Fu-Zeng Ren

List of Publications by Year
in descending order

119	7,013	87723 38	62479 80
papers	citations	h-index	g-index

119	119	119	7728
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Mussel-Inspired Adhesive and Tough Hydrogel Based on Nanoclay Confined Dopamine Polymerization. ACS Nano, 2017, 11, 2561-2574.	7.3	749
2	Plant-inspired adhesive and tough hydrogel based on Ag-Lignin nanoparticles-triggered dynamic redox catechol chemistry. Nature Communications, 2019, 10, 1487.	5.8	675
3	Tough, self-healable and tissue-adhesive hydrogel with tunable multifunctionality. NPG Asia Materials, 2017, 9, e372-e372.	3.8	441
4	Transparent, Adhesive, and Conductive Hydrogel for Soft Bioelectronics Based on Light-Transmitting Polydopamine-Doped Polypyrrole Nanofibrils. Chemistry of Materials, 2018, 30, 5561-5572.	3.2	331
5	Musselâ€Inspired Contactâ€Active Antibacterial Hydrogel with High Cell Affinity, Toughness, and Recoverability. Advanced Functional Materials, 2019, 29, 1805964.	7.8	309
6	Characterization and structural analysis of zinc-substituted hydroxyapatites. Acta Biomaterialia, 2009, 5, 3141-3149.	4.1	247
7	Graphene Oxideâ€Templated Conductive and Redoxâ€Active Nanosheets Incorporated Hydrogels for Adhesive Bioelectronics. Advanced Functional Materials, 2020, 30, 1907678.	7.8	225
8	Synthesis, characterization and ab initio simulation of magnesium-substituted hydroxyapatite. Acta Biomaterialia, 2010, 6, 2787-2796.	4.1	173
9	A strong, tough, and osteoconductive hydroxyapatite mineralized polyacrylamide/dextran hydrogel for bone tissue regeneration. Acta Biomaterialia, 2019, 88, 503-513.	4.1	143
10	Mussel-inspired nanozyme catalyzed conductive and self-setting hydrogel for adhesive and antibacterial bioelectronics. Bioactive Materials, 2021, 6, 2676-2687.	8.6	138
11	Inâ€…Situ Construction of an Ultraâ€Stable Conductive Composite Interface for Highâ€Voltage Allâ€Solidâ€State Lithium Metal Batteries. Angewandte Chemie - International Edition, 2020, 59, 11784-11788.	7.2	126
12	Biomimetic Mineralized Hierarchical Graphene Oxide/Chitosan Scaffolds with Adsorbability for Immobilization of Nanoparticles for Biomedical Applications. ACS Applied Materials & Interfaces, 2016, 8, 1707-1717.	4.0	113
13	An Anisotropic Hydrogel Based on Mussel-Inspired Conductive Ferrofluid Composed of Electromagnetic Nanohybrids. Nano Letters, 2019, 19, 8343-8356.	4.5	107
14	Bioinspired Highly Anisotropic, Ultrastrong and Stiff, and Osteoconductive Mineralized Wood Hydrogel Composites for Bone Repair. Advanced Functional Materials, 2021, 31, 2010068.	7.8	107
15	Mussel-inspired dopamine oligomer intercalated tough and resilient gelatin methacryloyl (GelMA) hydrogels for cartilage regeneration. Journal of Materials Chemistry B, 2019, 7, 1716-1725.	2.9	105
16	Antibacterial coatings of fluoridated hydroxyapatite for percutaneous implants. Journal of Biomedical Materials Research - Part A, 2010, 95A, 588-599.	2.1	104
17	Cell culture medium as an alternative to conventional simulated body fluid. Acta Biomaterialia, 2011, 7, 2615-2622.	4.1	104
18	Mussel-inspired cryogels for promoting wound regeneration through photobiostimulation, modulating inflammatory responses and suppressing bacterial invasion. Nanoscale, 2019, 11, 15846-15861.	2.8	98

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19	Mussel-Inspired Redox-Active and Hydrophilic Conductive Polymer Nanoparticles for Adhesive Hydrogel Bioelectronics. Nano-Micro Letters, 2020, 12, 169.	14.4	98
20	Infrared spectroscopic characterization of carbonated apatite: A combined experimental and computational study. Journal of Biomedical Materials Research - Part A, 2014, 102, 496-505.	2.1	95
