Aurelian Rotaru

List of Publications by Year
in descending order

105	3,083	147801	175258
papers	citations	31 h-index	52 g-index

109	109	109	3004
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	From (Ï€,0) magnetic order to superconductivity with (Ï€,Ï€) magnetic resonance in Fe1.02Te1â^'xSex. Nature Materials, 2010, 9, 718-720.	27.5	248
2	Charge Transport and Electrical Properties of Spin Crossover Materials: Towards Nanoelectronic and Spintronic Devices. Magnetochemistry, 2016, 2, 18.	2.4	166
3	Spin state dependence of electrical conductivity of spin crossover materials. Chemical Communications, 2012, 48, 4163-4165.	4.1	140
4	Nanoâ€electromanipulation of Spin Crossover Nanorods: Towards Switchable Nanoelectronic Devices. Advanced Materials, 2013, 25, 1745-1749.	21.0	132
5	Insights into the Origin of Cooperative Effects in the Spin Transition of [Fe(NH₂trz)₃](NO₃)₂: the Role of Supramolecular Interactions Evidenced in the Crystal Structure of [Cu(NH₂trz)₃](NO₃)₂Â·H₂O. Inorganic Chemistry, 2010, 49, 5729-5736.	4.0	131
6	Prediction of the Spin Transition Temperature in Fe^{II} One-Dimensional Coordination Polymers: an Anion Based Database. Inorganic Chemistry, 2009, 48, 7838-7852.	4.0	116
7	Influence of Hydrogen Bonding on the Hysteresis Width in Iron(II) Spinâ€Crossover Complexes. European Journal of Inorganic Chemistry, 2011, 2011, 3193-3206.	2.0	100
8	Current Switching Coupled to Molecular Spinâ€States in Largeâ€Area Junctions. Advanced Materials, 2016, 28, 7508-7514.	21.0	93
9	New insights into structural and magnetic properties of Ce doped ZnO nanoparticles. Journal of Alloys and Compounds, 2018, 757, 60-69.	5.5	83
10	Remarkable catalytic properties of rare-earth doped nickel ferrites synthesized by sol-gel auto-combustion with maleic acid as fuel for CWPO of dyes. Applied Catalysis B: Environmental, 2017, 202, 21-32.	20.2	78
11	Pressure and Temperature Sensors Using Two Spin Crossover Materials. Sensors, 2016, 16, 187.	3.8	68
12	Size effect in spin-crossover systems investigated by FORC measurements, for surfacted [Fe(NH2-trz)3](Br)2Â·3H2O nanoparticles: reversible contributions and critical size. European Physical Journal B, 2011, 84, 439-449.	1.5	63
13	Selective and Reusable Iron(II)-Based Molecular Sensor for the Vapor-Phase Detection of Alcohols. Inorganic Chemistry, 2014, 53, 1263-1265.	4.0	61
14	Pressure effect investigations on spin-crossover coordination compounds. Comptes Rendus Chimie, 2018, 21, 1095-1120.	0.5	60
15	Unidirectional electric field-induced spin-state switching in spin crossover based microelectronic devices. Chemical Physics Letters, 2016, 644, 138-141.	2.6	58
16	Interactions and reversal-field memory in complex magnetic nanowire arrays. Physical Review B, 2011, 84, .	3.2	56
17	Design and evaluation of electrospun polysulfone fibers and polysulfone/NiFe2O4 nanostructured composite as sorbents for oil spill cleanup. Journal of the Taiwan Institute of Chemical Engineers, 2017, 70, 267-281.	5.3	55
18			

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19	Pressure Sensor via Optical Detection Based on a 1D Spin Transition Coordination Polymer. Sensors, 2015, 15, 2388-2398.	3.8	50
20	Water effect on the spin-transition behavior of Fe(<scp>ii</scp>) 1,2,4-triazole 1D chains embedded in pores of MCM-41. Journal of Materials Chemistry C, 2015, 3, 7802-7812.	5.5	46
