

Tae In Lee

List of Publications by Year in Descending Order

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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.

108
papers

2,322
citations

19
h-index

45
g-index

116
ext. papers

2,748
ext. citations

5.9
avg, IF

5.22
L-index

| # | Paper | IF | Citations |
|-----|---|------|-----------|
| 108 | Channel Mobility Boosting in a Poly-Si Channel Using Ge Diffusion Engineering and Hydrogen Plasma Treatment. <i>IEEE Electron Device Letters</i> , 2022 , 1-1 | 4.4 | 1 |
| 107 | A wearable organic photovoltaic-thermoelectric (OPV-TE) hybrid generator to minimize the open-circuit voltage losses of OPV module. <i>Nano Energy</i> , 2021 , 93, 106775 | 17.1 | 2 |
| 106 | Variable Rigidity Module with a Flexible Thermoelectric Device for Bidirectional Temperature Control. <i>Soft Robotics</i> , 2021 , 8, 662-672 | 9.2 | 4 |
| 105 | Hf- and Ti-Based Organic/Inorganic Hybrid Dielectrics Synthesized via Chemical Vapor Phase for Advanced Gate Stack in Flexible Electronic Devices. <i>Advanced Electronic Materials</i> , 2021 , 7, 2001197 | 6.4 | 2 |
| 104 | Transformative Electronics: Design Strategy for Transformative Electronic System toward Rapid, Bidirectional Stiffness Tuning using Graphene and Flexible Thermoelectric Device Interfaces (Adv. Mater. 10/2021). <i>Advanced Materials</i> , 2021 , 33, 2170076 | 24 | 1 |
| 103 | Method to Achieve the Morphotropic Phase Boundary in Hf _x Zr _{1-x} O ₂ by Electric Field Cycling for DRAM Cell Capacitor Applications. <i>IEEE Electron Device Letters</i> , 2021 , 42, 517-520 | 4.4 | 7 |
| 102 | Electrical and photocurrent properties of a polycrystalline Sn-doped β -Ga ₂ O ₃ thin film. <i>Materials Science in Semiconductor Processing</i> , 2021 , 121, 105430 | 4.3 | 9 |
| 101 | Large-Area, Conformal, and Uniform Synthesis of Hybrid Polymeric Film via Initiated Chemical Vapor Deposition. <i>Macromolecular Materials and Engineering</i> , 2021 , 306, 2000608 | 3.9 | 3 |
| 100 | Impact of Al doping on a hydrothermally synthesized β -GaO nanostructure for photocatalysis applications.. <i>RSC Advances</i> , 2021 , 11, 7338-7346 | 3.7 | 4 |
| 99 | Design Strategy for Transformative Electronic System toward Rapid, Bidirectional Stiffness Tuning using Graphene and Flexible Thermoelectric Device Interfaces. <i>Advanced Materials</i> , 2021 , 33, e2007239 | 24 | 8 |
| 98 | Electrospun SnO ₂ and its composite V ₂ O ₅ nanofibers for thermoelectric power generator. <i>Journal of Sol-Gel Science and Technology</i> , 2021 , 98, 183-192 | 2.3 | 2 |
| 97 | Highly Reliable Charge Trap-Type Organic Non-Volatile Memory Device Using Advanced Band-Engineered Organic-Inorganic Hybrid Dielectric Stacks. <i>Advanced Functional Materials</i> , 2021 , 31, 2103291 | 15.6 | 2 |
| 96 | Copolymer-Based Flexible Resistive Random Access Memory Prepared by Initiated Chemical Vapor Deposition Process. <i>Advanced Electronic Materials</i> , 2021 , 7, 2100375 | 6.4 | 0 |
| 95 | Performance enhancement of p-type organic thin-film transistors by surface modification of hybrid dielectrics. <i>Organic Electronics</i> , 2021 , 96, 106250 | 3.5 | |
| 94 | An 8-nm-thick Sn-doped polycrystalline β -Ga ₂ O ₃ MOSFET with a normally off operation. <i>Applied Physics Letters</i> , 2021 , 119, 122103 | 3.4 | 4 |
| 93 | Dye-Sensitized Solar Cell/Thermoelectric Hybrid Generator Utilizing Bipolar Conduction in a Unified Element. <i>ACS Applied Energy Materials</i> , 2020 , 3, 4155-4161 | 6.1 | 5 |
| 92 | Comparison of Ga ₂ O ₃ and TiO ₂ Nanostructures for Photocatalytic Degradation of Volatile Organic Compounds. <i>Catalysts</i> , 2020 , 10, 545 | 4 | 6 |

