

Karl Mandel

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

94
papers

1,432
citations

21
h-index

35
g-index

101
ext. papers

1,675
ext. citations

7.8
avg, IF

4.9
L-index

#	Paper	IF	Citations
94	Supraparticles: Functionality from Uniform Structural Motifs. <i>ACS Nano</i> , 2018 , 12, 5093-5120	16.7	116
93	Pilot-scale removal and recovery of dissolved phosphate from secondary wastewater effluents with reusable ZnFeZr adsorbent @ FeO/SiO particles with magnetic harvesting. <i>Water Research</i> , 2017 , 109, 77-87	12.5	100
92	Phosphate recovery from wastewater using engineered superparamagnetic particles modified with layered double hydroxide ion exchangers. <i>Water Research</i> , 2013 , 47, 5670-7	12.5	88
91	Layered double hydroxide ion exchangers on superparamagnetic microparticles for recovery of phosphate from waste water. <i>Journal of Materials Chemistry A</i> , 2013 , 1, 1840-1848	13	84
90	Superparamagnetic Luminescent MOF@Fe ₃ O ₄ /SiO ₂ Composite Particles for Signal Augmentation by Magnetic Harvesting as Potential Water Detectors. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 5445-52	9.5	61
89	Modified superparamagnetic nanocomposite microparticles for highly selective Hg(II) or Cu(II) separation and recovery from aqueous solutions. <i>ACS Applied Materials & Interfaces</i> , 2012 , 4, 5633-42	9.5	57
88	Synthesis and stabilisation of superparamagnetic iron oxide nanoparticle dispersions. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2011 , 390, 173-178	5.1	54
87	The magnetic nanoparticle separation problem. <i>Nano Today</i> , 2012 , 7, 485-487	17.9	49
86	Removal of phosphonates from synthetic and industrial wastewater with reusable magnetic adsorbent particles. <i>Water Research</i> , 2018 , 145, 608-617	12.5	43
85	Composite materials combining multiple luminescent MOFs and superparamagnetic microparticles for ratiometric water detection. <i>Journal of Materials Chemistry C</i> , 2017 , 5, 10133-10142	7.1	42
84	Reusable superparamagnetic nanocomposite particles for magnetic separation of iron hydroxide precipitates to remove and recover heavy metal ions from aqueous solutions. <i>Separation and Purification Technology</i> , 2013 , 109, 144-147	8.3	37
83	Hollow carbon spheres in microwaves: Bio inspired absorbing coating. <i>Applied Physics Letters</i> , 2016 , 108, 013701	3.4	37
82	Surfactant free superparamagnetic iron oxide nanoparticles for stable ferrofluids in physiological solutions. <i>Chemical Communications</i> , 2015 , 51, 2863-6	5.8	36
81	Structural transformation of layered double hydroxides: an in situ TEM analysis. <i>Npj 2D Materials and Applications</i> , 2018 , 2,	8.8	32
80	Smart Optical Composite Materials: Dispersions of Metal-Organic Framework@Superparamagnetic Microrods for Switchable Isotropic-Anisotropic Optical Properties. <i>ACS Nano</i> , 2017 , 11, 779-787	16.7	31
79	Facile, fast, and inexpensive synthesis of monodisperse amorphous nickel-phosphide nanoparticles of predefined size. <i>Chemical Communications</i> , 2011 , 47, 4108-10	5.8	31
78	Influence of cation building blocks of metal hydroxide precipitates on their adsorption and desorption capacity for phosphate in wastewater: a screening study. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2016 , 488, 145-153	5.1	27

