Frank Feyerabend

List of Publications by Year
in descending order

97 papers	7,330 citations	87843 38 h-index	56687 83 g-index
102 all docs	102 docs citations	102 times ranked	4658 citing authors

#	Article	IF	Citations
1	Degradable biomaterials based on magnesium corrosion. Current Opinion in Solid State and Materials Science, 2008, 12, 63-72.	5.6	1,537
2	Biodegradable magnesiumâ€"hydroxyapatite metal matrix composites. Biomaterials, 2007, 28, 2163-2174.	5.7	570
3	Magnesium alloys as implant materials â€" Principles of property design for Mgâ€"RE alloysâ˜†. Acta Biomaterialia, 2010, 6, 1714-1725.	4.1	503
4	Evaluation of short-term effects of rare earth and other elements used in magnesium alloys on primary cells and cell linesâ˜†. Acta Biomaterialia, 2010, 6, 1834-1842.	4.1	496
5	Mg and Mg alloys: How comparable are in vitro and in vivo corrosion rates? A review. Acta Biomaterialia, 2015, 13, 16-31.	4.1	378
6	Antibacterial biodegradable Mg-Ag alloys. , 2013, 25, 284-298.		186
7	Magnesium degradation under physiological conditions â€" Best practice. Bioactive Materials, 2018, 3, 174-185.	8.6	177
8	Chemical surface alteration of biodegradable magnesium exposed to corrosion media. Acta Biomaterialia, 2011, 7, 2704-2715.	4.1	174
9	Effects of extracellular magnesium extract on the proliferation and differentiation of human osteoblasts and osteoclasts in coculture. Acta Biomaterialia, 2015, 27, 294-304.	4.1	158
10	Interference of magnesium corrosion with tetrazolium-based cytotoxicity assaysâ˜†. Acta Biomaterialia, 2010, 6, 1813-1823.	4.1	150
11	Improved cytotoxicity testing of magnesium materials. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2011, 176, 830-834.	1.7	108
12	The role of individual components of simulated body fluid on the corrosion behavior of commercially pure Mg. Corrosion Science, 2019, 147, 81-93.	3.0	97
13	Effects of extracellular magnesium on the differentiation and function of human osteoclasts. Acta Biomaterialia, 2014, 10, 2843-2854.	4.1	96
14	Magnesium-based implants: a mini-review. Magnesium Research, 2014, 27, 142-154.	0.4	96
15	Microstructure, mechanical and corrosion properties of Mgâ€"Dyâ€"Gdâ€"Zr alloys for medical applications. Acta Biomaterialia, 2013, 9, 8499-8508.	4.1	92
16	Element distribution in the corrosion layer and cytotoxicity of alloy Mgâ€"10Dy during in vitro biodegradation. Acta Biomaterialia, 2013, 9, 8475-8487.	4.1	87
17	Bioactive plasma electrolytic oxidation coatings on Mg-Ca alloy to control degradation behaviour. Surface and Coatings Technology, 2017, 315, 454-467.	2.2	87
18	Mechanical and corrosion properties of binary Mgâ€"Dy alloys for medical applications. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2011, 176, 1827-1834.	1.7	86

