Seon-Jin Choi

List of Publications by Citations

89 papers	4,956 citations	41 h-index	70 g-index
98 ext. papers	5,839 ext. citations	9.5 avg, IF	6.06 L-index

#	Paper	IF	Citations
89	Selective detection of acetone and hydrogen sulfide for the diagnosis of diabetes and halitosis using SnO(2) nanofibers functionalized with reduced graphene oxide nanosheets. *ACS Applied Materials & Interfaces*, **2014**, 6, 2588-97	9.5	284
88	Thin-Wall Assembled SnO2 Fibers Functionalized by Catalytic Pt Nanoparticles and their Superior Exhaled-Breath-Sensing Properties for the Diagnosis of Diabetes. *Advanced Functional Materials*, **2013**, 23, 2357-2367	15.6	276
87	Heterogeneous Sensitization of Metal-Organic Framework Driven Metal@Metal Oxide Complex Catalysts on an Oxide Nanofiber Scaffold Toward Superior Gas Sensors. *Journal of the American Chemical Society*, **2016**, 138, 13431-13437	16.4	268
86	Selective diagnosis of diabetes using Pt-functionalized WO3 hemitube networks as a sensing layer of acetone in exhaled breath. *Analytical Chemistry*, **2013**, 85, 1792-6	7.8	236
85	Nanoscale PdO Catalyst Functionalized CoO Hollow Nanocages Using MOF Templates for Selective Detection of Acetone Molecules in Exhaled Breath. *ACS Applied Materials & Interfaces*, **2017**, 9, 8201-8210	9.5	182
84	Mesoporous WO3 Nanofibers with Protein-Templated Nanoscale Catalysts for Detection of Trace Biomarkers in Exhaled Breath. *ACS Nano*, **2016**, 10, 5891-9	16.7	173
83	Highly sensitive and selective hydrogen sulfide and toluene sensors using Pd functionalized WO3 nanofibers for potential diagnosis of halitosis and lung cancer. *Sensors and Actuators B: Chemical*, **2014**, 193, 574-581	8.5	169
82	Innovative Nanosensor for Disease Diagnosis. *Accounts of Chemical Research*, **2017**, 50, 1587-1596	24.3	143
81	Fast responding exhaled-breath sensors using WO3 hemitubes functionalized by graphene-based electronic sensitizers for diagnosis of diseases. *ACS Applied Materials & Interfaces*, **2014**, 6, 9061-70	9.5	141
80	Metal-Organic Framework Templated Catalysts: Dual Sensitization of PdO-ZnO Composite on Hollow SnO Nanotubes for Selective Acetone Sensors. *ACS Applied Materials & Interfaces*, **2017**, 9, 18069-18077	9.5	127
79	Recent Developments in 2D Nanomaterials for Chemiresistive-Type Gas Sensors. *Electronic Materials Letters*, **2018**, 14, 221-260	2.9	120
78	Coaxial electrospinning of WO3 nanotubes functionalized with bio-inspired Pd catalysts and their superior hydrogen sensing performance. *Nanoscale*, **2016**, 8, 9159-66	7.7	120
77	Thin-walled SnO nanotubes functionalized with Pt and Au catalysts via the protein templating route and their selective detection of acetone and hydrogen sulfide molecules. *Nanoscale*, **2015**, 7, 16417-26	7.7	116
76	Rational Design of Highly Porous SnO2 Nanotubes Functionalized with Biomimetic Nanocatalysts for Direct Observation of Simulated Diabetes. *Advanced Functional Materials*, **2016**, 26, 4740-4748	15.6	115
75	Metal Organic Framework-Templated Chemiresistor: Sensing Type Transition from P-to-N Using Hollow Metal Oxide Polyhedron via Galvanic Replacement. *Journal of the American Chemical Society*, **2017**, 139, 11868-11876	16.4	101