21	Fe^{II} Spin Transition Materials Including an Aminoâ€“Ester 1,2,4-Triazole Derivative, Operating at, below, and above Room Temperature. Inorganic Chemistry, 2016, 55, 4278-4295.	4.0	39
22	Room temperature current modulation in large area electronic junctions of spin crossover thin films. Applied Physics Letters, 2018, 112, .	3.3	39
23	Dielectric and charge transport properties of the spin crossover complex [Fe(Htrz)₂(trz)](BF₄). Physica Status Solidi - Rapid Research Letters, 2014, 8, 191-193.	2.4	38
24	Crystal Structure, Charge Transport, and Magnetic Properties of MnSb₂Se₄. European Journal of Inorganic Chemistry, 2011, 2011, 3969-3977.	2.0	37
25	Solvent-triggered relaxative spin state switching of [Fe(HB(pz)₃)₂] in a closed nano-confinement of NH₂-MIL-101(Al). Journal of Materials Chemistry C, 2016, 4, 6588-6601.	5.5	36
26	Spin Crossover Behavior in a Homologous Series of Iron(II) Complexes Based on Functionalized Bipyridyl Ligands. Inorganic Chemistry, 2018, 57, 9880-9891.	4.0	36
27	Calorimetric measurements of diluted spin crossover complexes [FexM1â^'x(btr)2(NCS)2]·H2O with MII=Zn and Ni. Polyhedron, 2009, 28, 2531-2536.	2.2	35
28	Structuralâ€Distortionâ€Driven Cooperative Magnetic and Semiconductorâ€toâ€Insulator Transitions in Ferromagnetic FeSb₂Se₄. Angewandte Chemie - International Edition, 2010, 49, 9977-9981.	13.8	34
29	Light induced modulation of charge transport phenomena across the bistability region in [Fe(Htrz)₂(trz)](BF₄) spin crossover micro-rods. Physical Chemistry Chemical Physics, 2015, 17, 5151-5154.	2.8	33
30	On the stability of spin crossover materials: From bulk samples to electronic devices. Polyhedron, 2015, 102, 434-440.	2.2	33
31	Iron(II) spin transition 1,2,4-triazole chain compounds with novel inorganic fluorinated counteranions. Polyhedron, 2007, 26, 2259-2263.	2.2	32
32	Pressure effect investigated with first-order reversal-curve method on the spin-transition compounds [Fe<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow /><mml:mrow><mml:mi>x</mml:mi></mml:mrow></mml:msub></mml:mrow></mml:math>Zn<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow	3.2	29
33	Metal Substitution Effects on the Charge Transport and Spin Crossover Properties of [Fe_{1â€“x}Zn_x(Htrz)₂(trz)](BF₄) (trz =) Tj ETQq1 1 0.784314 rgBT /Ov	3.0	29
34	Polymorphism driven optical properties of an anil dye. CrystEngComm, 2016, 18, 7249-7259.	2.6	29
35	Piezoresistive Effect in the [Fe(Htrz)₂(trz)](BF₄) Spin Crossover Complex. Journal of Physical Chemistry Letters, 2017, 8, 3147-3151.	4.6	29
36	Twoâ€Step Spin Transition in a 1D Fe^{II} 1,2,4â€Triazole Chain Compound. Chemistry - A European Journal, 2015, 21, 5843-5855.	3.3	28

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37	Novel fibrous composites based on electrospun PSF and PVDF ultrathin fibers reinforced with inorganic nanoparticles: Evaluation as oil spill sorbents. Polymers for Advanced Technologies, 2018, 29, 1435-1446.	3.2	28
38	Room temperature hysteretic spin crossover in a new cyanoheterometallic framework. Chemical Communications, 2019, 55, 3359-3362.	4.1	28
39	Lattice architecture effect on the cooperativity of spin transition coordination polymers. Journal of Applied Physics, 2014, 115, 053523.	2.5	26
40	A Colorimetric Sensor for the Highly Selective, Ultra-sensitive, and Rapid Detection of Volatile Organic Compounds and Hazardous Gases. Industrial & Engineering Chemistry Research, 2021, 60, 8788-8798.	3.7	26