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|----|---|------|----|
| 91 | Thermal display glove for interacting with virtual reality. <i>Scientific Reports</i> , 2020 , 10, 11403 | 4.9 | 15 |
| 90 | A Flexible Micro-Thermoelectric Generator Sticker with Trapezoidal-Shaped Legs for Large Temperature Gradient and High-Power Density. <i>Advanced Materials Technologies</i> , 2020 , 5, 2000486 | 6.8 | 5 |
| 89 | Two-Dimensional Thermal Haptic Module Based on a Flexible Thermoelectric Device. <i>Soft Robotics</i> , 2020 , 7, 736-742 | 9.2 | 6 |
| 88 | Schottky barrier height modulation of metal/interlayer/semiconductor structure depending on contact surface orientation for multi-gate transistors. <i>Applied Physics Letters</i> , 2019 , 114, 012102 | 3.4 | 5 |
| 87 | Enhanced Photocatalytic Degradation of 2-Butanone Using Hybrid Nanostructures of Gallium Oxide and Reduced Graphene Oxide Under Ultraviolet-C Irradiation. <i>Catalysts</i> , 2019 , 9, 449 | 4 | 5 |
| 86 | Influence of Self-Heating Effect on Interface Trap Generation in Highly Flexible Single-Crystalline Si Nanomembrane Transistors. <i>Journal of Nanoscience and Nanotechnology</i> , 2019 , 19, 6481-6486 | 1.3 | 1 |
| 85 | Ultrathin EOT (0.67 nm) High-k Dielectric on Ge MOSFET Using Y Doped ZrO ₂ With Record-Low Leakage Current. <i>IEEE Electron Device Letters</i> , 2019 , 40, 502-505 | 4.4 | 13 |
| 84 | UV-Curable Silver Electrode for Screen-Printed Thermoelectric Generator. <i>Advanced Functional Materials</i> , 2019 , 29, 1901505 | 15.6 | 13 |
| 83 | High-Performance Monolithic Photovoltaic/Thermoelectric Hybrid Power Generator Using an Exothermic Reactive Interlayer. <i>ACS Applied Energy Materials</i> , 2019 , 2, 2381-2386 | 6.1 | 6 |
| 82 | H ₂ High Pressure Annealed Y-Doped ZrO ₂ Gate Dielectric With an EOT of 0.57 nm for Ge MOSFETs. <i>IEEE Electron Device Letters</i> , 2019 , 40, 1350-1353 | 4.4 | 5 |
| 81 | Mechanical and Electrical Reliability Analysis of Flexible Si Complementary Metal-Oxide-Semiconductor Integrated Circuit. <i>Journal of Nanoscience and Nanotechnology</i> , 2019 , 19, 6473-6480 | 1.3 | |
| 80 | Ultrathin ZrO-Organic Hybrid Dielectric (EOT 3.2 nm) via Initiated Chemical Vapor Deposition for High-Performance Flexible Electronics. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 44513-44520 | 9.5 | 16 |
| 79 | Minimally invasive medical catheter with highly flexible FDSOI-based integrated circuits 2019 , | | 2 |
| 78 | Effect of ZrO ₂ interfacial layer on forming ferroelectric Hf _x Zr _y O _z on Si substrate. <i>AIP Advances</i> , 2019 , 9, 125020 | 1.5 | 10 |
| 77 | Enhanced Photocatalytic Activity of Electrospun BiGa ₂ O ₃ Nanofibers via In-Situ Si Doping Using Tetraethyl Orthosilicate. <i>Catalysts</i> , 2019 , 9, 1005 | 4 | 7 |
| 76 | Fluorine Effects Originating From the CVD-W Process on Charge-Trap Flash Memory Cells. <i>IEEE Transactions on Electron Devices</i> , 2019 , 66, 378-382 | 2.9 | 6 |
| 75 | Large Grain Ruthenium for Alternative Interconnects. <i>IEEE Electron Device Letters</i> , 2019 , 40, 91-94 | 4.4 | 6 |
| 74 | Direct Graphene Transfer and Its Application to Transfer Printing Using Mechanically Controlled, Large Area Graphene/Copper Freestanding Layer. <i>Advanced Functional Materials</i> , 2018 , 28, 1707102 | 15.6 | 26 |