74	The stability, sensitivity and response transients of ZnO, SnO2 and WO3 sensors under acetone, toluene and H2S environments. *Sensors and Actuators B: Chemical*, **2014**, 197, 300-307	8.5	93
73	2D WS2-edge functionalized multi-channel carbon nanofibers: effect of WS2 edge-abundant structure on room temperature NO2 sensing. *Journal of Materials Chemistry A*, **2017**, 5, 8725-8732	13	89

72	Highly sensitive and selective acetone sensing performance of WO3 nanofibers functionalized by Rh2O3 nanoparticles. *Sensors and Actuators B: Chemical*, **2016**, 224, 185-192	8.5	88
71	Selectivity enhancement of SnO2 nanofiber gas sensors by functionalization with Pt nanocatalysts and manipulation of the operation temperature. *Sensors and Actuators B: Chemical*, **2013**, 188, 156-168	8.5	84
70	Exceptional High-Performance of Pt-Based Bimetallic Catalysts for Exclusive Detection of Exhaled Biomarkers. *Advanced Materials*, **2017**, 29, 1700737	24	84
69	Low-Thermal-Budget Doping: Low-Thermal-Budget Doping of 2D Materials in Ambient Air Exemplified by Synthesis of Boron-Doped Reduced Graphene Oxide (Adv. Sci. 7/2020). *Advanced Science*, **2020**, 7, 2070039	13.6	78
68	Catalyst-decorated hollow WO3 nanotubes using layer-by-layer self-assembly on polymeric nanofiber templates and their application in exhaled breath sensor. *Sensors and Actuators B: Chemical*, **2016**, 223, 301-310	8.5	78
67	Metal-Organic Framework Templated Synthesis of Ultrasmall Catalyst Loaded ZnO/ZnCoO Hollow Spheres for Enhanced Gas Sensing Properties. *Scientific Reports*, **2017**, 7, 45074	4.9	74
66	Nitrogen-Doped Single Graphene Fiber with Platinum Water Dissociation Catalyst for Wearable Humidity Sensor. *Small*, **2018**, 14, e1703934	11	72
65	Highly efficient electronic sensitization of non-oxidized graphene flakes on controlled pore-loaded WO3 nanofibers for selective detection of H2S molecules. *Scientific Reports*, **2015**, 5, 8067	4.9	65
64	Exhaled VOCs sensing properties of WO3 nanofibers functionalized by Pt and IrO2 nanoparticles for diagnosis of diabetes and halitosis. *Journal of Electroceramics*, **2012**, 29, 106-116	1.5	64
63	Bimodally Porous WO Microbelts Functionalized with Pt Catalysts for Selective HS Sensors. *ACS Applied Materials & Interfaces*, **2018**, 10, 20643-20651	9.5	63
62	Facile Au catalyst loading on the inner shell of hollow SnO2 spheres using Au-decorated block copolymer sphere templates and their selective H2S sensing characteristics. *Nanoscale*, **2014**, 6, 11898-903	7.7	62
61	WO3 Nanofiber-Based Biomarker Detectors Enabled by Protein-Encapsulated Catalyst Self-Assembled on Polystyrene Colloid Templates. *Small*, **2016**, 12, 911-20	11	62
60	Bi-functional co-sensitization of graphene oxide sheets and Ir nanoparticles on p-type CoO nanofibers for selective acetone detection. *Journal of Materials Chemistry B*, **2014**, 2, 7160-7167	7.3	61
59	Ultrafast optical reduction of graphene oxide sheets on colorless polyimide film for wearable chemical sensors. *NPG Asia Materials*, **2016**, 8, e315-e315	10.3	60
58	Hollow Pd-Ag Composite Nanowires for Fast Responding and Transparent Hydrogen Sensors. *ACS Applied Materials & Interfaces*, **2017**, 9, 39464-39474	9.5	58
