Ernesto Di Maio

List of Publications by Year
in descending order

121 papers	3,620 citations	147786 31 h-index	149686 56 g-index
127 all docs	127 docs citations	127 times ranked	3589 citing authors

#	Article	IF	Citations
1	Poly(lactic acid)/organoclay nanocomposites: Thermal, rheological properties and foam processing. Journal of Polymer Science, Part B: Polymer Physics, 2005, 43, 689-698.	2.1	224
2	Reactively Modified Poly(lactic acid): Properties and Foam Processing. Macromolecular Materials and Engineering, 2005, 290, 1083-1090.	3.6	192
3	Nanocomposites by melt intercalation based on polycaprolactone and organoclay. Journal of Polymer Science, Part B: Polymer Physics, 2003, 41, 670-678.	2.1	185
4	Foaming of polymers with supercritical fluids and perspectives on the current knowledge gaps and challenges. Journal of Supercritical Fluids, 2018, 134, 157-166.	3.2	168
5	Processing and shelf life issues of selected food packaging materials and structures from renewable resources. Trends in Food Science and Technology, 2011, 22, 72-80.	15.1	167
6	Isothermal crystallization in PCL/clay nanocomposites investigated with thermal and rheometric methods. Polymer, 2004, 45, 8893-8900.	3.8	139
7	Design of porous polymeric scaffolds by gas foaming of heterogeneous blends. Journal of Materials Science: Materials in Medicine, 2009, 20, 2043-2051.	3.6	112
8	Structure optimization of polycaprolactone foams by using mixtures of CO2 and N2 as blowing agents. Polymer Engineering and Science, 2005, 45, 432-441.	3.1	110
9	Solid-state supercritical CO2 foaming of PCL and PCL-HA nano-composite: Effect of composition, thermal history and foaming process on foam pore structure. Journal of Supercritical Fluids, 2011, 58, 158-167.	3.2	88
10	Tailoring the pore structure of PCL scaffolds for tissue engineering prepared via gas foaming of multi-phase blends. Journal of Porous Materials, 2012, 19, 181-188.	2.6	86
11	Novel 3D porous multi-phase composite scaffolds based on PCL, thermoplastic zein and ha prepared via supercritical CO2 foaming for bone regeneration. Composites Science and Technology, 2010, 70, 1838-1846.	7.8	75
12	Polyurethane-silica hybrid foam by solâ€“gel approach: Chemical and functional properties. Polymer, 2015, 56, 20-28.	3.8	71
13	Processing/structure/property relationship of multiâ€scaled PCL and PCLâ€“HA composite scaffolds prepared via gas foaming and NaCl reverse templating. Biotechnology and Bioengineering, 2011, 108, 963-976.	3.3	70
14	Design of Bimodal PCL and PCLâ€HA Nanocomposite Scaffolds by Two Step Depressurization During Solidâ€state Supercritical CO₂ Foaming. Macromolecular Rapid Communications, 2011, 32, 1150-1156.	3.9	68
15	Effect of molecular structure on film blowing ability of thermoplastic zein. Journal of Applied Polymer Science, 2010, 115, 277-287.	2.6	63
16	Conventional and nanometric nucleating agents in poly(Ïµâ€caprolactone) foaming: Crystals vs. bubbles nucleation. Polymer Engineering and Science, 2008, 48, 336-344.	3.1	59
17	Effect of Supramolecular Structures on Thermoplastic Zeinâ€“Lignin Bionanocomposites. Journal of Agricultural and Food Chemistry, 2011, 59, 10062-10070.	5.2	56
18	Hydration-induced reinforcement of rigid polyurethaneâ€“cement foams: The effect of the co-continuous morphology on the thermal-oxidative stability. Polymer Degradation and Stability, 2013, 98, 64-72.	5.8	55

