

Synthesis of fast response, highly sensitive and selective

Chemical Engineering Journal

286, 36-47

DOI: [10.1016/j.cej.2015.10.052](https://doi.org/10.1016/j.cej.2015.10.052)

Citation Report

#	ARTICLE	IF	CITATIONS
1	Mesoporous WN/WO ₃ -Composite Nanosheets for the Chemiresistive Detection of NO ₂ at Room Temperature. <i>Inorganics</i> , 2016, 4, 24.	2.7	8
2	High sensitivity NO ₂ sensor based on CuO/p-porous silicon heterojunction at room temperature. <i>Journal of Alloys and Compounds</i> , 2016, 685, 364-369.	5.5	59
3	Hydrothermally grown ZnO nanorods arrays for selective NO ₂ gas sensing: Effect of anion generating agents. <i>Ceramics International</i> , 2016, 42, 12807-12814.	4.8	38
4	A mesoporous Ni ₃ N/NiO composite with a core-shell structure for room temperature, selective and sensitive NO ₂ gas sensing. <i>RSC Advances</i> , 2016, 6, 42917-42922.	3.6	6
5	Sr- and Ni-doping in ZnO nanorods synthesized by a simple wet chemical method as excellent materials for CO and CO ₂ gas sensing. <i>RSC Advances</i> , 2016, 6, 82733-82742.	3.6	68
6	Synthesis of Co-doped SnO ₂ nanofibers and their enhanced gas-sensing properties. <i>Sensors and Actuators B: Chemical</i> , 2016, 236, 425-432.	7.8	120
7	Multifunctional zinc oxide thin films for high-performance UV photodetectors and nitrogen dioxide gas sensors. <i>RSC Advances</i> , 2016, 6, 25641-25650.	3.6	77
8	Preparation and characterization of Cu _x O _{1-y} @ZnO _{1-$\hat{1}$} nanocomposites for enhanced room-temperature NO ₂ sensing applications. <i>Applied Surface Science</i> , 2017, 401, 248-255.	6.1	26
9	Fabrication of hollow In ₂ O ₃ @ZnO microtubules by a simple biotemplate method and their gas-sensing properties. <i>Journal of Materials Science: Materials in Electronics</i> , 2017, 28, 958-962.	2.2	13
10	Light assisted room-temperature NO ₂ sensors with enhanced performance based on black SnO _{1-$\hat{1}$} @ZnO _{1-$\hat{1}$} @SnO _{2-$\hat{1}$} nanocomposite coatings deposited by solution precursor plasma spray. <i>Ceramics International</i> , 2017, 43, 5990-5998.	4.8	18
11	Role of oxygen vacancy in tuning of optical, electrical and NO ₂ sensing properties of ZnO _{1-x} coatings at room temperature. <i>Sensors and Actuators B: Chemical</i> , 2017, 248, 886-893.	7.8	102
12	Enhancement of gas sensing properties by the functionalization of ZnO-branched SnO ₂ nanowires with Cr ₂ O ₃ nanoparticles. <i>Sensors and Actuators B: Chemical</i> , 2017, 249, 656-666.	7.8	56
13	Ultrasensitive and low detection limit of nitrogen dioxide gas sensor based on flower-like ZnO hierarchical nanostructure modified by reduced graphene oxide. <i>Sensors and Actuators B: Chemical</i> , 2017, 249, 715-724.	7.8	107
14	Effects of Ni addition on the response of La ₂ CuO ₄ sensing electrode for NO sensor. <i>Sensors and Actuators B: Chemical</i> , 2017, 252, 37-43.	7.8	5
15	ZnO/ST-Quartz SAW resonator: An efficient NO ₂ gas sensor. <i>Sensors and Actuators B: Chemical</i> , 2017, 252, 840-845.	7.8	81
16	Photon assisted room-temperature hydrogen sensors using PdO loaded WO ₃ nanohybrids. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 6425-6434.	7.1	46
17	Maize straw-templated hierarchical porous ZnO:Ni with enhanced acetone gas sensing properties. <i>Sensors and Actuators B: Chemical</i> , 2017, 243, 1224-1230.	7.8	66
18	Controlled synthesis of Ni-doped ZnO hexagonal microdiscs and their gas sensing properties at low temperature. <i>Chemical Physics Letters</i> , 2017, 689, 92-99.	2.6	56