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|----|--|------|-----|
| 73 | Self-Powered Wearable Electrocardiography Using a Wearable Thermoelectric Power Generator. <i>ACS Energy Letters</i> , 2018 , 3, 501-507 | 20.1 | 144 |
| 72 | A High-Performance Top-Gated Graphene Field-Effect Transistor with Excellent Flexibility Enabled by an iCVD Copolymer Gate Dielectric. <i>Small</i> , 2018 , 14, 1703035 | 11 | 8 |
| 71 | Control of Carrier Concentration by Ag Doping in N-Type Bi ₂ Te ₃ Based Compounds. <i>Applied Sciences (Switzerland)</i> , 2018 , 8, 735 | 2.6 | 10 |
| 70 | Construction of a Multiway Carbon Nanotube Loudspeaker with Finely Tunable Resonance Frequencies. <i>Advanced Materials Technologies</i> , 2018 , 3, 1700197 | 6.8 | 3 |
| 69 | Conformal, Wafer-Scale and Controlled Nanoscale Doping of Semiconductors Via the iCVD Process 2018 , | | 2 |
| 68 | High-Aspect Ratio -Ga ₂ O ₃ Nanorods via Hydrothermal Synthesis. <i>Nanomaterials</i> , 2018 , 8, | 5.4 | 26 |
| 67 | Performance Degradation of Flexible Si Nanomembrane Transistors With Al ₂ O ₃ and SiO ₂ Dielectrics Under Mechanical Stress. <i>IEEE Transactions on Electron Devices</i> , 2018 , 65, 3069-3072 | 2.9 | 1 |
| 66 | A quantitative strain analysis of a flexible single-crystalline silicon membrane. <i>Applied Physics Letters</i> , 2017 , 110, 033105 | 3.4 | 8 |
| 65 | Reliability improvement of a flexible FD-SOI MOSFET via heat management. <i>Applied Physics Letters</i> , 2017 , 110, 252101 | 3.4 | 6 |
| 64 | Fermi-Level Unpinning Technique with Excellent Thermal Stability for n-Type Germanium. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 35988-35997 | 9.5 | 11 |
| 63 | Realization of High-Performance Screen-Printed Flexible Thermoelectric Generator by Improving Contact Characteristics. <i>Advanced Materials Interfaces</i> , 2017 , 4, 1700870 | 4.6 | 8 |
| 62 | Multi-Layer Metallization Structure Development for Highly Efficient Polycrystalline SnSe Thermoelectric Devices. <i>Applied Sciences (Switzerland)</i> , 2017 , 7, 1116 | 2.6 | 8 |
| 61 | Material Optimization for a High Power Thermoelectric Generator in Wearable Applications. <i>Applied Sciences (Switzerland)</i> , 2017 , 7, 1015 | 2.6 | 8 |
| 60 | Mechanical Stability Analysis via Neutral Mechanical Plane for High-Performance Flexible Si Nanomembrane FDSOI Device. <i>Advanced Materials Interfaces</i> , 2017 , 4, 1700618 | 4.6 | 7 |
| 59 | Investigation of Border Trap Characteristics in the AlON/GeO ₂ /Ge Gate Stacks. <i>IEEE Transactions on Electron Devices</i> , 2017 , 64, 3998-4001 | 2.9 | 2 |
| 58 | The Impact of an Ultrathin Y ₂ O ₃ Layer on GeO ₂ Passivation in Ge MOS Gate Stacks. <i>IEEE Transactions on Electron Devices</i> , 2017 , 64, 3303-3307 | 2.9 | 17 |
| 57 | Enhanced thermoelectric properties of screen-printed Bi _{0.5} Sb _{1.5} Te ₃ and Bi ₂ Te _{2.7} Se _{0.3} thick films using a post annealing process with mechanical pressure. <i>Journal of Materials Chemistry C</i> , 2017 , 5, 8559-8565 | 7.1 | 33 |
| 56 | Vertically Formed Graphene Stripe for 3D Field-Effect Transistor Applications. <i>Small</i> , 2017 , 13, 1602373 | 11 | 3 |