57	Few-Layered WS2 Nanoplates Confined in Co, N-Doped Hollow Carbon Nanocages: Abundant WS2 Edges for Highly Sensitive Gas Sensors. *Advanced Functional Materials*, **2018**, 28, 1802575	15.6	53
56	Silver Nanowire Embedded Colorless Polyimide Heater for Wearable Chemical Sensors: Improved Reversible Reaction Kinetics of Optically Reduced Graphene Oxide. *Small*, **2016**, 12, 5826-5835	11	52
55	Novel Templating Route Using Pt Infiltrated Block Copolymer Microparticles for Catalytic Pt Functionalized Macroporous WO3 Nanofibers and Its Application in Breath Pattern Recognition. *ACS Sensors*, **2016**, 1, 1124-1131	9.2	52

54	Catalyst-loaded porous WO3 nanofibers using catalyst-decorated polystyrene colloid templates for detection of biomarker molecules. *Chemical Communications*, **2015**, 51, 2609-12	5.8	47
53	Metal Chelation Assisted In Situ Migration and Functionalization of Catalysts on Peapod-Like Hollow SnO toward a Superior Chemical Sensor. *Small*, **2016**, 12, 5989-5997	11	47
52	Applications and Advances in Bioelectronic Noses for Odour Sensing. *Sensors*, **2018**, 18,	3.8	46
51	Electrospun Nanostructures for High Performance Chemiresistive and Optical Sensors. *Macromolecular Materials and Engineering*, **2017**, 302, 1600569	3.9	43
50	Hierarchically interconnected porosity control of catalyst-loaded WO3 nanofiber scaffold: Superior acetone sensing layers for exhaled breath analysis. *Sensors and Actuators B: Chemical*, **2018**, 259, 616-625	8.5	43
49	Wireless Real-Time Temperature Monitoring of Blood Packages: Silver Nanowire-Embedded Flexible Temperature Sensors. *ACS Applied Materials & Interfaces*, **2018**, 10, 44678-44685	9.5	42
48	Facile synthesis of hierarchical porous WO3 nanofibers having 1D nanoneedles and their functionalization with non-oxidized graphene flakes for selective detection of acetone molecules. *RSC Advances*, **2015**, 5, 7584-7588	3.7	41
47	WO3 nanofibers functionalized by protein-templated RuO2 nanoparticles as highly sensitive exhaled breath gas sensing layers. *Sensors and Actuators B: Chemical*, **2017**, 241, 1276-1282	8.5	39
46	Metal-Organic Framework-Templated PdO-CoO Nanocubes Functionalized by SWCNTs: Improved NO Reaction Kinetics on Flexible Heating Film. *ACS Applied Materials & Interfaces*, **2017**, 9, 40593-40603	9.5	37
45	Facile synthetic method of catalyst-loaded ZnO nanofibers composite sensor arrays using bio-inspired protein cages for pattern recognition of exhaled breath. *Sensors and Actuators B: Chemical*, **2017**, 243, 166-175	8.5	36
44	Optically Sintered 2D RuO2 Nanosheets: Temperature-Controlled NO2 Reaction. *Advanced Functional Materials*, **2017**, 27, 1606026	15.6	35
43	Sub-Parts-per-Million Hydrogen Sulfide Colorimetric Sensor: Lead Acetate Anchored Nanofibers toward Halitosis Diagnosis. *Analytical Chemistry*, **2018**, 90, 8769-8775	7.8	34
42	High throughput ultralong (20 cm) nanowire fabrication using a wafer-scale nanograting template. *Nano Letters*, **2013**, 13, 3978-84	11.5	33
41	Heterogeneous, Porous 2D Oxide Sheets via Rapid Galvanic Replacement: Toward Superior HCHO Sensing Application. *Advanced Functional Materials*, **2019**, 29, 1903012	15.6	30
