Francesco Delogu

List of Publications by Year
in descending order

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111 papers	4,096 citations	126708 33 h-index	133063 59 g-index
111 all docs	111 docs citations	111 times ranked	3679 citing authors

#	Article	IF	Citations
1	Hallmarks of mechanochemistry: from nanoparticles to technology. Chemical Society Reviews, 2013, 42, 7571.	18.7	952
2	Metal-Mediated and Metal-Catalyzed Reactions Under Mechanochemical Conditions. ACS Catalysis, 2020, 10, 8344-8394.	5.5	188
3	Fabrication of polymer nanocomposites via ball milling: Present status and future perspectives. Progress in Materials Science, 2017, 86, 75-126.	16.0	166
4	Structural and energetic properties of unsupported Cu nanoparticles from room temperature to the melting point: Molecular dynamics simulations. Physical Review B, 2005, 72, .	1.1	95
5	Mechanical work and conversion degree in mechanically induced processes. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 382, 280-287.	2.6	90
6	The invariant laws of the amorphization processes by mechanical alloying. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 2001, 81, 1917-1937.	0.8	89
7	From enabling technologies to medicinal mechanochemistry: an eco-friendly access to hydantoin-based active pharmaceutical ingredients. Reaction Chemistry and Engineering, 2019, 4, 1179-1188.	1.9	81
8	Mechanochemistry for â€œno solvent, no baseâ€•preparation of hydantoin-based active pharmaceutical ingredients: nitrofurantoin and dantrolene. Green Chemistry, 2018, 20, 2973-2977.	4.6	78
9	A quantitative approach to mechanochemical processes. Journal of Materials Science, 2004, 39, 5121-5124.	1.7	73
10	Novel 2-pheynlbenzofuran derivatives as selective butyrylcholinesterase inhibitors for Alzheimerâ€™s disease. Scientific Reports, 2018, 8, 4424.	1.6	71
11	Solvent-Free, Continuous Synthesis of Hydrazone-Based Active Pharmaceutical Ingredients by Twin-Screw Extrusion. ACS Sustainable Chemistry and Engineering, 2020, 8, 12230-12238.	3.2	71
12	Processing and Investigation Methods in Mechanochemical Kinetics. ACS Omega, 2018, 3, 9196-9209.	1.6	70
13	Identification and Characterization of Potential Shear Transformation Zones in Metallic Glasses. Physical Review Letters, 2008, 100, 255901.	2.9	67
14	Insect Rearing: Potential, Challenges, and Circularity. Sustainability, 2020, 12, 4567.	1.6	58
15	Binders alternative to Portland cement and waste management for sustainable constructionâ€”part 1. Journal of Applied Biomaterials and Functional Materials, 2018, 16, 186-202.	0.7	57
16	Mechanochemical Rearrangements. Journal of Organic Chemistry, 2021, 86, 13885-13894.	1.7	57
17	Mechanochemistry Can Reduce Life Cycle Environmental Impacts of Manufacturing Active Pharmaceutical Ingredients. ACS Sustainable Chemistry and Engineering, 2022, 10, 1430-1439.	3.2	54
18	Mechanochemistry of Tiâ€“C powder mixtures. Acta Materialia, 2014, 80, 435-444.	3.8	51