77	Stabilisation effects of superparamagnetic nanoparticles on clustering in nanocomposite microparticles and on magnetic behaviour. <i>Journal of Magnetism and Magnetic Materials</i> , 2013 , 331, 269-275	2.8	23
76	Nanostructured micro-raspberries from superparamagnetic iron oxide nanoparticles: Studying agglomeration degree and redispersibility of nanoparticulate powders via magnetisation measurements. <i>Journal of Colloid and Interface Science</i> , 2017 , 505, 605-614	9.3	22
75	Expanding the Horizon of Mechanochromic Detection by Luminescent Shear Stress Sensor Supraparticles. <i>Advanced Functional Materials</i> , 2019 , 29, 1901193	15.6	21
74	Pushing up the magnetisation values for iron oxide nanoparticles via zinc doping: X-ray studies on the particle's sub-nano structure of different synthesis routes. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 25221-25229	3.6	21
73	Polycarboxylate ethers: The key towards non-toxic TiO ₂ nanoparticle stabilisation in physiological solutions. <i>Colloids and Surfaces B: Biointerfaces</i> , 2016 , 143, 7-14	6	17
72	Supraparticles with a Magnetic Fingerprint Readable by Magnetic Particle Spectroscopy: An Alternative beyond Optical Tracers. <i>Advanced Materials Technologies</i> , 2019 , 4, 1900300	6.8	15
71	Floating hollow carbon spheres for improved solar evaporation. <i>Carbon</i> , 2019 , 146, 232-247	10.4	15
70	Supraparticles for Sustainability. <i>Advanced Functional Materials</i> , 2021 , 31, 2011089	15.6	15
69	Towards core-shell bifunctional catalyst particles for aqueous metal-air batteries: NiFe-layered double hydroxide nanoparticle coatings on MnO ₂ microparticles. <i>Electrochimica Acta</i> , 2017 , 231, 216-222	6.7	14
68	Nanostructured ZnFeZr oxyhydroxide precipitate as efficient phosphate adsorber in waste water: understanding the role of different material-building-blocks. <i>Environmental Science: Nano</i> , 2017 , 4, 180-190	7.1	14
67	Anisotropic Magnetic Supraparticles with a Magnetic Particle Spectroscopy Fingerprint as Indicators for Cold-Chain Breach. <i>ACS Applied Nano Materials</i> , 2019 , 2, 4698-4702	5.6	14
66	Luminescent Supraparticles Based on CaF ₂ Nanoparticle Building Blocks as Code Objects with Unique IDs. <i>ACS Applied Nano Materials</i> , 2020 , 3, 734-741	5.6	14
65	Burstable nanostructured micro-raspberries: Towards redispersible nanoparticles from dry powders. <i>Journal of Colloid and Interface Science</i> , 2017 , 490, 401-409	9.3	13
64	Nitric acid-stabilized superparamagnetic iron oxide nanoparticles studied with X-rays. <i>Journal of Nanoparticle Research</i> , 2012 , 14, 1	2.3	12
63	Screen printed bifunctional gas diffusion electrodes for aqueous metal-air batteries: Combining the best of the catalyst and binder world. <i>Electrochimica Acta</i> , 2017 , 258, 495-503	6.7	11
62	A magnetically induced fluidized-bed reactor for intensification of electrochemical reactions. <i>Chemical Engineering Journal</i> , 2020 , 385, 123845	14.7	11
61	A Single Magnetic Particle with Nearly Unlimited Encoding Options. <i>Small</i> , 2021 , 17, e2101588	11	11
60	Continuous flow synthesis and cleaning of nano layered double hydroxides and the potential of the route to adjust round or platelet nanoparticle morphology. <i>RSC Advances</i> , 2016 , 6, 57236-57244	3.7	10