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19	Characterization of Microcellular Biodegradable Polymeric Foams Produced from Supercritical Carbon Dioxide Solutions. Industrial & Engineering Chemistry Research, 2005, 44, 1795-1803.	3.7	52
20	Poly(ethylene terephthalate) foams: Correlation between the polymer properties and the foaming process. Journal of Applied Polymer Science, 2010, 116, 27-35.	2.6	52
21	Experimental characterization of phenolic-impregnated honeycomb sandwich structures for transportation vehicles. Composite Structures, 2011, 93, 2910-2924.	5.8	50
22	Engineered Î¼-bimodal poly(Îµ-caprolactone) porous scaffold for enhanced hMSC colonization and proliferation. Acta Biomaterialia, 2009, 5, 1082-1093.	8.3	49
23	Dielectric Properties of Sustainable Nanocomposites Based on Zein Protein and Lignin for Biodegradable Insulators. Advanced Functional Materials, 2017, 27, 1605142.	14.9	41
24	Carbon nanotubes in microwave foaming of thermoplastics. Carbon, 2017, 125, 32-38.	10.3	41
25	Foaming of Synthetic and Natural Biodegradable Polymers. Journal of Cellular Plastics, 2007, 43, 123-133.	2.4	40
26	Engineering bioactive synthetic polymers for biomedical applications: a review with emphasis on tissue engineering and controlled release. Materials Advances, 2021, 2, 4447-4478.	5.4	40
27	Architecture and properties of bi-modal porous scaffolds for bone regeneration prepared via supercritical CO2 foaming and porogen leaching combined process. Journal of Supercritical Fluids, 2012, 67, 114-122.	3.2	39
28	Solubility, mutual diffusivity, specific volume and interfacial tension of molten PCL/CO2 solutions by a fully experimental procedure: effect of pressure and temperature. Journal of Supercritical Fluids, 2012, 67, 131-138.	3.2	38
29	Sorption Thermodynamics and Mutual Diffusivity of Carbon Dioxide in Molten Polycaprolactone. Industrial & Engineering Chemistry Research, 2003, 42, 4398-4405.	3.7	37
30	Thermoplastic Foams from Zein and Gelatin. International Polymer Processing, 2007, 22, 480-488.	0.5	37
31	Design and preparation of Î¼â€bimodal porous scaffold for tissue engineering. Journal of Applied Polymer Science, 2007, 106, 3335-3342.	2.6	33
32	Structure development during crystallization of polycaprolactone. Rheologica Acta, 2006, 45, 387-392.	2.4	31
33	Polystyrene Foaming at High Pressure Drop Rates. Industrial & Engineering Chemistry Research, 2016, 55, 5696-5701.	3.7	31
34	Design of novel three-phase PCL/TZâ€"HA biomaterials for use in bone regeneration applications. Journal of Materials Science: Materials in Medicine, 2010, 21, 2569-2581.	3.6	30
35	Microstructure, degradation and in vitro MG63 cells interactions of a new poly(Îµ-caprolactone), zein, and hydroxyapatite composite for bone tissue engineering. Journal of Bioactive and Compatible Polymers, 2012, 27, 210-226.	2.1	29
36	Hydration-induced reinforcement of rigid polyurethaneâ€"cement foams: mechanical and functional properties. Journal of Materials Science, 2012, 47, 6948-6957.	3.7	29

