i>Journal of Supercritical Fluids</i> , 2014, 90, 44-52.	1.6	55
21	Drug Loading of Sutures by Supercritical CO ₂ Impregnation: Effect of Polymer/Drug Interactions and Thermal Transitions. <i>Macromolecular Materials and Engineering</i> , 2015, 300, 596-610.	1.7	55
22	Enhanced Solubility of Polyvinyl Esters in scCO ₂ by Means of Vinyl Trifluorobutyrate Monomer. <i>ACS Macro Letters</i> , 2015, 4, 89-93.	2.3	55
23	Detailed Understanding of the DBU/CO ₂ Switchable Solvent System for Cellulose Solubilization and Derivatization. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 1496-1503.	3.2	54
24	Enhancement of Poly(vinyl ester) Solubility in Supercritical CO ₂ by Partial Fluorination: The Key Role of Polymer-Polymer Interactions. <i>Journal of the American Chemical Society</i> , 2012, 134, 11920-11923.	6.6	51
25	Ab Initio Investigation of Vibrational Spectra of Water-(CO ₂) _n Complexes (n= 1, 2). <i>Journal of Physical Chemistry A</i> , 2005, 109, 3250-3256.	1.1	48
26	Vibrational spectroscopic studies on the state of aggregation of water in carbon tetrachloride, in dioxane and in the mixed solvents. <i>Journal of Molecular Liquids</i> , 1995, 64, 197-210.	2.3	47
27	Hydrogen bonding in supercritical tert-butanol assessed by vibrational spectroscopies and molecular-dynamics simulations. <i>Journal of Chemical Physics</i> , 2005, 122, 174512.	1.2	47
28	Influence of macromolecular characteristics of RAFT/MADIX poly(vinyl acetate)-based (co)polymers on their solubility in supercritical carbon dioxide. <i>Polymer Chemistry</i> , 2011, 2, 2222.	1.9	47
29	Molecular Dynamics of Monomeric Water Dissolved in Very Hydrophobic Solvents: the Current State of the Art of Vibrational Spectroscopy Analyzed from Analytical Model and MD Simulations. <i>Journal of Physical Chemistry A</i> , 2000, 104, 9415-9427.	1.1	46
30	Phase equilibrium of the CO ₂ /glycerol system: Experimental data by in situ FT-IR spectroscopy and thermodynamic modeling. <i>Journal of Supercritical Fluids</i> , 2013, 73, 97-107.	1.6	45
31	Organocatalytic Coupling of CO ₂ with Oxetane. <i>ChemSusChem</i> , 2017, 10, 1128-1138.	3.6	45
32	DFT investigation of the reaction mechanism for the guanidine catalysed ring-opening of cyclic carbonates by aromatic and alkyl-amines. <i>RSC Advances</i> , 2017, 7, 18993-19001.	1.7	43
33	Solubility in CO ₂ and swelling studies by in situ IR spectroscopy of vegetable-based epoxidized oils as polyurethane precursors. <i>Polymer Chemistry</i> , 2012, 3, 525-532.	1.9	41
34	Dynamics of solitary water in benzene and hexafluorobenzene: An infrared and Raman study. <i>Journal of Chemical Physics</i> , 2000, 113, 3741-3748.	1.2	39
35	In Situ IR Spectroscopy and Ab Initio Calculations To Study Polymer Swelling by Supercritical CO ₂ . <i>Journal of Physical Chemistry B</i> , 2009, 113, 897-905.	1.2	39
36	A far infrared study of water diluted in hydrophobic solvents. <i>Molecular Physics</i> , 1995, 84, 769-785.	0.8	38

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37	Raman spectroscopy of CO ₂ -acetone and CO ₂ -ethanol complexes. <i>Chemical Physics Letters</i> , 2005, 413, 258-262.	1.2	38
38	Boosting the Catalytic Performance of Organic Salts for the Fast and Selective Synthesis of β -Alkylidene Cyclic Carbonates from Carbon Dioxide and Propargylic Alcohols. <i>ChemCatChem</i> , 2018, 10, 2584-2592.	1.8	38
39	Attempt to explain the changes in solvation of polystyrene in supercritical CO ₂ /ethanol mixtures using infrared and Raman spectroscopy. <i>Journal of Supercritical Fluids</i> , 2001, 19, 199-207.	1.6	37
40	Synthesis of core-shell polyurethane-polydimethylsiloxane particles in cyclohexane and in supercritical carbon dioxide used as dispersant media: a comparative investigation. <i>Polymer</i> , 2005, 46, 1057-1066.	1.8	36
41	A far infrared study of benzene-fluorinated benzene binary mixtures. <i>Chemical Physics</i> , 1994, 184, 225-231.	0.9	35
42	Bringing together fundamental and applied science: The supercritical fluids route. <i>Journal of Molecular Liquids</i> , 2006, 125, 88-99.	2.3	35