21	A Musselâ€Inspired Persistent ROSâ€Scavenging, Electroactive, and Osteoinductive Scaffold Based on Electrochemicalâ€Driven In Situ Nanoassembly. Small, 2019, 15, e1805440.	5.2	95
22	Bioinspired adhesive and tumor microenvironment responsive nanoMOFs assembled 3D-printed scaffold for anti-tumor therapy and bone regeneration. Nano Today, 2021, 39, 101182.	6.2	85
23	Bioadhesive Microporous Architectures by Self-Assembling Polydopamine Microcapsules for Biomedical Applications. Chemistry of Materials, 2015, 27, 848-856.	3.2	81
24	Micro/nano-structured TiO2 surface with dual-functional antibacterial effects for biomedical applications. Bioactive Materials, 2019, 4, 346-357.	8.6	75
25	Conductive Cellulose Bioâ€Nanosheets Assembled Biostable Hydrogel for Reliable Bioelectronics. Advanced Functional Materials, 2021, 31, 2010465.	7.8	74
26	Sliding wear-induced chemical nanolayering in Cuâ€“Ag, and its implications for high wear resistance. Acta Materialia, 2014, 72, 148-158.	3.8	70
27	Bioadhesive injectable hydrogel with phenolic carbon quantum dot supported Pd single atom nanozymes as a localized immunomodulation niche for cancer catalytic immunotherapy. Biomaterials, 2022, 280, 121272.	5.7	68
28	Cyclic phase transformation behavior of nanocrystalline NiTi at microscale. Acta Materialia, 2020, 185, 507-517.	3.8	67
29	Bacterial responses to periodic micropillar array. Journal of Biomedical Materials Research - Part A, 2015, 103, 384-396.	2.1	61
30	A resilient and flexible chitosan/silk cryogel incorporated Ag/Sr co-doped nanoscale hydroxyapatite for osteoinductivity and antibacterial properties. Journal of Materials Chemistry B, 2018, 6, 7427-7438.	2.9	56
31	Achieving exceptional wear resistance in a compositionally complex alloy via tuning the interfacial structure and chemistry. Acta Materialia, 2020, 188, 697-710.	3.8	55
32	Laser surface treatment-introduced gradient nanostructured TiZrHfTaNb refractory high-entropy alloy with significantly enhanced wear resistance. Journal of Materials Science and Technology, 2022, 110, 43-56.	5.6	53
33	Pulse Electrochemical Driven Rapid Layer-by-Layer Assembly of Polydopamine and Hydroxyapatite Nanofilms via Alternative Redox in Situ Synthesis for Bone Regeneration. ACS Biomaterials Science and Engineering, 2016, 2, 920-928.	2.6	52
34	Overcoming the strength-ductility trade-off via the formation of nanoscale Cr-rich precipitates in an ultrafine-grained FCC CrFeNi medium entropy alloy matrix. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 762, 138107.	2.6	50
35	Ab initio simulation on the crystal structure and elastic properties of carbonated apatite. Journal of the Mechanical Behavior of Biomedical Materials, 2013, 26, 59-67.	1.5	43
36	Experimental and simulation studies of strontium/fluoride-codoped hydroxyapatite nanoparticles with osteogenic and antibacterial activities. Colloids and Surfaces B: Biointerfaces, 2019, 182, 110359.	2.5	43

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37	Mussel-inspired graphene oxide nanosheet-enwrapped Ti scaffolds with drug-encapsulated gelatin microspheres for bone regeneration. Biomaterials Science, 2018, 6, 538-549.	2.6	42
38	In-situ formed heterogeneous grain structure in spark-plasma-sintered CoCrFeMnNi high-entropy alloy overcomes the strength-ductility trade-off. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 771, 138625.	2.6	42
39	Three-dimensional alloy interface between Li6.4La3Zr1.4Ta0.6O12 and Li metal to achieve excellent cycling stability of all-solid-state battery. Journal of Power Sources, 2021, 505, 230062.	4.0	42