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37	Assessing the suitability of polylactic acid flexible films for high pressure pasteurization and sterilization of packaged foodstuff. Journal of Food Engineering, 2012, 111, 34-45.	5.2	29
38	Hydration-induced reinforcement of polyurethaneâ€“cement foams: solvent resistance and mechanical properties. Journal of Materials Science, 2010, 45, 3388-3391.	3.7	28
39	Simultaneous experimental evaluation of solubility, diffusivity, interfacial tension and specific volume of polymer/gas solutions. Polymer Testing, 2011, 30, 303-309.	4.8	28
40	Validated modeling of bubble growth, impingement and retraction to predict cell-opening in thermoplastic foaming. Chemical Engineering Journal, 2016, 287, 492-502.	12.7	28
41	Isothermal crystallization kinetics of chain-extended PET. Journal of Polymer Science, Part B: Polymer Physics, 2005, 43, 1966-1972.	2.1	27
42	Engineering of Foamed Structures for Biomedical Application. Journal of Cellular Plastics, 2009, 45, 103-117.	2.4	26
43	Investigation of Thermoplasticity of Zein and Kafirin Proteins: Mixing Process and Mechanical Properties. Journal of Polymers and the Environment, 2010, 18, 626-633.	5.0	26
44	Quantitative imaging of the complexity in liquid bubblesâ€™ evolution reveals the dynamics of film retraction. Light: Science and Applications, 2019, 8, 20.	16.6	26
45	The role of proteinâ€“plasticizerâ€“clay interactions on processing and properties of thermoplastic zein bionanocomposites. Journal of Applied Polymer Science, 2012, 125, E314.	2.6	24
46	Elasticity in Bubble Rupture. Langmuir, 2018, 34, 5646-5654.	3.5	24
47	A novel lab-scale batch foaming equipment: The mini-batch. Journal of Cellular Plastics, 2016, 52, 533-543.	2.4	23
48	Polyurethaneâ€“cementâ€based foams: Characterization and potential uses. Journal of Applied Polymer Science, 2008, 107, 1-8.	2.6	22
49	Hollow micro- and nano-particles by gas foaming. Nano Research, 2014, 7, 1018-1026.	10.4	22
50	Process-structure Relationships in PCL Foaming. Journal of Cellular Plastics, 2008, 44, 37-52.	2.4	21
51	Investigation of CO2 sorption in molten polymers at high pressures using RamanÂline imaging. Polymer, 2013, 54, 812-818.	3.8	20
52	Multi-graded foams upon time-dependent exposition to blowing agent. Chemical Engineering Journal, 2019, 362, 812-817.	12.7	20
53	Strategies to Produce Thermoplastic Starchâ€“Zein Blends: Effect on Compatibilization. Journal of Polymers and the Environment, 2014, 22, 508-524.	5.0	18
54	Early bubble coalescence in thermoplastic foaming. Materials Letters, 2018, 228, 459-462.	2.6	18

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55	Tuning the three-dimensional architecture of supercritical CO2 foamed PCL scaffolds by a novel mould patterning approach. Materials Science and Engineering C, 2020, 109, 110518.	7.3	18
56	Towards a systematic determination of multicomponent gas separation with membranes: the case of CO2/CH4 in cellulose acetates. Journal of Membrane Science, 2021, 628, 119226.	8.2	18
57	Thermodynamics of water sorption in poly(É›-caprolactone): A comparative analysis of lattice fluid models including hydrogen bond contributions. Fluid Phase Equilibria, 2012, 313, 127-139.	2.5	17
58	Modelling Sorption Thermodynamics and Mass Transport of n-Hexane in a Propylene-Ethylene Elastomer. Polymers, 2021, 13, 1157.	4.5	17
59	Competing bubble formation mechanisms in rigid polyurethane foaming. Polymer, 2021, 228, 123877.	3.8	17
60	A predictive approach based on the Simhaâ€“Somcynsky free-volume theory for the effect of dissolved gas on viscosity and glass transition temperature of polymeric mixtures. Journal of Polymer Science, Part B: Polymer Physics, 2006, 44, 1863-1873.	2.1	16
61	Polyether polyol/CO2 solutions: Solubility, mutual diffusivity, specific volume and interfacial tension by coupled gravimetry-Axisymmetric Drop Shape Analysis. Fluid Phase Equilibria, 2016, 425, 342-350.	2.5	16
62	Preparation and Characterization of Polyurethane Porous Membranes by Particulate-leaching Method. Frontiers in Forests and Global Change, 2001, 20, 321-338.	1.1	15
63	Insight into bubble nucleation at high-pressure drop rate. Journal of Cellular Plastics, 2017, 53, 551-560.	2.4	15
64	Thermosetting polyurethane foams by physical blowing agents: Chasing the synthesis reaction with the pressure. Journal of Supercritical Fluids, 2019, 154, 104630.	3.2	15
65	The effect of organofluorine additives on the morphology, thermal conductivity and mechanical properties of rigid polyurethane and polyisocyanurate foams. Journal of Cellular Plastics, 2022, 58, 121-137.	2.4	15
66	Flowering in bursting bubbles with viscoelastic interfaces. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	15
67	A microcapillary rheometer for microliter sized polymer characterization. Polymer Testing, 2021, 102, 107332.	4.8	15
68	Effect of two kinds of lignins, alkaline lignin and sodium lignosulfonate, on the foamability of thermoplastic zein-based bionanocomposites. Journal of Cellular Plastics, 2012, 48, 516-525.	2.4	14
69	Thermoplastic Processing of Blue Maize and White Sorghum Flours to Produce Bioplastics. Journal of Polymers and the Environment, 2015, 23, 72-82.	5.0	14
70	Wettability of graphene by molten polymers. Polymer, 2019, 180, 121708.	3.8	14
71	A pressure vessel for studying gas foaming of thermosetting polymers: sorption, synthesis and processing. Polymer Testing, 2017, 62, 137-142.	4.8	13
72	Digital holography as metrology tool at micro-nanoscale for soft matter. Light Advanced Manufacturing, 2022, 3, 151.	5.1	13