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19	Thermodynamics on the Nanoscale. Journal of Physical Chemistry B, 2005, 109, 21938-21941.	1.2	49
20	Forced chemical mixing in model immiscible systems under plastic deformation. Journal of Applied Physics, 2008, 104, .	1.1	48
21	Numerical simulations of atomic-scale disordering processes at impact between two rough crystalline surfaces. Physical Review B, 2006, 74, .	1.1	47
22	Information on the mechanism of mechanochemical reaction from detailed studies of the reaction kinetics. Journal of Materials Science, 2018, 53, 13331-13342.	1.7	47
23	Coumarin derivatives as promising xanthine oxidase inhibitors. International Journal of Biological Macromolecules, 2018, 120, 1286-1293.	3.6	46
24	Mechanochemical Behavior of Surface Radicals in Ground Quartz. Journal of Physical Chemistry C, 2011, 115, 21230-21235.	1.5	45
25	Binders alternative to Portland cement and waste management for sustainable construction â€“ Part 2. Journal of Applied Biomaterials and Functional Materials, 2018, 16, 207-221.	0.7	45
26	Melt-driven mechanochemical phase transformations in moderately exothermic powderÂmixtures. Nature Materials, 2016, 15, 1280-1286.	13.3	43
27	A mechanistic study of Ag50Cu50 solid solution formation by mechanical alloying. Acta Materialia, 2008, 56, 2344-2352.	3.8	42
28	Kinetics of amorphization processes by mechanical alloying: A modeling approach. Journal of Alloys and Compounds, 2007, 436, 233-240.	2.8	41
29	Toward a Quantitative Understanding of the Mechanical Alloying Process. Journal of Materials Synthesis and Processing, 2000, 8, 167-180.	0.3	39
30	Coarsening of nanoporous Au: Relationship between structure and mechanical properties. Acta Materialia, 2015, 99, 29-38.	3.8	39
31	Kinetics of mechanochemical transformations. Physical Chemistry Chemical Physics, 2020, 22, 14489-14502.	1.3	39
32	Mechanochemical Preparation of Active Pharmaceutical Ingredients Monitored by In Situ Raman Spectroscopy. ACS Omega, 2020, 5, 28663-28672.	1.6	38
33	Nanoporous Au: Statistical analysis of morphological features and evaluation of their influence on the elastic deformation behavior by phenomenological modeling. Acta Materialia, 2015, 85, 250-260.	3.8	37
34	The Mechanochemical Beckmann Rearrangement: An Eco-efficient â€œCut-and-Pasteâ€•Strategy to Design the â€œGood Old Amide Bondâ€• ACS Sustainable Chemistry and Engineering, 2021, 9, 2100-2114.	3.2	35
35	Relating Single-Impact Events to Macrokinetic Features in Mechanical Alloying Processes. Journal of Materials Synthesis and Processing, 2000, 8, 271-277.	0.3	34
36	Molecular dynamics of collisions between rough surfaces. Physical Review B, 2010, 82, .	1.1	34

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37	Mechanically induced self-propagating combustions: Experimental findings and numerical simulation results. Journal of Materials Science, 2004, 39, 5319-5324.	1.7	32
38	A combined experimental and numerical approach to the kinetics of mechanically induced phase transformations. Acta Materialia, 2008, 56, 905-912.	3.8	32
39	Mechanical processing and self-sustaining high-temperature synthesis of TiC powders. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 375-377, 800-803.	2.6	31
40	On the elastic deformation behavior of nanoporous metal foams. Scripta Materialia, 2013, 69, 781-784.	2.6	31
41	High throughput mechanochemistry: application to parallel synthesis of benzoxazines. Chemical Communications, 2018, 54, 551-554.	2.2	30
42	Kinetics of allotropic phase transformation in cobalt powders undergoing mechanical processing. Scripta Materialia, 2008, 58, 126-129.	2.6	29
43	Are processing conditions similar in ball milling and high-pressure torsion? The case of the tetragonal-to-monoclinic phase transition in ZrO2 powders. Scripta Materialia, 2012, 67, 340-343.	2.6	29
44	Onset of chaotic dynamics in a ball mill: Attractors merging and crisis induced intermittency. Chaos, 2002, 12, 601-609.	1.0	28
45	Crystallite size refinement in elemental species under mechanical processing conditions. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 422, 198-204.	2.6	28
46	Hyperchaotic qualities of the ball motion in a ball milling device. Chaos, 1999, 9, 219-226.	1.0	27
47	An Environmentally Sustainable Mechanochemical Route to Hydroxamic Acid Derivatives. Advanced Synthesis and Catalysis, 2016, 358, 3135-3144.	2.1	25
48	A mechanistic study of TiO2 anatase-to-rutile phase transformation under mechanical processing conditions. Journal of Alloys and Compounds, 2009, 468, 22-27.	2.8	24
49	Mechanically induced oxidation of alcohols to aldehydes and ketones in ambient air: Revisiting TEMPO-assisted oxidations. Beilstein Journal of Organic Chemistry, 2017, 13, 2049-2055.	1.3	24
50	Gyroidal structures as approximants to nanoporous metal foams: clues from mechanical properties. Journal of Materials Science, 2017, 52, 1106-1122.	1.7	22
51	Kinetics of mechanically induced anatase-to-rutile phase transformations under inelastic impact conditions. Acta Materialia, 2010, 58, 3798-3804.	3.8	21
52	Activation of self-sustaining high-temperature reactions by mechanical processing of Tiâ€“C powder mixtures. Scripta Materialia, 2013, 69, 223-226.	2.6	20
53	Dynamical footprint of cross-reactivity in a human autoimmune T-cell receptor. Scientific Reports, 2017, 7, 42496.	1.6	20
54	Nanoporous Au foams: Variation of effective Young's modulus with ligament size. Scripta Materialia, 2018, 144, 22-26.	2.6	20