#	Article	IF	Citations
19	In vitro evaluation of the ZX11 magnesium alloy as potential bone plate: Degradability and mechanical integrity. Acta Biomaterialia, 2019, 97, 608-622.	4.1	86
20	XPS Studies of Magnesium Surfaces after Exposure to Dulbecco's Modified Eagle Medium, Hank's Buffered Salt Solution, and Simulated Body Fluid. Advanced Engineering Materials, 2010, 12, B699.	1.6	83
21	Unphysiologically High Magnesium Concentrations Support Chondrocyte Proliferation and Redifferentiation. Tissue Engineering, 2006, 12, 3545-3556.	4.9	79
22	Intramedullary Mg2Ag nails augment callus formation during fracture healing in mice. Acta Biomaterialia, 2016, 36, 350-360.	4.1	75
23	In vitro mechanical and corrosion properties of biodegradable Mg-Ag alloys. Materials and Corrosion - Werkstoffe Und Korrosion, 2014, 65, 569-576.	0.8	72
24	Reprint of: Improved cytotoxicity testing of magnesium materials. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2011, 176, 1773-1777.	1.7	67
25	Effects of corrosion environment and proteins on magnesium corrosion. Corrosion Engineering Science and Technology, 2012, 47, 335-339.	0.7	63
26	Local pH and Its Evolution Near Mg Alloy Surfaces Exposed to Simulated Body Fluids. Advanced Materials Interfaces, 2018, 5, 1800169.	1.9	63
27	Improved In Vitro Test Procedure for Full Assessment of the Cytocompatibility of Degradable Magnesium Based on ISO 10993-5/-12. International Journal of Molecular Sciences, 2019, 20, 255.	1.8	63
28	A study of degradation resistance and cytocompatibility of super-hydrophobic coating on magnesium. Materials Science and Engineering C, 2017, 78, 405-412.	3.8	62
29	Magnesium degradation influenced by buffering salts in concentrations typical of in vitro and in vivo models. Materials Science and Engineering C, 2016, 58, 817-825.	3.8	61
30	Influence of ageing treatment on microstructure, mechanical and bio-corrosion properties of Mgâ€"Dy alloys. Journal of the Mechanical Behavior of Biomedical Materials, 2012, 13, 36-44.	1.5	59
31	Magnesium degradation as determined by artificial neural networks. Acta Biomaterialia, 2013, 9, 8722-8729.	4.1	57
32	Degradation testing of Mg alloys in Dulbecco's modified eagle medium: Influence of medium sterilization. Materials Science and Engineering C, 2016, 62, 68-78.	3.8	57
33	In vivo and in vitro degradation comparison of pure Mg, Mg-10Gd and Mg-2Ag: a short term study. , 2017, 33, 90-104.		56
34	Different effects of single protein vs. protein mixtures on magnesium degradation under cell culture conditions. Acta Biomaterialia, 2019, 98, 256-268.	4.1	51
35	Mechanical properties and corrosion behavior of Mgâ€"Gdâ€"Caâ€"Zr alloys for medical applications. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 47, 38-48.	1.5	46
36	Ion release from magnesium materials in physiological solutions under different oxygen tensions. Journal of Materials Science: Materials in Medicine, 2012, 23, 9-24.	1.7	44

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37	On the Determination of Magnesium Degradation Rates under Physiological Conditions. Materials, 2016, 9, 627.	1.3	44
38	Influence of the Microstructure and Silver Content on Degradation, Cytocompatibility, and Antibacterial Properties of Magnesium-Silver Alloys In Vitro. Oxidative Medicine and Cellular Longevity, 2017, 2017, 1-14.	1.9	42
39	Exploring the effects of organic molecules on the degradation of magnesium under cell culture conditions. Corrosion Science, 2018, 132, 35-45.	3.0	42
40	The Degradation Interface of Magnesium Based Alloys in Direct Contact with Human Primary Osteoblast Cells. PLoS ONE, 2016, 11, e0157874.	1.1	41
41	Influence of the amount of intermetallics on the degradation of Mg-Nd alloys under physiological conditions. Acta Biomaterialia, 2021, 121, 695-712.	4.1	39
42	Comparison of the reaction of bone-derived cells to enhanced MgCl₂-salt concentrations. Biomatter, 2014, 4, e967616.	2.6	38
43	Blood compatibility of magnesium and its alloys. Acta Biomaterialia, 2015, 25, 384-394.	4.1	38
44	Time-sequential corrosion behaviour observation of micro-alloyed Mg-0.5Zn-0.2Ca alloy via a quasi-in situ approach. Corrosion Science, 2019, 158, 108096.	3.0	38
45	Optimization of Cell Adhesion on Mg Based Implant Materials by Pre-Incubation under Cell Culture Conditions. International Journal of Molecular Sciences, 2014, 15, 7639-7650.	1.8	36
46	In vitro degradation behavior of Mg scaffolds with three-dimensional interconnected porous structures for bone tissue engineering. Corrosion Science, 2018, 144, 301-312.	3.0	36
47	Bioreactor cultivation of three-dimensional cartilage-carrier-constructs. Bioprocess and Biosystems Engineering, 2005, 27, 273-280.	1.7	35
48	Microstructure-corrosion behaviour relationship of micro-alloyed Mg-0.5Zn alloy with the addition of Ca, Sr, Ag, In and Cu. Materials and Design, 2020, 195, 108980.	3.3	34
49	Behavior of bone cells in contact with magnesium implant material. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2017, 105, 165-179.	1.6	33
50	Adsorption of Proteins on Degradable Magnesiumâ€"Which Factors are Relevant?. ACS Applied Materials & Interfaces, 2018, 10, 42175-42185.	4.0	33
51	Phospholipids as implant coatings. Journal of Materials Science: Materials in Medicine, 2007, 18, 367-380.	1.7	31
52	Influence of Magnesium Alloy Degradation on Undifferentiated Human Cells. PLoS ONE, 2015, 10, e0142117.	1.1	31
53	Metal Injection Molding (MIM) of Magnesium and Its Alloys. Metals, 2016, 6, 118.	1.0	29
54	Influence of Dy in solid solution on the degradation behavior of binary Mg-Dy alloys in cell culture medium. Materials Science and Engineering C, 2017, 75, 1351-1358.	3.8	28