40	Hierarchical ZnO Nanowires-loaded Sb-doped SnO2-ZnO Micrograting Pattern via Direct Imprinting-assisted Hydrothermal Growth and Its Selective Detection of Acetone Molecules. *Scientific Reports*, **2016**, 6, 18731	4.9	29
39	Bioinspired Cocatalysts Decorated WO Nanotube Toward Unparalleled Hydrogen Sulfide Chemiresistor. *ACS Sensors*, **2018**, 3, 1164-1173	9.2	28
38	Porosity controlled 3D SnO2 spheres via electrostatic spray: Selective acetone sensors. *Sensors and Actuators B: Chemical*, **2020**, 304, 127350	8.5	27
37	2D layer assembly of Pt-ZnO nanoparticles on reduced graphene oxide for flexible NO2 sensors. *Sensors and Actuators B: Chemical*, **2021**, 331, 129371	8.5	23

36	Switchable Single-Walled Carbon Nanotube-Polymer Composites for CO Sensing. *ACS Applied Materials & Interfaces*, **2018**, 10, 33373-33379	9.5	23
35	Biocompatible Carbon Nanotube-Based Hybrid Microfiber for Implantable Electrochemical Actuator and Flexible Electronic Applications. *ACS Applied Materials & Interfaces*, **2019**, 11, 20615-20627	9.5	22
34	Facile Synthesis of p-type Perovskite SrTi0.65Fe0.35O3 Nanofibers Prepared by Electrospinning and Their Oxygen-Sensing Properties. *Macromolecular Materials and Engineering*, **2013**, 298, 521-527	3.9	21
33	Precision pH Sensor Based on WO Nanofiber-Polymer Composites and Differential Amplification. *ACS Sensors*, **2019**, 4, 2593-2598	9.2	20
32	Exhaled Breath Sensors. *KAIST Research Series*, **2015**, 19-49		20
31	Use of a columnar metal thin film as a nanosieve with sub-10 nm pores. *Advanced Materials*, **2012**, 24, 4408-13	24	19
30	All-carbon fiber-based chemical sensor: Improved reversible NO2 reaction kinetics. *Sensors and Actuators B: Chemical*, **2019**, 290, 293-301	8.5	18
29	Cu Microbelt Network Embedded in Colorless Polyimide Substrate: Flexible Heater Platform with High Optical Transparency and Superior Mechanical Stability. *ACS Applied Materials & Interfaces*, **2017**, 9, 39650-39656	9.5	17
28	Heterogeneous Metal Oxide-Graphene Thorn-Bush Single Fiber as a Freestanding Chemiresistor. *ACS Applied Materials & Interfaces*, **2019**, 11, 10208-10217	9.5	17
27	Material-Independent Nanotransfer onto a Flexible Substrate Using Mechanical-Interlocking Structure. *ACS Nano*, **2018**, 12, 4387-4397	16.7	17
26	Pt nanoparticles functionalized tungsten oxynitride hybrid chemiresistor: Low-temperature NO2 sensing. *Sensors and Actuators B: Chemical*, **2018**, 273, 1269-1277	8.5	16
25	Porous Ion Exchange Polymer Matrix for Ultrasmall Au Nanoparticle-Decorated Carbon Nanotube Chemiresistors. *Chemistry of Materials*, **2019**, 31, 5413-5420	9.6	12
24	Functional Single-Walled Carbon Nanotubes for Anion Sensing. *ACS Applied Materials & Interfaces*, **2020**, 12, 28375-28382	9.5	10
23	Chemiresistors for the Real-Time Wireless Detection of Anions. *Advanced Functional Materials*, **2020**, 30, 1907087	15.6	10
22	Elaborate Manipulation for Sub-10 nm Hollow Catalyst Sensitized Heterogeneous Oxide Nanofibers for Room Temperature Chemical Sensors. *ACS Applied Materials & Interfaces*, **2017**, 9, 24821-24829	9.5	9
21	Graphene-Based Composite Materials for Chemical Sensor Application. *Nanoscience and Technology*, **2015**, 65-101	0.6	8
20	Nanomechanical Encoding Method Using Enhanced Thermal Concentration on a Metallic Nanobridge. *ACS Nano*, **2017**, 11, 7781-7789	16.7	7