40	Hydrothermal growth of biomimetic carbonated apatite nanoparticles with tunable size, morphology and ultrastructure. CrystEngComm, 2013, 15, 2137.	1.3	40
41	Significant reduction in friction and wear of a high-entropy alloy via the formation of self-organized nanolayered structure. Journal of Materials Science and Technology, 2021, 73, 1-8.	5.6	38
42	Porous titanium scaffolds with selfâ€assembled micro/nanoâ€hierarchical structure for dual functions of bone regeneration and antiâ€infection. Journal of Biomedical Materials Research - Part A, 2017, 105, 3482-3492.	2.1	37
43	Effects of microtopographic patterns on platelet adhesion and activation on titanium oxide surfaces. Journal of Biomedical Materials Research - Part A, 2013, 101A, 622-632.	2.1	36
44	Cicada-inspired fluoridated hydroxyapatite nanostructured surfaces synthesized by electrochemical additive manufacturing. Materials and Design, 2020, 193, 108790.	3.3	36
45	Engineering High-Resolution Micropatterns Directly onto Titanium with Optimized Contact Guidance to Promote Osteogenic Differentiation and Bone Regeneration. ACS Applied Materials & Interfaces, 2019, 11, 43888-43901.	4.0	35
46	Synthesis and characterization of nano-crystalline calcium phosphates with EDTA-assisted hydrothermal method. Materials & Design, 2010, 31, 1691-1694.	5.1	34
47	Growth of one-dimensional single-crystalline hydroxyapatite nanorods. Journal of Crystal Growth, 2012, 349, 75-82.	0.7	34
48	Fabrication of high strength, antibacterial and biocompatible Ti-5Mo-5Ag alloy for medical and surgical implant applications. Materials Science and Engineering C, 2020, 106, 110165.	3.8	34
49	Cancellous bone-like porous Fe@Zn scaffolds with core-shell-structured skeletons for biodegradable bone implants. Acta Biomaterialia, 2021, 121, 665-681.	4.1	32
50	Cancellous-Bone-like Porous Iron Scaffold Coated with Strontium Incorporated Octacalcium Phosphate Nanowhiskers for Bone Regeneration. ACS Biomaterials Science and Engineering, 2019, 5, 509-518.	2.6	31
51	Polydopamine mediated assembly of hydroxyapatite nanoparticles and bone morphogenetic proteinâ€2 on magnesium alloys for enhanced corrosion resistance and bone regeneration. Journal of Biomedical Materials Research - Part A, 2017, 105, 2750-2761.	2.1	30
52	Mussel-inspired nano-multilayered coating on magnesium alloys for enhanced corrosion resistance and antibacterial property. Colloids and Surfaces B: Biointerfaces, 2017, 157, 432-439.	2.5	29
53	Antibacterial activity, corrosion resistance and wear behavior of spark plasma sintered Ta-5Cu alloy for biomedical applications. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 74, 315-323.	1.5	28
54	Theoretical analysis of protein effects on calcium phosphate precipitation in simulated body fluid. CrystEngComm, 2012, 14, 5870.	1.3	26

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55	Carbonated Apatite, Type-A or Type-B?. Key Engineering Materials, 0, 493-494, 293-297.	0.4	25
56	Inâ€…Situ Construction of an Ultraâ€Stable Conductive Composite Interface for Highâ€Voltage Allâ€Solidâ€State Lithium Metal Batteries. Angewandte Chemie, 2020, 132, 11882-11886.	1.6	25
57	Nanoscale self-organization reaction in Cuâ€“Ag alloys subjected to dry sliding and its impact on wear resistance. Tribology International, 2016, 100, 420-429.	3.0	24
58	Effects of grain size on compressive behavior of NiTi polycrystalline superelastic macro- and micropillars. Materials Letters, 2018, 214, 53-55.	1.3	24
59	Fabrication, tribological and corrosion behaviors of ultra-fine grained Coâ€“28Crâ€“6Mo alloy for biomedical applications. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 60, 139-147.	1.5	23