41	Phase coexistence and grain size effects on the functional properties of BaTiO3 ceramics. Journal of the European Ceramic Society, 2022, 42, 2230-2247.	5.7	25
42	Synthesis of mildâ€“hard AAO templates for studying magnetic interactions between metal nanowires. Journal of Materials Chemistry, 2010, 20, 9246.	6.7	24
43	Spin Transition Sensors Based on Î²-Amino-Acid 1,2,4-Triazole Derivative. International Journal of Molecular Sciences, 2011, 12, 5339-5351.	4.1	24
44	Metastable state of the photomagnetic Prussian blue analog K0.3Co[Fe(CN)6]0.77Â·3.6H2O investigated by various techniques. Physical Review B, 2011, 84, .	3.2	23
45	Thermo- and piezochromic properties of [Fe(hyptrz)]A2Â·H2O spin crossover 1D coordination polymer: Towards spin crossover based temperature and pressure sensors. Physica B: Condensed Matter, 2014, 449, 47-51.	2.7	23
46	Size and pressure effects in the atom-phonon coupling model for spin crossover compounds. Journal of Applied Physics, 2008, 103, 07B908.	2.5	21
47	Monte Carlo simulations for 1- and 2D spin crossover compounds using the atomâ€“phonon coupling model. Polyhedron, 2009, 28, 1684-1687.	2.2	20
48	Quasi-Monodisperse Transition-Metal-Doped BaTiO₃ (M = Cr, Mn, Fe, Co) Colloidal Nanocrystals with Multiferroic Properties. ACS Applied Nano Materials, 2018, 1, 4863-4874.	5.0	19
49	Hydrostatic pressure investigation of the spin crossover compound [Fe(PMâ€BiA)2(NCS)2] polymorph I using reflectance detection. Journal of Applied Physics, 2009, 106, .	2.5	18
50	On the origin of multi-step spin transition behaviour in 1D nanoparticles. European Physical Journal B, 2015, 88, 1.	1.5	18
51	Supramolecular FeII4L₄ cage for fast ammonia sensing. Journal of Materials Chemistry C, 2022, 10, 9216-9221.	5.5	18
52	Re-entrance phase and excited metastable electronic spin states in one-dimensional spin crossover compounds explained by atom-phonon coupling model. Journal of Applied Physics, 2009, 106, .	2.5	17
53	Spin crossover in 2D iron(<scp>ii</scp>) phthalazine cyanometallic complexes. Dalton Transactions, 2020, 49, 5302-5311.	3.3	15
54	Preparation and properties of porous BaTiO3 nanostructured ceramics produced from cuboidal nanocrystals. Ceramics International, 2021, 47, 18105-18115.	4.8	14

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55	Cu/TiO2 composite nanofibers with improved photocatalytic performance under UV and UVâ€“visible light irradiation. Surfaces and Interfaces, 2022, 28, 101644.	3.0	14
56	Excited metastables electronic spin states in spin crossover compounds studies by atom-phonon coupling model: Gradual and two-step transition cases. Journal of Applied Physics, 2010, 107, 09A959.	2.5	13
57	Direct Synthesis of Spinâ€Crossover Complexes: An Unexpectedly Revealed New Ironâ€Triazolic Structure. European Journal of Inorganic Chemistry, 2020, 2020, 4523-4531.	2.0	13
58	Two-Step Spin Crossover in Hofmann-Type Coordination Polymers [Fe(2-phenylpyrazine)₂{M(CN)₂}₂] (M = Ag, Au). Inorganic Chemistry, 2022, 61, 2093-2104.	4.0	13
59	Varistor and electrical properties of MgO.(Fe2O3)1â^'x(Bi2O3)x ceramics. Journal of the European Ceramic Society, 2020, 40, 1325-1329.	5.7	12
60	Resistance switching in large-area vertical junctions of the molecular spin crossover complex [Fe(HB(tz)₃)₂]: ON/OFF ratios and device stability. Journal of Physics Condensed Matter, 2020, 32, 214010.	1.8	12