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|----|---|------|-----|
| 55 | Fermi Level Depinning in Ti/GeO ₂ /n-Ge via the Interfacial Reaction Between Ti and GeO ₂ . <i>IEEE Transactions on Electron Devices</i> , 2017 , 64, 4242-4245 | 2.9 | 2 |
| 54 | Compliment Graphene Oxide Coating on Silk Fiber Surface via Electrostatic Force for Capacitive Humidity Sensor Applications. <i>Sensors</i> , 2017 , 17, | 3.8 | 14 |
| 53 | Impedance Spectroscopy Analysis and Equivalent Circuit Modeling of Graphene Oxide Solutions. <i>Nanomaterials</i> , 2017 , 7, | 5.4 | 10 |
| 52 | Application of N-Doped Three-Dimensional Reduced Graphene Oxide Aerogel to Thin Film Loudspeaker. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 22295-300 | 9.5 | 24 |
| 51 | Hybrid Integration of Graphene Analog and Silicon Complementary Metal-Oxide-Semiconductor Digital Circuits. <i>ACS Nano</i> , 2016 , 10, 7142-6 | 16.7 | 9 |
| 50 | Valley-engineered ultra-thin silicon for high-performance junctionless transistors. <i>Scientific Reports</i> , 2016 , 6, 29354 | 4.9 | 2 |
| 49 | Improved Drain Current Saturation and Voltage Gain in Graphene-on-Silicon Field Effect Transistors. <i>Scientific Reports</i> , 2016 , 6, 25392 | 4.9 | 10 |
| 48 | Random Dopant Fluctuation-Induced Threshold Voltage Variation-Immune Ge FinFET With Metal Interlayer Semiconductor Source/Drain. <i>IEEE Transactions on Electron Devices</i> , 2016 , 63, 4167-4172 | 2.9 | 10 |
| 47 | Very Low-Work-Function ALD-Erbium Carbide (ErC ₂) Metal Electrode on High- κ Dielectrics. <i>IEEE Transactions on Electron Devices</i> , 2016 , 63, 2858-2863 | 2.9 | 11 |
| 46 | The Work Function Behavior of Aluminum-Doped Titanium Carbide Grown by Atomic Layer Deposition. <i>IEEE Transactions on Electron Devices</i> , 2016 , 63, 1423-1427 | 2.9 | 12 |
| 45 | Free-Standing Graphene Thermophone on a Polymer-Mesh Substrate. <i>Small</i> , 2016 , 12, 185-9 | 11 | 32 |
| 44 | Material characteristics and equivalent circuit models of stacked graphene oxide for capacitive humidity sensors. <i>AIP Advances</i> , 2016 , 6, 035203 | 1.5 | 9 |
| 43 | Effective Schottky Barrier Height Lowering of Metal/n-Ge with a TiO/GeO Interlayer Stack. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 35419-35425 | 9.5 | 27 |
| 42 | Effect of Metal Nitride on Contact Resistivity of Metal-Interlayer-Ge Source/Drain in Sub-10-nm n-Type Ge FinFET. <i>IEEE Electron Device Letters</i> , 2016 , 1-1 | 4.4 | 2 |
| 41 | Effect of Hydrogen Annealing on Contact Resistance Reduction of Metal Interlayer- β -Germanium Source/Drain Structure. <i>IEEE Electron Device Letters</i> , 2016 , 1-1 | 4.4 | 10 |
| 40 | Synthesis of ultrathin polymer insulating layers by initiated chemical vapour deposition for low-power soft electronics. <i>Nature Materials</i> , 2015 , 14, 628-35 | 27 | 184 |
| 39 | The Mechanism of Schottky Barrier Modulation of Tantalum Nitride/Ge Contacts. <i>IEEE Electron Device Letters</i> , 2015 , 36, 997-1000 | 4.4 | 13 |
| 38 | Surface Passivation of Germanium Using SF ₆ Plasma to Reduce Source/Drain Contact Resistance in Germanium n-FET. <i>IEEE Electron Device Letters</i> , 2015 , 36, 745-747 | 4.4 | 19 |