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55	Impact-induced disordering of intermetallic phases during mechanical processing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 343, 314-317.	2.6	19
56	A possible alloying mechanism in idealized collisions between Cu and Sn crystals. Chemical Physics Letters, 2012, 521, 125-129.	1.2	18
57	Reduction of grain size in metals and metal mixtures processed by ball milling. Scripta Materialia, 2014, 88, 9-12.	2.6	18
58	Kabachnikâ€“Fields Reaction by Mechanochemistry: New Horizons from Old Methods. ACS Sustainable Chemistry and Engineering, 2020, 8, 18889-18902.	3.2	18
59	p38 MAPK pathway and its interaction with TRF2 in cisplatin induced chemotherapeutic response in head and neck cancer. Oncogenesis, 2018, 7, 53.	2.1	18
60	Ball-milling and cheap reagents breathe green life into the one hundred-year-old Hofmann reaction. Organic Chemistry Frontiers, 2018, 5, 531-538.	2.3	17
61	Combined treatment with cisplatin and the tankyrase inhibitor XAV-939 increases cytotoxicity, abrogates cancer-stem-like cell phenotype and increases chemosensitivity of head-and-neck squamous-cell carcinoma cells. Mutation Research - Genetic Toxicology and Environmental Mutagenesis, 2019, 846, 503084.	0.9	17
62	Advances in Mechanochemistry. ACS Sustainable Chemistry and Engineering, 2021, 9, 10662-10663.	3.2	17
63	Mechanochemical N-Chlorination Reaction of Hydantoin: In Situ Real-Time Kinetic Study by Powder X-ray Diffraction and Raman Spectroscopy. ACS Sustainable Chemistry and Engineering, 2021, 9, 12591-12601.	3.2	17
64	Ag surface segregation in nanoporous Au catalysts during CO oxidation. Scientific Reports, 2018, 8, 15208.	1.6	16
65	Metal-free mechanochemical oxidations in Ertalyte^{Â®} jars. Beilstein Journal of Organic Chemistry, 2019, 15, 1786-1794.	1.3	16
66	Kinetics of nanoporous Au formation by chemical dealloying. Scripta Materialia, 2014, 76, 57-60.	2.6	15
67	Phenomenological Inferences on the Kinetics of a Mechanically Activated Knoevenagel Condensation: Understanding the â€œSnowballâ€•Kinetic Effect in Ball Milling. Molecules, 2019, 24, 3600.	1.7	15
68	Coupling of mechanical deformation and reaction in mechanochemical transformations. Physical Chemistry Chemical Physics, 2021, 23, 229-245.	1.3	15
69	The size refinement of Cu crystallites under mechanical processing conditions: a phenomenological modeling approach. Journal of Materials Science, 2007, 42, 4356-4363.	1.7	14
70	Kinetics of the mechanochemical synthesis of alkaline-earth metal amides. Chemical Physics Letters, 2014, 608, 80-83.	1.2	13
71	Electronic and optical properties of chromophores from hexeneuronic acids. Cellulose, 2019, 26, 1489-1501.	2.4	13
72	Kinetics of MgH2 formation by ball milling. International Journal of Hydrogen Energy, 2021, 46, 967-973.	3.8	13

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73	Mechanochemical Fischer indolisation: an eco-friendly design for a timeless reaction. Green Chemistry, 2022, 24, 4859-4869.	4.6	13
74	Mesostructural refinement in the early stages of mechanical alloying. Scripta Materialia, 2014, 83, 49-52.	2.6	12
75	From Lossen Transposition to Solventless â€œMedicinal Mechanochemistryâ€• ACS Sustainable Chemistry and Engineering, 0, , .	3.2	12
76	Thermally and catalytically induced coarsening of nanoporous Au. Materials Letters, 2016, 183, 114-116.	1.3	11
77	Influence of the milling parameters on the nucleophilic substitution reaction of activated Î²-cyclodextrins. Beilstein Journal of Organic Chemistry, 2017, 13, 1893-1899.	1.3	11
78	Ball Milling of Silica-Based Pyroclastic Scoriae: Measurement of Mechanochemical Reactivity by Radical Scavenging. Journal of Physical Chemistry C, 2018, 122, 2773-2782.	1.5	11
79	Mechanical Properties of Nanoporous Au: From Empirical Evidence to Phenomenological Modeling. Metals, 2015, 5, 1665-1694.	1.0	10
80	Synthesis, molecular docking and cholinesterase inhibitory activity of hydroxylated 2-phenylbenzofuran derivatives. Bioorganic Chemistry, 2019, 84, 302-308.	2.0	10
81	Fabrication of Nanoporous Al by Vapor-Phase Dealloying: Morphology Features, Mechanical Properties and Model Predictions. Applied Sciences (Switzerland), 2021, 11, 6639.	1.3	10
82	Fabrication of Cu-graphite metal matrix composites by ball milling and spark plasma sintering. Materials Letters, 2018, 230, 199-202.	1.3	9
83	A phenomenological kinetic equation for mechanochemical reactions involving highly deformable molecular solids. Physical Chemistry Chemical Physics, 2021, 23, 14178-14194.	1.3	9
84	The role of volume expansion in the formation of metallic glasses. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 354, 229-233.	2.6	8
85	A phenomenological approach to yield strength in nanoporous metal foams. Scripta Materialia, 2015, 103, 26-29.	2.6	8
86	Mechanically activated metathesis reaction in NaNH2â€“MgH2 powder mixtures. Journal of Materials Science, 2017, 52, 11891-11899.	1.7	8
87	On the role of mechanical properties in the early stages of the mechanical alloying of Ag50Cu50 powder mixtures. Scripta Materialia, 2012, 67, 104-107.	2.6	7
88	Mechanical processing of Fe powders. Journal of Materials Science, 2012, 47, 4757-4762.	1.7	7
89	Surface stresses and Youngâ€™s modulus in nanoporous Au foams. Scripta Materialia, 2014, 84-85, 55-58.	2.6	7
90	Changes in the Ta₅₀C₅₀ Mechanochemical Reactivity under Different Milling Conditions. Journal of Metastable and Nanocrystalline Materials, 2004, 20-21, 337-342.	0.1	6