59	Hollow Superparamagnetic Nanoparticle-Based Microballoons for Mechanical Force Monitoring by Magnetic Particle Spectroscopy. <i>ACS Applied Nano Materials</i> , 2019 , 2, 6757-6762	5.6	10
58	Coatings with a Mole-hill Structure of Nanoparticle-Raspberry Containers for Surfaces with Abrasion-Refreshable Reservoir Functionality. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 24909-14	9.5	10
57	Abrasion Indicators for Smart Surfaces Based on a Luminescence Turn-On Effect in Supraparticles. <i>Advanced Photonics Research</i> , 2020 , 1, 2000023	1.9	10
56	A Supraparticle-Based Five-Level-Identification Tag That Switches Information Upon Readout. <i>Advanced Optical Materials</i> , 2021 , 9, 2001972	8.1	10
55	Size controlled iron oxide nano octahedra obtained via sonochemistry and natural ageing. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2014 , 457, 27-32	5.1	8
54	Communicating Particles: Identification Taggant and Temperature Recorder in One Single Supraparticle. <i>Advanced Functional Materials</i> , 2021 , 31, 2104189	15.6	8
53	Supraparticles with silica protection for redispersible, calcined nanoparticles. <i>Nanoscale Advances</i> , 2019 , 1, 4277-4281	5.1	8
52	Reusable Superparamagnetic Raspberry-Like Supraparticle Adsorbers as Instant Cleaning Agents for Ultrafast Dye Removal from Water. <i>ChemNanoMat</i> , 2018 , 5, 230	3.5	8
51	A mechanism to explain the creep behavior of gypsum plaster. <i>Cement and Concrete Research</i> , 2017 , 98, 122-129	10.3	7
50	Smart Surfaces: Magnetically Switchable Light Diffraction through Actuation of Superparamagnetic Plate-Like Microrods by Dynamic Magnetic Stray Field Landscapes. <i>Advanced Optical Materials</i> , 2018 , 6, 1800133	8.1	7
49	Indicator Supraparticles for Smart Gasochromic Sensor Surfaces Reacting Ultrafast and Highly Sensitive. <i>Particle and Particle Systems Characterization</i> , 2019 , 36, 1900254	3.1	7
48	Customised transition metal oxide nanoparticles for the controlled production of carbon nanostructures. <i>RSC Advances</i> , 2012 , 2, 3748	3.7	7
47	An all white magnet by combination of electronic properties of a white light emitting MOF with strong magnetic particle systems. <i>Journal of Materials Chemistry C</i> , 2020 , 8, 16010-16017	7.1	7
46	Magnetic Carbon Composite Particles for Dye Adsorption from Water and their Electrochemical Regeneration. <i>Particle and Particle Systems Characterization</i> , 2019 , 36, 1800537	3.1	6
45	Mechanochemical surface functionalisation of superparamagnetic microparticles with in situ formed crystalline metal-complexes: a fast novel core-shell particle formation method. <i>Chemical Communications</i> , 2015 , 51, 8687-90	5.8	6
44	Core-Satellite Supraparticles To Ballistically Stamp Nanostructures on Surfaces. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 14183-14192	9.5	6
43	Silanization of Silica Nanoparticles and Their Processing as Nanostructured Micro-Raspberry Powders A Route to Control the Mechanical Properties of Isoprene Rubber Composites. <i>Polymer Composites</i> , 2019 , 40, E732	3	6
42	Electrical conductivity of magnetically stabilized fluidized-bed electrodes [Chronoamperometric and impedance studies. <i>Chemical Engineering Journal</i> , 2020 , 396, 125326	14.7	6