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|----|--|------|-----|
| 37 | Wrinkle-free graphene with spatially uniform electrical properties grown on hot-pressed copper. <i>Nano Research</i> , 2015 , 8, 1075-1080 | 10 | 9 |
| 36 | Large-Area, Periodic, Hexagonal Wrinkles on Nanocrystalline Graphitic Film. <i>Advanced Functional Materials</i> , 2015 , 25, 5492-5503 | 15.6 | 13 |
| 35 | Improved electromigration-resistance of Cu interconnects by graphene-based capping layer 2015 , | | 4 |
| 34 | A wearable thermoelectric generator fabricated on a glass fabric. <i>Energy and Environmental Science</i> , 2014 , 7, 1959 | 35.4 | 597 |
| 33 | High performance graphene field effect transistors on an aluminum nitride substrate with high surface phonon energy. <i>Applied Physics Letters</i> , 2014 , 104, 193112 | 3.4 | 15 |
| 32 | Observation of Ultrafast Carrier Dynamics and Phonon Relaxation of Graphene from the Deep-Ultraviolet to the Visible Region. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 6454-6461 | 3.8 | 36 |
| 31 | First Demonstration of Ultra-Thin SiGe-Channel Junctionless Accumulation-Mode (JAM) Bulk FinFETs on Si Substrate with PN Junction-Isolation Scheme. <i>IEEE Journal of the Electron Devices Society</i> , 2014 , 2, 123-127 | 2.3 | 6 |
| 30 | The Efficacy of Metal-Interfacial Layer-Semiconductor Source/Drain Structure on Sub-10-nm n-Type Ge FinFET Performances. <i>IEEE Electron Device Letters</i> , 2014 , 35, 1185-1187 | 4.4 | 15 |
| 29 | Demonstration of Ge pMOSFETs with 6 μ EOT using TaN/ZrO ₂ /Zr-cap/n-Ge(100) gate stack fabricated by novel vacuum annealing and in-situ metal capping method 2014 , | | 5 |
| 28 | Performance evaluation of GaN light-emitting diodes using transferred graphene as current spreading layer. <i>Journal of Applied Physics</i> , 2014 , 115, 054503 | 2.5 | 19 |
| 27 | Graphene as anode electrode for colloidal quantum dots based light emitting diodes. <i>Applied Physics Letters</i> , 2013 , 103, 043124 | 3.4 | 10 |
| 26 | Doping suppression and mobility enhancement of graphene transistors fabricated using an adhesion promoting dry transfer process. <i>Applied Physics Letters</i> , 2013 , 103, 243504 | 3.4 | 13 |
| 25 | Comparative study of chemically synthesized and exfoliated multilayer MoS ₂ field-effect transistors. <i>Applied Physics Letters</i> , 2013 , 102, 043116 | 3.4 | 33 |
| 24 | Simultaneous measurement of the Seebeck coefficient and thermal conductivity in the cross-sectional direction of thermoelectric thick film. <i>Journal of Applied Physics</i> , 2012 , 112, 104511 | 2.5 | 5 |
| 23 | Reduction of charge trapping in HfO ₂ film on a Ge substrate by trimethylaluminum pretreatment. <i>Physica Status Solidi - Rapid Research Letters</i> , 2012 , 6, 439-441 | 2.5 | 7 |
| 22 | Origin of transient V _{th} shift after erase and its impact on 2D/3D structure charge trap flash memory cell operations 2012 , | | 3 |
| 21 | Development of a Measurement Method for the Thermal Conductivity of a Thick Film Prepared by a Screen-Printing Technique. <i>Journal of Electronic Materials</i> , 2012 , 41, 1170-1176 | 1.9 | 2 |
| 20 | Crystallized HfLaO embedded tetragonal ZrO ₂ for dynamic random access memory capacitor dielectrics. <i>Applied Physics Letters</i> , 2011 , 98, 173505 | 3.4 | 11 |