43	Anionic ring-opening polymerization of ϵ -caprolactone in supercritical carbon dioxide: parameters influencing the reactivity. <i>Journal of Supercritical Fluids</i> , 2004, 28, 249-261.	1.6	34
44	In situ FTIR investigation of the solubility and swelling of model epoxides in supercritical CO ₂ . <i>Journal of Supercritical Fluids</i> , 2012, 63, 52-58.	1.6	34
45	A vibrational spectroscopic study of structure evolution of water dissolved in supercritical carbon dioxide under isobaric heating. <i>Journal of Chemical Physics</i> , 2004, 120, 10691-10698.	1.2	33
46	Tetrabutylammonium Salts: Cheap Catalysts for the Facile and Selective Synthesis of β -Alkylidene Cyclic Carbonates from Carbon Dioxide and Alkynols. <i>ChemCatChem</i> , 2018, 10, 956-960.	1.8	33
47	Organocatalytic Coupling of CO ₂ with a Propargylic Alcohol: A Comprehensive Mechanistic Study. <i>ChemSusChem</i> , 2017, 10, 1241-1248.	3.6	32
48	Raman Investigation of the CO ₂ Complex Formation in CO ₂ -Acetone Mixtures. <i>Journal of Physical Chemistry A</i> , 2007, 111, 13371-13379.	1.1	31
49	A comprehensive density functional theory study of the key role of fluorination and dual hydrogen bonding in the activation of the epoxide/CO ₂ coupling by fluorinated alcohols. <i>RSC Advances</i> , 2016, 6, 36327-36335.	1.7	31
50	On the Perturbation of the Intramolecular H-Bond in Diols by Supercritical CO ₂ : A Theoretical and Spectroscopic Study. <i>Journal of Physical Chemistry A</i> , 2007, 111, 4181-4187.	1.1	30
51	Current manufacturing processes of drug-eluting sutures. <i>Expert Opinion on Drug Delivery</i> , 2017, 14, 1293-1303.	2.4	30
52	Distinctive Features of Solubility of RAFT/MADIX-Derived Partially Trifluoromethylated Poly(vinyl) Tj ETQq0 0 0 rgBT, Qverlock, 10 Tf 50 1	2.2	29
53	CO ₂ -Sourced β -Alkylidene Cyclic Carbonates: A Step Forward in the Quest for Functional Regioregular Poly(urethane)s and Poly(carbonate)s. <i>Angewandte Chemie</i> , 2017, 129, 10530-10534.	1.6	29
54	Water-carbon dioxide mixtures at high temperatures and pressures: Local order in the water rich phase investigated by vibrational spectroscopy. <i>Journal of Chemical Physics</i> , 2005, 123, 224501.	1.2	26

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55	Hydrogenation of Sugars to Sugar Alcohols in the Presence of a Recyclable Ru/Al ₂ O ₃ Catalyst Commercially Available. ACS Sustainable Chemistry and Engineering, 2021, 9, 9240-9247.	3.2	26
56	Molecular Insight, through IR Spectroscopy, on Solvating Phenomena Occurring in CO ₂ -Expanded Solutions. ChemPhysChem, 2004, 5, 243-245.	1.0	25
57	Solubility and Speciation of Ketoprofen and Aspirin in Supercritical CO ₂ by Infrared Spectroscopy. Journal of Chemical & Engineering Data, 2016, 61, 968-978.	1.0	23
58	Spectroscopic Study of the Polystyrene//CO ₂ /Ethanol System. Industrial & Engineering Chemistry Research, 2000, 39, 4470-4475.	1.8	21
59	Dendritic Core-Shell Macromolecules Soluble in Supercritical Carbon Dioxide. Macromolecules, 2006, 39, 3978-3979.	2.2	21
60	In situ investigation of supercritical CO ₂ assisted impregnation of drugs into a polymer by high pressure FTIR micro-spectroscopy. Analyst, The, 2015, 140, 869-879.	1.7	21
61	A Catalytic Domino Approach toward Oxo-Alkyl Carbonates and Polycarbonates from CO ₂ , Propargylic Alcohols, and (Mono- and Di-)Alcohols. ACS Sustainable Chemistry and Engineering, 2020, 8, 9698-9710.	3.2	21
62	Application of online infrared spectroscopy to study the kinetics of precipitation polymerization of acrylic acid in supercritical carbon dioxide. Reaction Chemistry and Engineering, 2016, 1, 372-378.	1.9	20
63	Chemoselective and Regioselective Additions of Nucleophiles to Cyclic Carbonates for the Preparation of Self-Blowing Nonisocyanate Polyurethane Foams. Angewandte Chemie, 2020, 132, 17181-17189.	1.6	20
64	On the CO ₂ sorption and swelling of elastomers by supercritical CO ₂ as studied by in situ high pressure FTIR microscopy. Journal of Supercritical Fluids, 2018, 131, 150-156.	1.6	19