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91	Non-monotonic variation of the grain size in Cu nanopowders subjected to ball milling. Materials Letters, 2018, 212, 171-173.	1.3	6
92	Thermal and mechanical activation of inelastic events in metallic glasses. Scripta Materialia, 2016, 113, 145-149.	2.6	5
93	Mechanochemical effects in the formation of Ag50Cu50 solid solutions by mechanical alloying. Materials Chemistry and Physics, 2009, 115, 641-644.	2.0	4
94	Influence of temperature on the mechanical alloying of Cuâ€“Nb powder mixtures. Chemical Physics Letters, 2015, 639, 23-28.	1.2	4
95	Hardening of nanoporous Au foams induced by surface chemistry. Materials Letters, 2017, 196, 332-334.	1.3	4
96	Grain size reduction in Cu powders subjected to ball milling and ball drop experiments. Materials Letters, 2018, 232, 33-35.	1.3	4
97	Chemical effects induced by the mechanical processing of granite powder. Scientific Reports, 2022, 12, .	1.6	4
98	Heterogeneity of properties in Ar nanoparticles. Journal of Nanoparticle Research, 2012, 14, 1.	0.8	3
99	Indentation strain rate sensitivity of ball-milled spark-plasma sintered Cu-C metal matrix composite. Journal of Alloys and Compounds, 2018, 767, 838-847.	2.8	3
100	Formation of a Al50Fe50 solid solution by mechanical alloying. Materials Chemistry and Physics, 2012, 133, 500-506.	2.0	2
101	A mapping approach to pattern formation in the early stages of mechanical alloying. Philosophical Magazine Letters, 2019, 99, 192-198.	0.5	2
102	Solid Particle Erosion of a Limestone Target Surface under Controlled Conditions. Advances in Materials Science and Engineering, 2020, 2020, 1-8.	1.0	2
103	Unsaturated coordination and surface stresses in metal nanoparticles. Chemical Physics Letters, 2014, 601, 87-91.	1.2	1
104	Nanocrystalline yttria: Grain growth depression by thermal annealing in air. Scripta Materialia, 2015, 104, 33-36.	2.6	1
105	Milling Dynamics and Propagation of Mechanically Activated Self-Sustaining Reactions. Advances in Materials Science and Engineering, 2020, 2020, 1-10.	1.0	1
106	Mechanochemical Ignition of Self-propagating Reactions in Zn-S Powder Mixtures. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2021, 52, 830-839.	1.0	1
107	Porosity effects on nanoporous Au Youngâ€™s modulus. Materials Letters, 2021, 304, 130703.	1.3	1
108	Investigation on the Thermodynamic Stability of Nanocrystalline W-Based Alloys: A Combined Theoretical and Experimental Approach. Materials, 2021, 14, 7179.	1.3	1

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109	Stiffening of nanoporous Au induced by water physisorption. Materials Letters, 2018, 220, 116-118.	1.3	0
110	From solution-based nonconventional activation methods to mechanochemical procedures: The hydantoin case. , 2021, , 421-452.		0
111	Estimation of Nanoporous Au Youngâ€™s Modulus from Serial Block Face-SEM 3D-Characterisation. Materials, 2022, 15, 3644.	1.3	0