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|----|---|-----|-----|
| 19 | Highly air-stable electrical performance of graphene field effect transistors by interface engineering with amorphous fluoropolymer. <i>Applied Physics Letters</i> , 2011 , 98, 153505 | 3.4 | 38 |
| 18 | Lanthanum-Oxide-Doped Nitride Charge-Trap Layer for a TANOS Memory Device. <i>IEEE Transactions on Electron Devices</i> , 2011 , 58, 3314-3320 | 2.9 | 4 |
| 17 | Analysis on switching mechanism of graphene oxide resistive memory device. <i>Journal of Applied Physics</i> , 2011 , 110, 044506 | 2.5 | 89 |
| 16 | Thin-Film Thermoelectric Module for Power Generator Applications Using a Screen-Printing Method. <i>Journal of Electronic Materials</i> , 2011 , 40, 615-619 | 1.9 | 46 |
| 15 | Structural and compositional dependence of gadolinium-aluminum oxide for the application of charge-trap-type nonvolatile memory devices. <i>Applied Physics Letters</i> , 2010 , 96, 052907 | 3.4 | 3 |
| 14 | Non-volatile memory using graphene oxide for flexible electronics 2010 , | | 2 |
| 13 | Wide memory window in graphene oxide charge storage nodes. <i>Applied Physics Letters</i> , 2010 , 96, 143109 | 3.4 | 82 |
| 12 | Improvement of memory performance by high temperature annealing of the Al ₂ O ₃ blocking layer in a charge-trap type flash memory device. <i>Applied Physics Letters</i> , 2010 , 96, 222902 | 3.4 | 25 |
| 11 | High-Performance MIM Capacitors Using HfLaO-Based Dielectrics. <i>IEEE Electron Device Letters</i> , 2010 , 31, 17-19 | 4.4 | 14 |
| 10 | Low-Voltage High-Performance Pentacene Thin-Film Transistors With Ultrathin PVP/High- κ HfLaO Hybrid Gate Dielectric. <i>IEEE Electron Device Letters</i> , 2010 , | 4.4 | 11 |
| 9 | Flexible Resistive Switching Memory Device Based on Graphene Oxide. <i>IEEE Electron Device Letters</i> , 2010 , 31, 1005-1007 | 4.4 | 126 |
| 8 | Performance Improvement in Charge-Trap Flash Memory Using Lanthanum-Based High- κ Blocking Oxide. <i>IEEE Transactions on Electron Devices</i> , 2009 , 56, 2746-2751 | 2.9 | 19 |
| 7 | Aluminum-Doped Gadolinium Oxides as Blocking Layer for Improved Charge Retention in Charge-Trap-Type Nonvolatile Memory Devices. <i>IEEE Transactions on Electron Devices</i> , 2009 , 56, 2739-2745 | 2.9 | 15 |
| 6 | Monolayer graphene growth on sputtered thin film platinum. <i>Journal of Applied Physics</i> , 2009 , 106, 104303 | 3.9 | 78 |
| 5 | Cubic-Structured HfO_2 With Optimized Doping of Lanthanum for Higher Dielectric Constant. <i>IEEE Electron Device Letters</i> , 2009 , 30, 623-625 | 4.4 | 34 |
| 4 | Energy-Band-Engineered Unified-RAM (URAM) Cell on Buried $\text{Si}_{1-y}\text{C}_y$ Substrate for Multifunctioning Flash Memory and 1T-DRAM. <i>IEEE Transactions on Electron Devices</i> , 2009 , 56, 641-647 | 2.9 | 0 |
| 3 | Metal Carbides for Band-Edge Work Function Metal Gate CMOS Devices. <i>IEEE Transactions on Electron Devices</i> , 2008 , 55, 2469-2474 | 2.9 | 9 |
| 2 | Design of low cost, scalable, and high-performance Tl ₂ S thermoelectric materials via wet ball-milling process. <i>Journal of Materials Science: Materials in Electronics</i> , 2008 , 19, 1033-1037 | 2.1 | 0 |

- 1 Design of Electrochemically Reduced Graphene Oxide/Titanium Disulfide Nanocomposite Sensor for Selective Determination of Ascorbic Acid. *ACS Applied Nano Materials*, 5.6 7