61	A non-porous Fe(II) complex for the colorimetric detection of hazardous gases and the monitoring of meat freshness. Journal of Hazardous Materials, 2022, 437, 129364.	12.4	12
62	Analysis of phase transitions in spin-crossover compounds by using atom â€“ phonon coupling model. Journal of Physics: Conference Series, 2011, 268, 012007.	0.4	11
63	Broad-Band Dielectric Spectroscopy Reveals Peak Values of Conductivity and Permittivity Switching upon Spin Crossover. Journal of Physical Chemistry Letters, 2019, 10, 7391-7396.	4.6	11
64	Spin crossover in iron(<scp>ii</scp>) Hofmann clathrates analogues with 1,2,3-triazole. Dalton Transactions, 2021, 50, 9250-9258.	3.3	11
65	Multi-Step in 3D Spin Crossover Nanoparticles Simulated by an Ising Model Using Entropic Sampling Monte Carlo Technique. Magnetochemistry, 2016, 2, 13.	2.4	9
66	Innovative Low-Cost Carbon/ZnO Hybrid Materials with Enhanced Photocatalytic Activity towards Organic Pollutant Dyesâ€™ Removal. Nanomaterials, 2020, 10, 1873.	4.1	9
67	Spin crossover and cooperativity in nanocrystalline [Fe(pyrazine)Pt(CN)4] thin films deposited by matrix-assisted laser evaporation. Applied Surface Science, 2021, 541, 148419.	6.1	9
68	Increasing Permittivity and Mechanical Harvesting Response of PVDF-Based Flexible Composites by Using Ag Nanoparticles onto BaTiO3 Nanofillers. Nanomaterials, 2022, 12, 934.	4.1	9
69	Impact of ligand spacer and counter-anion in selected 1D iron(II) spin crossover coordination polymers. Hyperfine Interactions, 2012, 205, 69-73.	0.5	8
70	1D iron(II) spin crossover complexes with 1,2,4-triazol-4-yl-propanoic acid. Hyperfine Interactions, 2012, 205, 51-55.	0.5	8
71	Iron(<scp>ii</scp>) pillared-layer responsive frameworks via â€œkagomÃ© dualâ€•(kgd) supramolecular tessellations. Inorganic Chemistry Frontiers, 2021, 8, 3532-3546.	6.0	8
72	Insights into the optical, magnetic and dielectric properties of some novel polysulfone/NiFe₂O₄ composite materials. Polymer International, 2018, 67, 1313-1324.	3.1	7

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73	Iron(ii) coordination pyrazole complexes with aromatic sulfonate ligands: the role of ether. New Journal of Chemistry, 2020, 44, 13902-13912.	2.8	7
74	Dielectric properties of solution-processed BaTiO3â€“styrene butadiene styrene nanocomposite films. CrystEngComm, 2020, 22, 1261-1272.	2.6	7
75	Pathway selection as a tool for crystal defect engineering: A case study with a functional coordination polymer. Applied Materials Today, 2020, 20, 100632.	4.3	7
76	Magnetic and electrical properties of Mg1-xCoxFe2O4 (x = 0-0.15) ceramics prepared by the solid-state method. Journal of the European Ceramic Society, 2022, 42, 442-447.	5.7	7
77	Synthesis and cytotoxicity against tumor cells of pincer N-heterocyclic ligands and their transition metal complexes. RSC Advances, 2021, 11, 34742-34753.	3.6	7
78	Novel family of bis-pyrazole coordination complexes as potent antibacterial and antifungal agents. RSC Advances, 2022, 12, 17755-17764.	3.6	7
79	57Fe MÃ¶ssbauer spectroscopy study of a 2D spin transition coordination polymer built from a tris-1R-tetrazole ligand. Hyperfine Interactions, 2017, 238, 1.	0.5	6
80	Microwave-Assisted Synthesis of an Alternant Poly(fluoreneâ€“oxadiazole). Synthesis, Properties, and White Light-Emitting Devices. Polymers, 2019, 11, 1562.	4.5	6
81	Pressure gradient effect on spin-crossover materials: Experiment vs theory. Journal of Applied Physics, 2021, 129, 064501.	2.5	6