60	A strong, wear- and corrosion-resistant, and antibacterial Coâ€“30 at.% Crâ€“5 at.% Ag ternary alloy for medical implants. Materials and Design, 2019, 184, 108190.	3.3	23
61	Novel niobium and silver toughened hydroxyapatite nanocomposites with enhanced mechanical and biological properties for load-bearing bone implants. Applied Materials Today, 2019, 15, 531-542.	2.3	23
62	Integrity and zeta potential of fluoridated hydroxyapatite nanothick coatings for biomedical applications. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 1046-1056.	1.5	22
63	A study of degradation behaviour and biocompatibility of Znâ€”Fe alloy prepared by electrodeposition. Materials Science and Engineering C, 2020, 117, 111295.	3.8	22
64	Introducing Laves phase strengthening into an ultrafine-grained equiatomic CrFeNi alloy by niobium addition. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 806, 140611.	2.6	22
65	Controlled pVEGF delivery via a gene-activated matrix comprised of a peptide-modified non-viral vector and a nanofibrous scaffold for skin wound healing. Acta Biomaterialia, 2022, 140, 149-162.	4.1	22
66	Direct measurement of the maximum pinning force during particle-grain boundary interaction via molecular dynamics simulations. Acta Materialia, 2018, 148, 1-8.	3.8	21
67	In situ alloying based laser powder bed fusion processing of Î² Tiâ€“Mo alloy to fabricate functionally graded composites. Composites Part B: Engineering, 2021, 222, 109059.	5.9	21
68	Computer simulation of ions doped hydroxyapatite: A brief review. Journal Wuhan University of Technology, Materials Science Edition, 2017, 32, 978-987.	0.4	20
69	Microstructure, Mechanical Properties, and Sliding Wear Behavior of Spark Plasma Sintered Ti-Cu Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 6147-6160.	1.1	20
70	Sliding wear of CoCrNi medium-entropy alloy at elevated temperatures: Wear mechanism transition and subsurface microstructure evolution. Wear, 2019, 440-441, 203108.	1.5	20
71	The Synergy of Topographical Micropatterning and Ta | TaCu Bilayered Thin Film on Titanium Implants Enables Dualâ€Functions of Enhanced Osteogenesis and Antiâ€Infection. Advanced Healthcare Materials, 2021, 10, 2002020.	3.9	20
72	Tribological and corrosion behaviors of bulk Cu W nanocomposites fabricated by mechanical alloying and warm pressing. Journal of Alloys and Compounds, 2016, 676, 164-172.	2.8	19

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73	Graphene oxide nanolayers as nanoparticle anchors on biomaterial surfaces with nanostructures and charge balance for bone regeneration. Journal of Biomedical Materials Research - Part A, 2017, 105, 1311-1323.	2.1	19
74	Achieving low wear in a Î¼-phase reinforced high-entropy alloy and associated subsurface microstructure evolution. Wear, 2021, 474-475, 203755.	1.5	19
75	Enhance Fatigue Resistance of Nanocrystalline NiTi by Laser Shock Peening. Shape Memory and Superelasticity, 2019, 5, 436-443.	1.1	18
76	Progress in 11Î²-HSD1 inhibitors for the treatment of metabolic diseases: A comprehensive guide to their chemical structure diversity in drug development. European Journal of Medicinal Chemistry, 2020, 191, 112134.	2.6	18
77	Achieving high strength and high ductility in a high-entropy alloy by a combination of a heterogeneous grain structure and oxide-dispersion strengthening. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 805, 140544.	2.6	18
78	Chitosan/bovine serum albumin co-micropatterns on functionalized titanium surfaces and their effects on osteoblasts. Journal of Materials Science: Materials in Medicine, 2013, 24, 489-502.	1.7	17