#	ARTICLE	IF	CITATIONS
19	Bottle-brush-shaped heterostructures of NiO@ZnO nanowires: growth study and sensing properties. Nanotechnology, 2017, 28, 465502.	2.6	10
20	High-performance reduced graphene oxide-based room-temperature NO ₂ sensors: A combined surface modification of SnO ₂ nanoparticles and nitrogen doping approach. Sensors and Actuators B: Chemical, 2017, 242, 269-279.	7.8	99
21	Enhanced UV Photodetector Response of ZnO/Si With AlN Buffer Layer. IEEE Transactions on Electron Devices, 2017, 64, 4161-4166.	3.0	25
22	Enhanced acetone gas sensing behavior of n-ZnO/p-NiO nanostructures. Journal of Materials Science: Materials in Electronics, 2018, 29, 6666-6671.	2.2	29
23	C ₂ H ₅ OH and NO ₂ sensing properties of ZnO nanostructures: correlation between crystal size, defect level and sensing performance. RSC Advances, 2018, 8, 5629-5639.	3.6	55
24	Single-step hydrothermally grown nanosheet-assembled tungsten oxide thin films for sensitive and selective NO ₂ gas detection. Journal of Materials Science, 2018, 53, 6094-6105.	3.7	29
25	Contributions of tailored oxygen vacancies in ZnO/Al ₂ O ₃ composites to the enhanced ability for H ₂ S removal at room temperature. Fuel, 2018, 215, 695-703.	6.4	54
26	Enhanced NO _x Gas Sensing Properties of Ordered Mesoporous WO ₃ /ZnO Prepared by Electroless Plating. Advanced Materials Interfaces, 2018, 5, 1701167.	3.7	17
27	Direct growth of Al-doped ZnO ultrathin nanosheets on electrode for ethanol gas sensor application. Applied Surface Science, 2018, 447, 173-181.	6.1	69
28	ZnO thin film prepared by a sol-gel spin coating technique for NO ₂ detection. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2018, 227, 53-60.	3.5	80
29	Ultrasensitive ppb-level NO ₂ gas sensor based on WO ₃ hollow nanosphers doped with Fe. Applied Surface Science, 2018, 434, 891-897.	6.1	151
30	A probe into the surface and interface phenomenon of WO ₃ endowing with superwettability and super gas sensing ability. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2018, 537, 44-52.	4.7	1
31	A low temperature NO ₂ gas sensor based metal-thiourea complex nanowires. Sensors and Actuators B: Chemical, 2018, 255, 1139-1146.	7.8	19
32	Thin and ultrathin films of palladium oxide for oxidizing gases detection. Sensors and Actuators B: Chemical, 2018, 255, 1335-1342.	7.8	16
33	A facile synthesis of hybrid nanocomposites of reduced graphene oxide/ZnO and its surface modification characteristics for ozone sensing. Journal of Materials Science: Materials in Electronics, 2018, 29, 3074-3086.	2.2	19
34	Oxygen Vacancies as an Efficient Strategy for Promotion of Low Concentration SO ₂ Gas Sensing: The Case of Au-Modified SnO ₂ . ACS Sustainable Chemistry and Engineering, 2018, 6, 13427-13434.	6.7	66
35	Nanorods to nanosheets structural evolution of Ni _x Zn _{1-x} O for NO ₂ gas sensing application. Journal of Alloys and Compounds, 2018, 766, 941-951.	5.5	15
36	Palladium (II) Oxide Nanostructures as Promising Materials for Gas Sensors. , 0, , .		2