65	One-pot synthesis of isosorbide from cellulose or lignocellulosic biomass: a challenge?. Beilstein Journal of Organic Chemistry, 2020, 16, 1713-1721.	1.3	19
66	Supercritical water: Local order and molecular dynamics. Pure and Applied Chemistry, 2004, 76, 133-139.	0.9	18
67	Density Functional Theory (DFT) Calculations of the Infrared Absorption Spectra of Acetaminophen Complexes Formed with Ethanol and Acetone Species. Journal of Physical Chemistry A, 2006, 110, 8986-9001.	1.1	17
68	Substituent effect on the interaction of aromatic primary amines and diamines with supercritical CO ₂ from infrared spectroscopy and quantum calculations. Physical Chemistry Chemical Physics, 2009, 11, 5052.	1.3	17
69	Investigation of the Local Structure in Sub and Supercritical Ammonia Using the Nearest Neighbor Approach: A Molecular Dynamics Analysis. Journal of Physical Chemistry B, 2010, 114, 15003-15010.	1.2	17
70	Local density inhomogeneities detected by Raman scattering in supercritical hexafluorobenzene. Pure and Applied Chemistry, 2004, 76, 141-146.	0.9	16
71	Dynamic of solitary water in hydrophobic solvents. Journal of Molecular Liquids, 2005, 117, 49-61.	2.3	15
72	On the interaction between supercritical CO ₂ and epoxides combining infrared absorption spectroscopy and quantum chemistry calculations. Physical Chemistry Chemical Physics, 2011, 13, 9209.	1.3	15

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73	Formation of corrosion products on zinc in wet supercritical and subcritical CO ₂ : In-situ spectroscopic study. <i>Corrosion Science</i> , 2020, 174, 108850.	3.0	15
74	A vibrational spectroscopic study of water confined in benzene from ambient conditions up to high temperature and pressure. <i>Vibrational Spectroscopy</i> , 2000, 24, 15-28.	1.2	14
75	Vibrational and rotational relaxation of hexafluorobenzene studied by Raman scattering in the supercritical domain. <i>Journal of Molecular Liquids</i> , 2006, 125, 100-106.	2.3	14
76	Solute-solvent interactions governing preferential solvation phenomena of acetaminophen in CO ₂ -expanded organic solutions. <i>Journal of Supercritical Fluids</i> , 2006, 38, 295-305.	1.6	14
77	One-shot synthesis of high molar mass polyurethane in supercritical carbon dioxide. <i>Journal of Polymer Science Part A</i> , 2007, 45, 5649-5661.	2.5	14
78	Tuning the release profile of ketoprofen from poly(L-lactic acid) suture using supercritical CO ₂ impregnation process. <i>Journal of Drug Delivery Science and Technology</i> , 2020, 55, 101468.	1.4	14
79	Assessment of scCO ₂ techniques for surface modification of micro- and nanoparticles: Process design methodology based on solubility. <i>Journal of Supercritical Fluids</i> , 2010, 54, 362-368.	1.6	13
80	Supercritical ammonia: A molecular dynamics simulation and vibrational spectroscopic investigation. <i>Journal of Chemical Physics</i> , 2010, 133, 214505.	1.2	13
81	En Route to CO ₂ -Based (a)Cyclic Carbonates and Polycarbonates from Alcohols Substrates by Direct and Indirect Approaches. <i>Catalysts</i> , 2022, 12, 124.	1.6	13
82	Supercritical loading of gatifloxacin into hydrophobic foldable intraocular lenses - Process control and optimization by following in situ CO ₂ sorption and polymer swelling. <i>International Journal of Pharmaceutics</i> , 2020, 581, 119247.	2.6	12
83	A structural study of the hexafluorobenzene from liquid to supercritical conditions using neutron diffraction and molecular dynamics. <i>Journal of Chemical Physics</i> , 2001, 115, 4239-4248.	1.2	11
84	What is the state of aggregation of ethanol molecules in ethanol-supercritical carbon dioxide mixtures? An FTIR investigation in the full molar fraction range. <i>Journal of Supercritical Fluids</i> , 2014, 94, 65-70.	1.6	11
85	A Combined Spectroscopic and Theoretical Study of Dibutyltin Diacetate and Dilaurate in Supercritical CO ₂ . <i>Journal of Physical Chemistry A</i> , 2008, 112, 8379-8386.	1.1	10