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55	Quantitative characterization of degradation processes in situ by means of a bioreactor coupled flow chamber under physiological conditions using timeâ€lapse SRÂµCT. Materials and Corrosion - Werkstoffe Und Korrosion, 2018, 69, 298-306.	0.8	28
56	Degradation rates and products of pure magnesium exposed to different aqueous media under physiological conditions. BioNanoMaterials, 2016, 17, .	1.4	26
57	Production, characterisation, and cytocompatibility of porous titanium-based particulate scaffolds. Journal of Materials Science: Materials in Medicine, 2013, 24, 2337-2358.	1.7	25
58	Tiâ€“6Alâ€“4Vâ€“0.5Bâ€"A Modified Alloy for Implants Produced by Metal Injection Molding. Advanced Engineering Materials, 2011, 13, B440.	1.6	21
59	In Vivo Simulation of Magnesium Degradability Using a New Fluid Dynamic Bench Testing Approach. International Journal of Molecular Sciences, 2019, 20, 4859.	1.8	21
60	The effect of osteoblasts on the surface oxidation processes of biodegradable Mg and Mg-Ag alloys studied by synchrotron IR microspectroscopy. Materials Science and Engineering C, 2018, 91, 659-668.	3.8	19
61	Increased levels of sodium chloride directly increase osteoclastic differentiation and resorption in mice and men. Osteoporosis International, 2017, 28, 3215-3228.	1.3	18
62	Mg Biodegradation Mechanism Deduced from the Local Surface Environment under Simulated Physiological Conditions. Advanced Healthcare Materials, 2021, 10, e2100053.	3.9	17
63	Biological Multi-layer Systems as Implant Surface Modification. Materialwissenschaft Und Werkstofftechnik, 2003, 34, 1084-1093.	0.5	16
64	Cytocompatibility of a free machining titanium alloy containing lanthanum. Journal of Biomedical Materials Research - Part A, 2009, 90A, 931-939.	2.1	16
65	Action potentials in primary osteoblasts and in the MG-63 osteoblast-like cell line. Journal of Bioenergetics and Biomembranes, 2011, 43, 311-322.	1.0	16
66	Large expert-curated database for benchmarking document similarity detection in biomedical literature search. Database: the Journal of Biological Databases and Curation, 2019, 2019, .	1.4	15
67	Chondrogenic differentiation of ATDC5-cells under the influence of Mg and Mg alloy degradation. Materials Science and Engineering C, 2017, 72, 378-388.	3.8	14
68	Investigation of the impact of magnesium <i>versus</i> titanium implants on protein composition in osteoblast by label free quantification. Metallomics, 2020, 12, 916-934.	1.0	13
69	A simple model for longâ€time degradation of magnesium under physiological conditions. Materials and Corrosion - Werkstoffe Und Korrosion, 2018, 69, 191-196.	0.8	12
70	Mechanical properties and degradation behavior of binary magnesium-silver alloy sheets. Journal of Physics and Chemistry of Solids, 2019, 133, 142-150.	1.9	12
71	Pore characterization of PM Mgâ€“0.6Ca alloy and its degradation behavior under physiological conditions. Journal of Magnesium and Alloys, 2021, 9, 686-703.	5.5	12
72	In-vitro interactions of human chondrocytes and mesenchymal stem cells, and of mouse macrophages with phospholipid-covered metallic implant materials. , 2007, 13, 11-25.		12