#	ARTICLE	IF	CITATIONS
37	Sensitive and Selective NH ₃ Monitoring at Room Temperature Using ZnO Ceramic Nanofibers Decorated with Poly(styrene sulfonate). <i>Sensors</i> , 2018, 18, 1058.	3.8	43
38	TiO ₂ /InVO ₄ n heterojunctions for efficient ammonia gas detection and their sensing mechanisms. <i>Journal of Materials Science</i> , 2019, 54, 13660-13673.	3.7	6
39	Development of Ni doped ZnO/polyaniline nanocomposites as high response room temperature NO ₂ sensor. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2019, 247, 114381.	3.5	48
40	Improved ethanol vapor sensing properties of sputtered ZnO films by doping Ta. <i>Materials Today Communications</i> , 2019, 21, 100680.	1.9	2
41	Growth of Fe doped ZnO nanoellipsoids for selective NO ₂ gas sensing application. <i>Chemical Physics Letters</i> , 2019, 734, 136725.	2.6	29
42	Superior Hydrogen Sensing Property of Porous NiO/SnO ₂ Nanofibers Synthesized via Carbonization. <i>Nanomaterials</i> , 2019, 9, 1250.	4.1	24
43	Morphological Evolution Induced through a Heterojunction of W-Decorated NiO Nanorings: Synergistic Effect on High-Performance Gas Sensors. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 7529-7538.	8.0	39
44	Advances in designs and mechanisms of semiconducting metal oxide nanostructures for high-precision gas sensors operated at room temperature. <i>Materials Horizons</i> , 2019, 6, 470-506.	12.2	493
45	Controllable synthesis of crescent-shaped porous NiO nanoplates for conductometric ethanol gas sensors. <i>Sensors and Actuators B: Chemical</i> , 2019, 296, 126642.	7.8	74
46	Room-Temperature NO ₂ Gas Sensing with Ultra-Sensitivity Activated by Ultraviolet Light Based on SnO ₂ Monolayer Array Film. <i>Advanced Materials Interfaces</i> , 2019, 6, 1900376.	3.7	38
47	Influence of Ni doping on the nitric oxide gas sensing properties of Zn _{1-x} Ni _x O thin films synthesized by sputter method. <i>Materials Research Express</i> , 2019, 6, 086419.	1.6	9
48	Metal Oxide Nanostructures in Sensing. , 2019, , 41-91.		18
49	Self-Assembled Vanadium Oxide Nanoflakes for p-Type Ammonia Sensors at Room Temperature. <i>Nanomaterials</i> , 2019, 9, 317.	4.1	26
50	A novel method for predicting optimal gas sensing temperature of morphologically distinct nanostructured Schottky interfaces. <i>Sensors and Actuators B: Chemical</i> , 2019, 287, 468-475.	7.8	6
51	Mesostructure Carbon-Templated synthesis of mesoporous ZnO by a nanocasting route for NO ₂ sensing. <i>Materials Letters</i> , 2019, 244, 182-185.	2.6	15
52	Mechanism study on extraordinary room-temperature CO sensing capabilities of Pd-SnO ₂ composite nanoceramics. <i>Sensors and Actuators B: Chemical</i> , 2019, 285, 49-55.	7.8	36
53	Modeling and analysis of an Ni:ZnO-based Schottky pattern for NO ₂ detection. <i>Journal of Computational Electronics</i> , 2019, 18, 300-307.	2.5	24
54	NO ₂ sensing properties of one-pot-synthesized ZnO nanowires with Pd functionalization. <i>Sensors and Actuators B: Chemical</i> , 2019, 280, 151-161.	7.8	151