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73	Mechanical Characterization of a Polyurethane-Cement Hybrid Foam in Compression, Tension, and Shear. Journal of Materials in Civil Engineering, 2017, 29, .	2.9	12
74	Mass transport and physical properties of polymeric methylene diphenyl diisocyanate/CO 2 solutions. Fluid Phase Equilibria, 2018, 456, 116-123.	2.5	12
75	Volumetric Properties and Sorption Behavior of Perfluoropolymers with Dioxolane Pendant Rings. Industrial & Engineering Chemistry Research, 2020, 59, 5276-5286.	3.7	12
76	Heterogeneous bubble nucleation in PCL/clay nanocomposite foams. Plastics, Rubber and Composites, 2003, 32, 313-317.	2.0	11
77	Polyurethane synthesis under high-pressure CO2, a FT-NIR study. European Polymer Journal, 2019, 115, 364-374.	5.4	11
78	Classification and Production of Polymeric Foams among the Systems for Wound Treatment. Polymers, 2021, 13, 1608.	4.5	11
79	Effect of Molecular Modification on PCL Foam Formation and Morphology of PCL. Macromolecular Symposia, 2005, 228, 219-228.	0.7	10
80	Scaffolds with tubular/isotropic Bi-modal pore structures by gas foaming and fiber templating. Materials Letters, 2013, 93, 157-160.	2.6	10
81	On the unexpected non-monotonic profile of specific volume observed in PCL/CO2 solutions. Polymer, 2015, 56, 252-255.	3.8	10
82	Modeling and simulation of viscoelastic film retraction. Journal of Non-Newtonian Fluid Mechanics, 2017, 249, 26-35.	2.4	10
83	Thermoplastic polyurethaneâ€“graphene nanoplatelets microcellular foams for electromagnetic interference shielding. Graphene Technology, 2020, 5, 33-39.	1.9	8
84	Thermal management of a multiple mini-channel heat sink by the integration of a thermal responsive shape memory material. Applied Thermal Engineering, 2014, 62, 113-122.	6.0	7
85	Raman Line Imaging of Poly(Îµ-caprolactone)/Carbon Dioxide Solutions at High Pressures: A Combined Experimental and Computational Study for Interpreting Intermolecular Interactions and Free-Volume Effects. Journal of Physical Chemistry B, 2016, 120, 9115-9131.	2.6	7
86	Enhancement of crystallization kinetics of poly(l-lactic acid) by grafting with optically pure branches. Polymer, 2021, 227, 123852.	3.8	7
87	Supercritical CO2 Foaming of Thermoplastic Materials Derived from Maize: Proof-of-Concept Use in Mammalian Cell Culture Applications. PLoS ONE, 2015, 10, e0122489.	2.5	6
88	Microcellular foaming of arabinoxylan and PEGylated arabinoxylan with supercritical CO2. Carbohydrate Polymers, 2018, 181, 442-449.	10.2	6
89	Axisymmetric bare freestanding films of highly viscous liquids: Preparation and real-time investigation of capillary leveling. Journal of Colloid and Interface Science, 2021, 596, 493-499.	9.4	6
90	Rheology-driven design of pizza gas foaming. Physics of Fluids, 2022, 34, .	4.0	5