79	Sliding wear induced subsurface microstructural evolution in nanocrystalline Nb-Ag binary alloys and its impact on tribological performance. Wear, 2017, 392-393, 69-76.	1.5	17
80	Calcium phosphate bioceramics induce mineralization modulated by proteins. Materials Science and Engineering C, 2013, 33, 3245-3255.	3.8	16
81	Effects of atomic-level nano-structured hydroxyapatite on adsorption of bone morphogenetic protein-7 and its derived peptide by computer simulation. Scientific Reports, 2017, 7, 15152.	1.6	16
82	The interaction of chitosan and BMPâ€2 tuned by deacetylation degree and pH value. Journal of Biomedical Materials Research - Part A, 2019, 107, 769-779.	2.1	16
83	Bio-inspired immobilization of strontium substituted hydroxyapatite nanocrystals and alendronate on the surface of AZ31 magnesium alloy for osteoporotic fracture repair. Surface and Coatings Technology, 2017, 313, 381-390.	2.2	15
84	Zener pinning by coherent particles: pinning efficiency and particle reorientation mechanisms. Modelling and Simulation in Materials Science and Engineering, 2017, 25, 065008.	0.8	14
85	Mussel-inspired nano-building block assemblies for mimicking extracellular matrix microenvironments with multiple functions. Biofabrication, 2017, 9, 035005.	3.7	13
86	Microstructure and dry sliding wear behavior of ultrafine-grained Co-30â€¯at% Cr alloy at room and elevated temperatures. Journal of Alloys and Compounds, 2019, 770, 276-284.	2.8	13
87	A dual-pillar method for measurement of stress-strain response of material at microscale. Scripta Materialia, 2019, 172, 138-143.	2.6	13
88	Ultrahigh radiation resistance of nanocrystalline diamond films for solid lubrication in harsh radiative environments. Carbon, 2021, 182, 525-536.	5.4	13
89	Ultrahigh cycle fatigue of nanocrystalline NiTi tubes for elastocaloric cooling. Applied Materials Today, 2022, 26, 101377.	2.3	13
90	Fabrication and evaluation of bulk nanostructured cobalt intended for dental and orthopedic implants. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 68, 115-123.	1.5	12

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91	Forced atomic mixing of immiscible Nb-Ag alloys by severe plastic deformation. Materials Letters, 2017, 207, 141-144.	1.3	12
92	Microstructure, Mechanical Properties, and Sliding Wear Behavior of Oxide-Dispersion-Strengthened FeMnNi Alloy Fabricated by Spark Plasma Sintering. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 2796-2810.	1.1	12
93	Significantly Enhanced Wear Resistance of an Ultrafine-Grained CrFeNi Medium-Entropy Alloy at Elevated Temperatures. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 2834-2850.	1.1	12
94	Effects of nanocrystalline microstructure on the dry sliding wear behavior of a Cu-10â€¯at% Ag-10â€¯at% W ternary alloy against stainless steel. Wear, 2018, 402-403, 1-10.	1.5	11
95	Tuning the mechanical properties of Fex(CoMoNi)100-x high-entropy alloys via controlled formation of hard Î¼ phase. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 773, 138881.	2.6	11
96	Superelastic oxide micropillars enabled by surface tensionâ€“modulated 90Â° domain switching with excellent fatigue resistance. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	11
97	A high strength, wear and corrosion-resistant, antibacterial and biocompatible Nb-5 at.% Ag alloy for dental and orthopedic implants. Journal of Materials Science and Technology, 2021, 80, 266-278.	5.6	11
98	Interaction Behaviors of Fibrinopeptide-A and Graphene with Different Functional Groups: A Molecular Dynamics Simulation Approach. Journal of Physical Chemistry B, 2017, 121, 7907-7915.	1.2	10