41	Oxidative Precipitation as a Versatile Method to Obtain Ferromagnetic Fe ₃ O ₄ Nano- and Mesocrystals Adjustable in Morphology and Magnetic Properties. <i>Particle and Particle Systems Characterization</i> , 2021 , 38, 2000307	3.1	6
40	Versatile triggered substance release systems via a highly flexible high throughput encapsulation technique. <i>Applied Materials Today</i> , 2018 , 11, 231-237	6.6	5
39	Hollow Superparamagnetic Microballoons from Lifelike, Self-Directed Pickering Emulsions Based on Patchy Nanoparticles. <i>ACS Nano</i> , 2016 , 10, 10347-10356	16.7	5
38	Discovering the Determining Parameters for the Photocatalytic Activity of TiO ₂ Colloids Based on an Anomalous Dependence on the Specific Surface Area. <i>Particle and Particle Systems Characterization</i> , 2018 , 35, 1800216	3.1	5
37	Raspberry-like supraparticles from nanoparticle building-blocks as code-objects for hidden signatures readable by terahertz rays. <i>Materials Today Communications</i> , 2018 , 16, 174-177	2.5	5
36	A code with a twist: supraparticle microrod composites with direction dependent optical properties as anti-counterfeit labels. <i>Nanoscale Advances</i> , 2019 , 1, 1510-1515	5.1	4
35	Air bubble promoted large scale synthesis of luminescent ZnO nanoparticles. <i>Journal of Materials Chemistry C</i> , 2015 , 3, 12430-12435	7.1	4
34	Adsorber Particles with Magnetically-Supported Improved Electrochemical Conversion Behavior for Waste Water Treatment Processes. <i>Particle and Particle Systems Characterization</i> , 2020 , 37, 1900487	3.1	4
33	Colorful Luminescent Magnetic Supraparticles: Expanding the Applicability, Information Capacity, and Security of Micrometer-Scaled Identification Taggants by Dual-Spectral Encoding.. <i>Small</i> , 2022 , e2107511	11	4
32	Polishing of secondary wastewater effluents through elimination and recovery of dissolved phosphorus with reusable magnetic microsorbents. <i>Proceedings of the Water Environment Federation</i> , 2017 , 2017, 169-181		4
31	Highly sensitive reflection based colorimetric gas sensor to detect CO in realistic fire scenarios. <i>Sensors and Actuators B: Chemical</i> , 2020 , 306, 127572	8.5	4
30	Reversible magnetism switching of iron oxide nanoparticle dispersions by controlled agglomeration. <i>Nanoscale Advances</i> , 2021 , 3, 2822-2829	5.1	4
29	Facile synthesis of magnetic nanoparticles optimized towards high heating rates upon magnetic induction. <i>Journal of Magnetism and Magnetic Materials</i> , 2019 , 488, 165350	2.8	3
28	Tailored Nanoparticles by Wet Chemical Particle Technology 2018 , 137-150		3
27	Luminescent magnets: hybrid supraparticles of a lanthanide-based MOF and ferromagnetic iron oxide by assembly in a droplet via spray-drying. <i>Journal of Materials Chemistry C</i> , 2022 , 10, 1017-1028	7.1	3
26	Centrifugation based separation of lithium iron phosphate (LFP) and carbon black for lithium-ion battery recycling. <i>Chemical Engineering and Processing: Process Intensification</i> , 2021 , 160, 108310	3.7	3
25	Colloidal Core-Satellite Supraparticles via Preprogrammed Burst of Nanostructured Micro-Raspberry Particles. <i>Particle and Particle Systems Characterization</i> , 2018 , 35, 1800096	3.1	3
24	Supraparticles for Bare-Eye H ₂ Indication and Monitoring: Design, Working Principle, and Molecular Mobility. <i>Advanced Functional Materials</i> , 2021 , 31, 212379	15.6	3