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73	Deteriorated corrosion performance of micro-alloyed Mg-Zn alloy after heat treatment and mechanical processing. Journal of Materials Science and Technology, 2021, 92, 214-224.	5.6	11
74	Magnesium (Mg) corrosion: a challenging concept for degradable implants. , 2011, , 403-425.		10
75	Proteome analysis of human mesenchymal stem cells undergoing chondrogenesis when exposed to the products of various magnesium-based materials degradation. Bioactive Materials, 2019, 4, 168-188.	8.6	10
76	Effects of Intermetallic Microstructure on Degradation of Mg-5Nd Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 5498-5515.	1.1	10
77	Examination of the inflammatory response following implantation of titanium plates coated with phospholipids in rats. Journal of Materials Science: Materials in Medicine, 2011, 22, 1015-1026.	1.7	9
78	Proteomic profile of mouse fibroblasts exposed to pure magnesium extract. Materials Science and Engineering C, 2016, 69, 522-531.	3.8	9
79	Sacrificial protection of Mg-based resorbable implant alloy by magnetron sputtered Mg5Gd alloy coating: A short-term study. Corrosion Science, 2021, 189, 109590.	3.0	9
80	Powder Metallurgical Synthesis of Biodegradable Mg-Hydroxyapatite Composites for Biomedical Applications. Materials Science Forum, 0, 828-829, 165-171.	0.3	8
81	Proteins and medium-flow conditions: how they influence the degradation of magnesium. Surface Innovations, 2020, 8, 224-233.	1.4	8
82	Effects of proteins on magnesium degradation - static vs. dynamic conditions. Journal of Magnesium and Alloys, 2023, 11, 1332-1342.	5.5	7
83	Corrosion Behavior of As-Cast Binary Mg-Dy Alloys. Materials Science Forum, 2011, 690, 417-421.	0.3	6
84	Influence of various sterilization methods on hardness, grain size and corrosion rate of a Mg6Ag-alloy. BioNanoMaterials, 2015, 16, .	1.4	6
85	Characterization of Phospholipid Bilayers on Tiâ€6Alâ€4V and Tiâ€6Alâ€7Nb. Advanced Engineering Materials, 2008, 10, B47.	1.6	5
86	Microstructure and Mechanical Properties of Mg-Gd Alloys as Biodegradable Implant Materials. Minerals, Metals and Materials Series, 2018, , 253-262.	0.3	3
87	A modular flow-chamber bioreactor concept as a tool for continuous 2D- and 3D-cell culture. BMC Proceedings, 2013, 7, .	1.8	2
88	Magnesium degradation observed in situ under flow by synchrotron radiation based microtomography. , 2016, , .		2
89	Biodegradable Magnesium Implants - How Do They Corrode in-vivo?. , 2011, , 17-17.		1
90	In Vitro Corrosion and Cytocompatibility Properties of Mg-2Gd-X(Ag, Ca) Alloys. , 2016, , 347-351.		1

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91	Influence of Testing Environment on the Degradation Behavior of Magnesium Alloys for Bioabsorbable Implants. , 2015, , 499-506.		1
92	Construction and Operation of a Bioreactor for Three-Dimensional Cartilage-Implants. , 2001, , 568-570.		1
93	Biodegradable Magnesium Implants â€" How do They Corrode in-Vivo?. , 2011, , 17-17.		1
94	Effects of dynamic flow rates on degradation deposition behavior of Mg scaffold. Journal of Magnesium and Alloys, 2023, 11, 2054-2060.	5.5	1
95	In vitro analysis of magnesium corrosion in orthopaedic biomaterials. , 2014, , 225-269.		0
96	Unphysiologically High Magnesium Concentrations Support Chondrocyte Proliferation and Redifferentiation. Tissue Engineering, 2006, .	4.9	0
97	Powder Metallurgical Synthesis of Biodegradable Mg-Hydroxyapatite Composites for Biomedical Applications. , 2015, , 425-429.		0