#	ARTICLE	IF	CITATIONS
55	Sol-gel derived aluminium doped zinc oxide thin films: A view of aluminium doping effect on physicochemical and NO ₂ sensing properties. Journal of Alloys and Compounds, 2019, 775, 466-473.	5.5	30
56	Enhanced NO ₂ gas sensing of a single-layer MoS ₂ by photogating and piezo-phototronic effects. Science Bulletin, 2019, 64, 128-135.	9.0	92
57	IDE embedded tungsten trioxide gas sensor for sensitive NO ₂ detection. Materials Chemistry and Physics, 2019, 224, 257-263.	4.0	19
58	Inkjet Seeded CVD-Grown Hydrogenated Diamond Gas Sensor Under UV-LED Illumination. IEEE Sensors Journal, 2020, 20, 1158-1165.	4.7	6
59	Catalyst-induced gas-sensing selectivity in ZnO nanoribbons: Ab-initio investigation at room temperature. Applied Surface Science, 2020, 505, 144602.	6.1	8
60	Effect of Pd-decoration on the sensing properties of ZnO nanostructures. Thin Solid Films, 2020, 693, 137693.	1.8	16
61	A spendable gas sensor with higher sensitivity and lowest detection limit towards H ₂ S: Porous $\text{In}_{\pm}\text{-Fe}_2\text{O}_3$ hierarchical tubule derived from poplar branch. Chemical Engineering Journal, 2020, 392, 123679.	12.7	81
62	Columnar structure growth of Mn-doped ZnO (MZO) thin films by radio frequency co-sputtering and studies on films properties. Materials Technology, 2022, 37, 79-85.	3.0	9
63	Superior NO ₂ Sensing of MOF-Derived Indium-Doped ZnO Porous Hollow Cages. ACS Applied Materials & Interfaces, 2020, 12, 37489-37498.	8.0	84
64	Enhanced Acetone Sensing Property of a Sacrificial Template Based on Cubic-Like MOF-5 Doped by Ni Nanoparticles. Nanomaterials, 2020, 10, 386.	4.1	15
65	Synthesis and characterization of chemically sprayed ZnO:Fe:Ni thin films: effect of codoping concentration and response as gas sensor. Journal of Materials Science: Materials in Electronics, 2020, 31, 7423-7433.	2.2	5
66	Enhancement in NH ₃ sensing performance of ZnO thin-film via gamma-irradiation. Journal of Alloys and Compounds, 2020, 830, 154641.	5.5	55
67	Enhancing ZnO nanowire gas sensors using Au/Fe ₂ O ₃ hybrid nanoparticle decoration. Nanotechnology, 2020, 31, 325505.	2.6	7
68	Gas sensor towards n-butanol at low temperature detection: Hierarchical flower-like Ni-doped Co ₃ O ₄ based on solvent-dependent synthesis. Sensors and Actuators B: Chemical, 2021, 328, 129028.	7.8	133
69	NO ₂ gas sensing performance of zinc oxide nanostructures synthesized by surfactant assisted Low temperature hydrothermal technique. Sensors and Actuators A: Physical, 2021, 318, 112389.	4.1	21
70	Influence of Cu and Ni dopants on the sensing properties of ZnO gas sensor. Journal of Materials Science: Materials in Electronics, 2021, 32, 133-140.	2.2	5
71	Enhanced NO ₂ gas sensing performance of Ni-doped ZnO nanostructures. Journal of Materials Science: Materials in Electronics, 2021, 32, 2219-2233.	2.2	22
72	Fabrication of screen-printed electrodes: opportunities and challenges. Journal of Materials Science, 2021, 56, 8951-9006.	3.7	61

#	ARTICLE	IF	CITATIONS
73	Review of ZnO-based nanomaterials in gas sensors. Solid State Ionics, 2021, 360, 115544.	2.7	211
75	Growth-Temperature Dependent Unpassivated Oxygen Bonds Determine the Gas Sensing Abilities of Chemical Vapor Deposition-Grown CuO Thin Films. ACS Applied Materials & Interfaces, 2021, 13, 21936-21943.	8.0	24
76	Ammonia room-temperature gas sensor using different TiO ₂ nanostructures. Journal of Materials Science: Materials in Electronics, 2021, 32, 17371-17381.	2.2	16
77	Studies on structural, spectral and morphological properties of co-precipitation derived Co-doped ZnO nanocapsules for NO ₂ sensing applications. Journal of Materials Science: Materials in Electronics, 2021, 32, 26503-26519.	2.2	8
78	Selective detection of trimethylamine utilizing nanosheets assembled hierarchical WO _{2.9} nanostructure. Journal of Environmental Chemical Engineering, 2021, 9, 106493.	6.7	5
79	Enhanced NO ₂ sensing performance of ZnO@ZnS core-shell structure fabricated using a solution chemical method. Ceramics International, 2021, 47, 27411-27419.	4.8	13
80	NO ₂ sensor based on Al modified ZnO nanowires. Materials Science in Semiconductor Processing, 2021, 134, 106027.	4.0	14
81	Semiconductor Nanowire Arrays for High-Performance Miniaturized Chemical Sensing. Advanced Functional Materials, 2022, 32, 2107596.	14.9	16
82	Vertical channel metal-oxide clusters as sensitive NO ₂ sensor with modulated response at room temperature. Sensors and Actuators B: Chemical, 2022, 354, 131222.	7.8	5
83	Performance of Ni-doped ZnO nanoparticles towards CH ₃ -CO-CH ₃ sensing., 2021, .		1
84	Enhanced room-temperature NO ₂ sensing performance of SnO ₂ /Ti ₃ C ₂ composite with double heterojunctions by controlling co-exposed {221} and {110} facets of SnO ₂ . Sensors and Actuators B: Chemical, 2022, 365, 131919.	7.8	19
85	Development of Highly Sensitive and Humidity Independent Room Temperature NO ₂ Gas Sensor Using Two Dimensional Ti ₃ C ₂ T _x Nanosheets and One Dimensional WO ₃ Nanorods Nanocomposite. ACS Sensors, 2022, 7, 2454-2464.	7.8	27
86	Enhanced CO Gas Sensing with DFT Optimized PbS Loading on ZnO and CrZnO Nanocomposites. Sustainability, 2022, 14, 13978.	3.2	5
87	Influence of defect chemistry on NO ₂ gas sensing of Li-ZnO thin films. Bulletin of Materials Science, 2022, 45, .	1.7	3
88	Synthesis and characterization of an ultra-thin BiOCl/MXene heterostructure for the detection of NO ₂ at room temperature with enhanced moisture resistance. Journal of Materials Chemistry A, 2022, 10, 25714-25724.	10.3	15
89	Sputter Deposited Mn-doped ZnO Thin Film for Resistive Memory Applications. ChemistrySelect, 2022, 7, .	1.5	2
90	Manganese (Mn ²⁺) doped hexagonal prismatic zinc oxide (ZnO) nanostructures for chemiresistive NO ₂ sensor. Sensors and Actuators B: Chemical, 2023, 380, 133293.	7.8	11
91	Construction of MOF-derived In ₂ O ₃ /g-C ₃ N ₄ /rGO nanostructures to enhance NO _x gas-sensitive properties at room temperature. Sensors and Actuators B: Chemical, 2023, 380, 133308.	7.8	11