86	A mid infrared study of dynamic processes in iodine-pyridine charge transfer complexes. <i>Chemical Physics</i> , 1998, 226, 71-82.	0.9	9
87	Vibrational spectroscopic studies of the chemical dynamics in charge transfer complexes of the type iodine-pyridine 1. Experimental results. <i>Molecular Physics</i> , 1997, 92, 271-280.	0.8	8
88	Structural study of the 1-3-5 trifluorobenzene dimer stability: from liquid to gas densities using supercritical conditions. <i>Chemical Physics Letters</i> , 2000, 325, 163-170.	1.2	8
89	Synergistic Enhancement of the Solubility of Hexamethylenetetramine in Subcritical CO ₂ -Ethanol Mixtures Studied by Infrared Spectroscopy. <i>ChemPhysChem</i> , 2005, 6, 587-590.	1.0	8
90	Far IR vibrational spectroscopic studies of the chemical dynamics of the pyridine/iodine system in solution. <i>Chemical Physics Letters</i> , 1997, 267, 496-500.	1.2	7

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91	Reorientation relaxation in supercritical ammonia. <i>Journal of Molecular Liquids</i> , 2011, 159, 31-37.	2.3	6
92	Synthesis of polyurethane particles in supercritical carbon dioxide using organocatalysts or organocatalytic surfactants. <i>Green Chemistry</i> , 2013, 15, 2769.	4.6	6
93	The local structure of sub- and supercritical water as studied by FTIR spectroscopy and molecular dynamics simulations. <i>Journal of Molecular Liquids</i> , 2017, 239, 61-67.	2.3	6
94	Evolution of the Local Order in 1,3,5-Trifluorobenzene from the Liquid State up to Supercritical Conditions. <i>Journal of Physical Chemistry A</i> , 2000, 104, 10986-10993.	1.1	5
95	Elucidating the Association of Water in Wet 1-Octanol from Normal to High Temperature by Near- and Mid-Infrared Spectroscopy. <i>Journal of Physical Chemistry B</i> , 2010, 114, 9085-9093.	1.2	5
96	In situ Raman investigation of the preparation of HDS catalyst precursors using scCO ₂ . <i>Journal of Supercritical Fluids</i> , 2018, 141, 104-112.	1.6	5
97	Visible-light induced photochemistry of Electron Donor-Acceptor Complexes in Perfluoroalkylation Reactions: Investigation of halogen bonding interactions through UV-Visible absorption and Raman spectroscopies combined with DFT calculations. <i>Journal of Molecular Liquids</i> , 2021, 333, 115993.	2.3	5
98	FTIR in situ measurement of swelling and CO ₂ sorption in acrylic polymers at high CO ₂ pressures. <i>Journal of Supercritical Fluids</i> , 2022, 182, 105534.	1.6	5
99	Insights into the Organocatalyzed Synthesis of Urethanes in Supercritical Carbon Dioxide: An In Situ FTIR Spectroscopic Kinetic Study. <i>ChemCatChem</i> , 2014, 6, 1380-1391.	1.8	4
100	On the phase behavior of the quaternary system acrylic acid-water-ethanol-CO ₂ by in situ infrared spectrometry. <i>Journal of Supercritical Fluids</i> , 2016, 116, 117-125.	1.6	4
101	Unifying Step-Growth Polymerization and On-Demand Cascade Ring-Closure Depolymerization via Polymer Skeletal Editing. <i>Macromolecules</i> , 2022, 55, 4637-4646.	2.2	4
102	On the phase behaviour of oxetane-CO ₂ and propargylic alcohols-CO ₂ binary mixtures by in situ infrared micro-spectrometry. <i>Journal of Supercritical Fluids</i> , 2017, 128, 308-313.	1.6	3
103	Application of Polymer Swelling by scCO ₂ to the Synthesis of Polymer/Metal Nanocomposites. <i>Solid State Phenomena</i> , 0, 151, 24-29.	0.3	2
104	A Rational Investigation of the Lewis Acid-Promoted Coupling of Carbon Dioxide with Cyclohexene Oxide: Towards CO ₂ -Sourced Polycyclohexene Carbonate under Solvent- and Cocatalyst-Free Conditions. <i>Journal of Carbon Research</i> , 2019, 5, 39.	1.4	2
105	An infrared study of the forbidden symmetric stretching mode of carbon disulphide in binary mixtures with iodine. <i>Molecular Physics</i> , 1997, 90, 265-270.	0.8	0
106	Vibrational spectroscopic studies of the chemical dynamics in charge transfer complexes of the type iodine-pyridine 2. Intermolecular dynamics from far infrared bands. <i>Molecular Physics</i> , 1997, 92, 281-292.	0.8	0