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91	Role of Air Bubble Inclusion on Polyurethane Reaction Kinetics. Materials, 2022, 15, 3135.	2.9	5
92	Selective Gold and Palladium Adsorption from Standard Aqueous Solutions. Processes, 2021, 9, 1282.	2.8	4
93	Heterogeneous Bubble Nucleation by Homogeneous Crystal Nuclei in Poly(<scp>l</scp>â€•Lactic Acid) Foaming. Macromolecular Chemistry and Physics, 2022, 223, .	2.2	4
94	Sintering graded foamed beads: Compressive properties. Journal of Applied Polymer Science, 2022, 139, .	2.6	4
95	TPU-based porous heterostructures by combined techniques. International Polymer Processing, 2022, 37, 415-426.	0.5	4
96	Cellulose based hybrid hydroxylated adducts for polyurethane foams. AIP Conference Proceedings, 2012, , .	0.4	3
97	Anomalous swelling of molten PCL/scCO2 solutions. , 2014, , .		3
98	Foams and their applications. Supercritical Fluid Science and Technology, 2021, 9, 1-20.	0.5	3
99	Osteogenic differentiation of CD271(+) cells from rabbit bone marrow cultured on three phase PCL/TZ-HA bioactive scaffolds: comparative study with mesenchymal stem cells (MSCs). International Journal of Clinical and Experimental Medicine, 2015, 8, 13154-62.	1.3	3
100	CONTROLLED PREPARATION OF POROUS SCAFFOLDS BY GAS FOAMING OF HETEROGENEOUS BLENDS. AIP Conference Proceedings, 2008, , .	0.4	2
101	Interferometric measurement of film thickness during bubble blowing. , 2017, , .		2
102	Gas foaming with physical blowing agents. Supercritical Fluid Science and Technology, 2021, 9, 33-54.	0.5	2
103	Morphology modulation of gasâ€•foamed, micrometric, hollow polystyrene particles. Journal of Applied Polymer Science, 2016, 133, .	2.6	1
104	Easy-to-fill asymmetric polymeric micro-reservoirs. RSC Advances, 2016, 6, 64140-64146.	3.6	1
105	Fast and Accurate Thickness Mapping of Liquid Bubbles and Thin Protein Films. , 2018, , .		1
106	Thin-film drainage study based on holographic 3D particle tracking. , 2018, , .		1
107	Recent Advancements and Perspective About Digital Holography: A Super-Tool in Biomedical and Bioengineering Fields. Conference Proceedings of the Society for Experimental Mechanics, 2019, , 235-241.	0.5	1
108	Bubble growth. Supercritical Fluid Science and Technology, 2021, , 353-374.	0.5	1

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109	Matricial foaming. Polymer Testing, 2022, 111, 107590.	4.8	1
110	TIMESCALES IN BUBBLE NUCLEATION EVENTS FOR THE FORMATION OF MICROCELLULAR BIODEGRADABLE FOAMS. AIP Conference Proceedings, 2008, , .	0.4	0
111	PS foams at high pressure drop rates. , 2014, , .		0
112	Bioâ€nanocomposites: Dielectric Properties of Sustainable Nanocomposites Based on Zein Protein and Lignin for Biodegradable Insulators (Adv. Funct. Mater. 8/2017). Advanced Functional Materials, 2017, 27, .	14.9	0
113	Fast and Accurate Thickness Mapping of Thin Liquid Films. EPJ Web of Conferences, 2019, 215, 12002.	0.3	0
114	A remote foaming experiment. Education for Chemical Engineers, 2021, 36, 171-175.	4.8	0
115	The Foaming Process of Biodegradable Polyesters. , 2003, , 273-287.		0
116	Holographic phase imaging for full-field thickness mapping of evolving thin liquid films. , 2018, , .		0
117	Holographic Imaging for 3D Visualization and Metrology of Liquid Bubbles. , 2019, , .		0
118	Sorption thermodynamics of low molecular weight compounds in polymers. Supercritical Fluid Science and Technology, 2021, 9, 69-177.	0.5	0
119	Rheological properties. Supercritical Fluid Science and Technology, 2021, 9, 263-283.	0.5	0
120	Batch processing. Supercritical Fluid Science and Technology, 2021, 9, 389-410.	0.5	0
121	Bubble-Patterned Films by Inkjet Printing and Gas Foaming. Coatings, 2022, 12, 806.	2.6	0