82	Structural, Optical, and Catalytic Properties of MgCr2O4 Spinel-Type Nanostructures Synthesized by Solâ€“Gel Auto-Combustion Method. Catalysts, 2021, 11, 1476.	3.5	6
83	Weak cooperativity in selected iron(II) 1D coordination polymers. Hyperfine Interactions, 2012, 205, 75-79.	0.5	5
84	Spin state tuning in FeII 1D coordination polymers made of 1,2,4-triazol-4-yl-propanoic and butanoic acids. Hyperfine Interactions, 2013, 217, 67-72.	0.5	4
85	Synthesis and light-induced aggregation of benzoate-stabilized silver nanoparticles. Applied Nanoscience (Switzerland), 2019, 9, 709-714.	3.1	4
86	Ligand field strength tuning in the model [Fe(H2Bpz2)2(bipy)] spin crossover complex. Hyperfine Interactions, 2019, 240, 1.	0.5	4
87	Anomalous Pressure Effects on the Electrical Conductivity of the Spin Crossover Complex [Fe(pyrazine){Au(CN)2}2]. Magnetochemistry, 2020, 6, 31.	2.4	4
88	Monitoring Spin-Crossover Properties by Diffused Reflectivity. Symmetry, 2021, 13, 1148.	2.2	4
89	Metastable states at low temperature in spin crossover compounds in the framework of the atom-phonon coupling model. Polyhedron, 2011, 30, 3186-3188.	2.2	3
90	Simulation of multi-steps thermal transition in 2D spin-crossover nanoparticles. Physica B: Condensed Matter, 2016, 486, 160-163.	2.7	3

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91	Auxiliary alkyl chain modulated spin crossover behaviour of [Fe(H₂Bpz₂)₂(C_n-bipy)] complexes. Dalton Transactions, 2021, 50, 12835-12842.	3.3	3
92	Pyrazole's substituents effect on the spin state of [Fe(bpp)2]2+complexes. Hyperfine Interactions, 2021, 242, 1.	0.5	3
93	BaTiO3 nanocubes-Gelatin composites for piezoelectric harvesting: Modeling and experimental study. Ceramics International, 2022, , .	4.8	3
94	Analysis of spin crossover nanochains using parabolic approximation in the framework of atomâ€“phonon coupling model. Physica B: Condensed Matter, 2015, 476, 61-70.	2.7	2
95	Analysis of Architecture Effect on Hysteretic Behavior of 3-D Spin Crossover Nanostructures. IEEE Transactions on Magnetics, 2014, 50, 1-4.	2.1	1
96	MÃ¶ssbauer spectroscopy monitoring the spin transition of a FeII 1D chain with a fluorinated 4-R-1,2,4-triazole. Hyperfine Interactions, 2014, 226, 223-227.	0.5	1
97	Molecular Magnetism Modeling with Applications in Spin Crossover Compounds. , 2016, , .		1
98	Spin crossover in two 1D Fe(II) polymers with 1,2,4-triazole thiourea building blocks. Hyperfine Interactions, 2018, 239, 1.	0.5	1
99	Ligand substitution effects on the charge transport properties of the spin crossover complex [Fe(Htrz)1+yâ^'x (trz)2â^'y (NH2trz) x](BF4)yÂ·nH2O. Journal of Physics Condensed Matter, 2020, 32, 264002.	1.8	1
100	Weak cooperativity in selected iron(II) 1D coordination polymers. , 2013, , 223-227.		1
101	57Fe MÃ¶ssbauer study of an iron(II) sensor for the detection of toxic gases at room temperature. Hyperfine Interactions, 2021, 242, .	0.5	1
102	Monte Carlo for spin crossover compounds. EPJ Web of Conferences, 2011, 14, 02004.	0.3	0
103	A performance analysis of parallel eigensolvers for large dense symmetric matrices. , 2014, , .		0
104	The effects of sintering temperature on structural, electrical, and magnetic properties of MgFe1.92Bi0.08O4. Journal of Electroceramics, 2021, 46, 151-161.	2.0	0
105	1D iron(II) spin crossover complexes with 1,2,4-triazol-4-yl-propanoic acid. , 2013, , 199-203.		0