19	Abnormal Optoelectric Properties of Two-Dimensional Protonic Ruthenium Oxide with a Hexagonal Structure. *ACS Applied Materials & Interfaces*, **2018**, 10, 22661-22668	9.5	6

18	Sensors: Thin-Wall Assembled SnO_2 Fibers Functionalized by Catalytic Pt Nanoparticles and their Superior Exhaled-Breath-Sensing Properties for the Diagnosis of Diabetes (Adv. Funct. Mater. 19/2013). *Advanced Functional Materials*, **2013**, 23, 2342-2342	15.6	6
17	. *Journal of Microelectromechanical Systems*, **2015**, 24, 1545-1556	2.5	4
16	MEMS variable capacitor with superior linearity and large tuning ratio by moving the plate to the increasing-gap direction **2011**,		4
15	Flexible Chemiresistive Cyclohexanone Sensors Based on Single-Walled Carbon Nanotube-Polymer Composites. *ACS Sensors*, **2021**, 6, 3056-3062	9.2	4
14	Increasing Capacitance and Self-Resonant Frequency of the MEMS Switched Capacitor Using High-$kappa$ TiO_2 and SU-8 Bridged Beam Structure. *Journal of Microelectromechanical Systems*, **2015**, 24, 1006-1015	2.5	3
13	Low-Thermal-Budget Doping of 2D Materials in Ambient Air Exemplified by Synthesis of Boron-Doped Reduced Graphene Oxide. *Advanced Science*, **2020**, 7, 1903318	13.6	3
12	Interpenetrating Polymer Semiconductor Nanonetwork Channel for Ultrasensitive, Selective, and Fast Recovered Chemodetection. *ACS Applied Materials & Interfaces*, **2020**, 12, 55107-55115	9.5	2
11	Electrospun Functional Nanofibers and Their Applications in Chemical Sensors and Li-Ion Batteries **2014**, 793-838		2
10	Rational design approaches of two-dimensional metal oxides for chemiresistive gas sensors: A comprehensive review. *MRS Bulletin*, **2021**, 46, 1080-1094	3.2	2
9	2D layered Mn and Ru oxide nanosheets for real-time breath humidity monitoring. *Applied Surface Science*, **2022**, 573, 151481	6.7	2
8	Selective acetate recognition and sensing using SWCNTs functionalized with croconamides. *Sensors and Actuators B: Chemical*, **2021**, 346, 130461	8.5	2
7	Protein-Encapsulated Catalysts: WO_3 Nanofiber-Based Biomarker Detectors Enabled by Protein-Encapsulated Catalyst Self-Assembled on Polystyrene Colloid Templates (Small 7/2016). *Small*, **2016**, 12, 964-964	11	1
6	Metal-organic frameworks-driven ZnO-functionalized carbon nanotube fiber for NO_2 sensor. *Journal of Sensor Science and Technology*, **2021**, 30, 369-375	0.3	1
5	Effect of metal/metal oxide catalysts on graphene fiber for improved NO_2 sensing. *Sensors and Actuators B: Chemical*, **2021**, 344, 130231	8.5	1
4	Gas Sensors: Few-Layered WS_2 Nanoplates Confined in Co, N-Doped Hollow Carbon Nanocages: Abundant WS_2 Edges for Highly Sensitive Gas Sensors (Adv. Funct. Mater. 36/2018). *Advanced Functional Materials*, **2018**, 28, 1870254	15.6	0
3	2D Oxide Sensors: Heterogeneous, Porous 2D Oxide Sheets via Rapid Galvanic Replacement: Toward Superior HCHO Sensing Application (Adv. Funct. Mater. 42/2019). *Advanced Functional Materials*, **2019**, 29, 1970290	15.6	
2	Nanofibers and Nanotubes **2015**, 415-442		
1	Selective acetate detection using functional carbon nanotube fiber. *Journal of Sensor Science and Technology*, **2021**, 30, 357-363	0.3	