#	ARTICLE	IF	CITATIONS
92	Zinc oxide based gas sensors and their derivatives: a critical review. Journal of Materials Chemistry C, 2023, 11, 3906-3925.	5.5	18
93	NO ₂ Gas Sensing Properties of Ag-Functionalized Porous ZnO Sheets. Adsorption Science and Technology, 2023, 2023, .	3.2	6
94	Recent advancement in ZnO based sensing devices: Role of ZnO nanostructure. AIP Conference Proceedings, 2023, , .	0.4	0
95	Obtaining of ZnO/Fe ₂ O ₃ Thin Nanostructured Films by AACVD for Detection of ppb-Concentrations of NO ₂ as a Biomarker of Lung Infections. Biosensors, 2023, 13, 445.	4.7	4
96	Monodisperse Y-type CoO hierarchical nanostructure/reduced graphene oxide for improved NO ₂ detection at room temperature with enhanced moisture resistance. Sensors and Actuators B: Chemical, 2023, 394, 134391.	7.8	0
97	Metal doping fabricated heterobimetallic nickel-zinc composites and its performance-enhancing sensitivity towards nitrogen dioxide. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2023, 676, 132203.	4.7	0
98	Performance of alkali metal (Li/Na): ZnO thin films for NO ₂ gas sensing. AIP Conference Proceedings, 2023, , .	0.4	0
99	Thermal Evaporation Synthesis, Optical and Gas-Sensing Properties of ZnO Nanowires. Crystals, 2023, 13, 1380.	2.2	0
101	Enhanced NO ₂ sensing performance based on Au nanocluster functionalized Co ₃ O ₄ nanospheres. Journal of Materials Science: Materials in Electronics, 2023, 34, .	2.2	0
102	Experimental and theoretical investigation of palladium-doped zinc oxide nanorods for NO ₂ gas sensor. Journal of Materials Science: Materials in Electronics, 2023, 34, .	2.2	0
103	Highly porous hierarchical NiO coated ZnO p-n heterostructure for NO ₂ detection. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2024, 300, 117066.	3.5	0
104	Phytoassisted synthesis of CuO and Ag-CuO nanocomposite, characterization, chemical sensing of ammonia, degradation of methylene blue. Scientific Reports, 2024, 14, .	3.3	1
105	Density Functional Theory Study of Structures of Copper-doped and Graphitic Carbon Nitride-combined Zinc Oxides and Their Boosted Nitrogen Dioxide-sensing Performance. Acta Chimica Sinica, 2023, 81, 1493.	1.4	1
106	Ultra-responsive and highly sensitive 1D ZnO nanotubes for detecting perilous low levels of NO ₂ gas. Materials Advances, 2024, 5, 2826-2840.	5.4	0