23	Spray-Drying and Atomic Layer Deposition: Complementary Tools toward Fully Orthogonal Control of Bulk Composition and Surface Identity of Multifunctional Supraparticles.. <i>Small Methods</i> , 2022 , 6, e2101296	12.8	2
22	Overcoming the Inhibition Effects of Citrate: Precipitation of Ferromagnetic Magnetite Nanoparticles with Tunable Morphology, Magnetic Properties, and Surface Charge via Ferrous Citrate Oxidation. <i>Particle and Particle Systems Characterization</i> , 2021 , 38, 2100098	3.1	2
21	Fingerprint signatures based on nanomagnets as markers in materials for tracing and counterfeit protection. <i>Journal of Nanoparticle Research</i> , 2016 , 18, 1	2.3	2
20	Quantifying Surface Properties of Silica Particles by Combining Hansen Parameters and Reichardt's Dye Indicator Data. <i>Particle and Particle Systems Characterization</i> , 2018 , 35, 1800328	3.1	2
19	Hybrid Inorganic/Organic Luminescent Supraparticle Taggants with Switchable Dual-Level ID. <i>Advanced Optical Materials</i> , 2021 , 13, 2102520	8.1	2
18	Optically Sensitive and Magnetically Identifiable Supraparticles as Indicators of Surface Abrasion.. <i>Nano Letters</i> , 2022 ,	11.5	2
17	Supraparticles with a Mechanically Triggerable Color-Change-Effect to Equip Coatings with the Ability to Report Damage.. <i>Small</i> , 2022 , e2107513	11	2
16	Recording Temperature with Magnetic Supraparticles. <i>Advanced Materials</i> , 2022 , 34, 2202683	24	2
15	Sensors: Expanding the Horizon of Mechanochromic Detection by Luminescent Shear Stress Sensor Supraparticles (Adv. Funct. Mater. 19/2019). <i>Advanced Functional Materials</i> , 2019 , 29, 1970129	15.6	1
14	The Significant Influence of the pH Value on Citrate Coordination upon Modification of Superparamagnetic Iron Oxide Nanoparticles. <i>Particle and Particle Systems Characterization</i> , 2021 , 38, 2100279	3.1	1
13	Modulation of Crystallinity and Optical Properties in Composite Materials Combining Iron Oxide Nanoparticles and Dye-Containing Covalent Organic Frameworks. <i>Organic Materials</i> , 2021 , 03, 017-024	1.9	1
12	Communicating Particles: Identification Taggant and Temperature Recorder in One Single Supraparticle (Adv. Funct. Mater. 34/2021). <i>Advanced Functional Materials</i> , 2021 , 31, 2170251	15.6	1
11	Supraparticles for Bare-Eye H ₂ Indication and Monitoring: Design, Working Principle, and Molecular Mobility (Adv. Funct. Mater. 22/2022). <i>Advanced Functional Materials</i> , 2022 , 32, 2270128	15.6	1
10	Revealing the working principle of sodium trimetaphosphate as state of the art anti-creep agent in gypsum plaster. <i>Cement and Concrete Research</i> , 2018 , 107, 182-187	10.3	0
9	Abrasive Blasting of Lithium Metal Surfaces Yields Clean and 3D-Structured Lithium Metal Anodes with Superior Properties. <i>Energy Technology</i> , 2021 , 9, 2100455	3.5	0
8	Spectroscopic Study of the Role of Metal Ions in the Adsorption Process of Phosphate in Nanoscaled Adsorbers Based on Metal (Zn/Fe/Zr) Oxyhydroxides. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 25033-25042	3.8	0
7	Abrasion Indicators for Smart Surfaces Based on a Luminescence Turn-On Effect in Supraparticles. <i>Advanced Photonics Research</i> , 2020 , 1, 2070002	1.9	0
6	Spray-Drying and Atomic Layer Deposition: Complementary Tools toward Fully Orthogonal Control of Bulk Composition and Surface Identity of Multifunctional Supraparticles (Small Methods 1/2022). <i>Small Methods</i> , 2022 , 6, 2270006	12.8	0

5	Supraparticles: Supraparticles for Sustainability (Adv. Funct. Mater. 11/2021). <i>Advanced Functional Materials</i> , 2021 , 31, 2170073	15.6
4	A Simple Model Setup Using Spray-Drying Principles and Fluorescent Silica Nanoparticles to Evaluate the Efficiency of Facemask Materials in Terms of Virus Particle Retention. <i>Advanced Materials Technologies</i> , 2021 , 6, 2100235	6.8
3	Magnetic Supraparticles: A Single Magnetic Particle with Nearly Unlimited Encoding Options (Small 28/2021). <i>Small</i> , 2021 , 17, 2170146	11
2	Overcoming the Inhibition Effects of Citrate: Precipitation of Ferromagnetic Magnetite Nanoparticles with Tunable Morphology, Magnetic Properties, and Surface Charge via Ferrous Citrate Oxidation (Part. Part. Syst. Charact. 8/2021). <i>Particle and Particle Systems Characterization</i> , 2021 , 38, 2170019	3.1
1	Materialien: Magnetische Marker. <i>Nachrichten Aus Der Chemie</i> , 2021 , 69, 45-47	0.1