99	Controllable phase transformation of fluoridated calcium phosphate ultrathin coatings for biomedical applications. Journal of Alloys and Compounds, 2020, 847, 155920.	2.8	10
100	Surfactant-free electrochemical synthesis of fluoridated hydroxyapatite nanorods for biomedical applications. Ceramics International, 2019, 45, 17336-17343.	2.3	9
101	Molecular dynamics simulation of protein effects on interfacial energy between HA surfaces and solutions. Materials Letters, 2014, 123, 191-194.	1.3	8
102	Study of protein adsorption on octacalcium phosphate surfaces by molecular dynamics simulations. Journal of Materials Science: Materials in Medicine, 2012, 23, 1045-1053.	1.7	7
103	Microstructure, sliding wear and corrosion behavior of bulk nanostructured Co-Ag immiscible alloys. Journal of Alloys and Compounds, 2018, 748, 961-969.	2.8	7
104	Size effect on the mechanical behavior of single crystalline Fe-31.2Pd (at.%) micropillars. Scripta Materialia, 2018, 152, 141-145.	2.6	7
105	Grain boundary migration and Zener pinning in a nanocrystalline Cuâ€“Ag alloy. Modelling and Simulation in Materials Science and Engineering, 2020, 28, 065017.	0.8	7
106	Atomic layer deposition of zinc oxide onto 3D porous iron scaffolds for bone repair: in vitro degradation, antibacterial activity and cytocompatibility evaluation. Rare Metals, 2022, 41, 546-558.	3.6	7
107	Lithium-ion spontaneous exchange and synergistic transport in ceramic-liquid hybrid electrolytes for highly efficient lithium-ion transfer. Science Bulletin, 2022, 67, 946-954.	4.3	7
108	A high strength and low modulus metastable Î² Ti-12Mo-6Zr-2Fe alloy fabricated by laser powder bed fusion in-situ alloying. Additive Manufacturing, 2021, 37, 101708.	1.7	5

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109	Sliding wear of nanocrystalline Nb-Ag at elevated temperatures: Evolution of subsurface microstructure and its correlation with wear performance. Wear, 2018, 414-415, 251-261.	1.5	4
110	The Size Dependent Deformation and Strengthening Mechanisms of Nanolayered Co/Ag Micropillars. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 5640-5649.	1.1	4
111	Fatigue-Resistant Heterogeneous Gradient Nanocrystalline NiTi Shape Memory Alloy Fabricated by Pre-Strain Laser Shock Peening. Shape Memory and Superelasticity, 2022, 8, 107-117.	1.1	4
112	<i>Ab Initio</i> Simulations on the Carbonated Apatite Structure. Key Engineering Materials, 0, 529-530, 1-6.	0.4	3
113	Sliding Wear Behavior of Spark Plasma-Sintered Cuâ€“6 WtÂPct Cr Alloy at Room and Elevated Temperatures. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 3132-3147.	1.1	3
114	Laves phase strengthening in ultrafine-grained Coâ€“Crâ€“Ta micropillars under uniaxial compression at modest temperature. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 791, 139782.	2.6	3
115	Ultrafine-grained Nb-Cu immiscible alloy implants for hard tissue repair: Fabrication, characterization, and in vitro and in vivo evaluation. Journal of Materials Science and Technology, 2022, 127, 214-224.	5.6	3
116	Resolving the Interface of Calcium Phosphate Formation on the Porous Bioceramics In Vitro. Journal of the American Ceramic Society, 2016, 99, 4107-4112.	1.9	2
117	Measuring fracture toughness of human dental enamel at small scale using notched microcantilever beams. Biosurface and Biotribology, 2021, 7, 228-232.	0.6	2
118	Measurement of two-dimensional residual stress in nanocrystalline superelastic NiTi fabricated with pre-strain laser shock peening. Mathematics and Mechanics of Solids, 2022, 27, 1559-1568.	1.5	2
119	Superelasticity of micropillar of single crystalline Fe3Pt. Materialia, 2020, 9, 100534.	1.3	1