# Yi Xiao

## List of Publications by Citations

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|---|---|---|---|
| 97 papers | 11,410 citations | 49 h-index | 100 g-index |
| 100 ext. papers | 12,310 ext. citations | 10.5 avg, IF | 6.22 L-index |

| # | Paper | IF | Citations |
|---|---|---|---|
| 97 | "Plugging into Enzymes": nanowiring of redox enzymes by a gold nanoparticle. *Science*, **2003**, 299, 1877-81 | 33.3 | 1138 |
| 96 | Aptamer-functionalized Au nanoparticles for the amplified optical detection of thrombin. *Journal of the American Chemical Society*, **2004**, 126, 11768-9 | 16.4 | 631 |
| 95 | Label-free electronic detection of thrombin in blood serum by using an aptamer-based sensor. *Angewandte Chemie - International Edition*, **2005**, 44, 5456-9 | 16.4 | 582 |
| 94 | Colorimetric detection of DNA, small molecules, proteins, and ions using unmodified gold nanoparticles and conjugated polyelectrolytes. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 10837-41 | 11.5 | 463 |
| 93 | A reagentless signal-on architecture for electronic, aptamer-based sensors via target-induced strand displacement. *Journal of the American Chemical Society*, **2005**, 127, 17990-1 | 16.4 | 450 |
| 92 | Sensitive and selective amplified fluorescence DNA detection based on exonuclease III-aided target recycling. *Journal of the American Chemical Society*, **2010**, 132, 1816-8 | 16.4 | 442 |
| 91 | Electrochemical detection of parts-per-billion lead via an electrode-bound DNAzyme assembly. *Journal of the American Chemical Society*, **2007**, 129, 262-3 | 16.4 | 426 |
| 90 | Catalytic beacons for the detection of DNA and telomerase activity. *Journal of the American Chemical Society*, **2004**, 126, 7430-1 | 16.4 | 394 |
| 89 | High specificity, electrochemical sandwich assays based on single aptamer sequences and suitable for the direct detection of small-molecule targets in blood and other complex matrices. *Journal of the American Chemical Society*, **2009**, 131, 6944-5 | 16.4 | 363 |
| 88 | Hydrogen peroxide sensor based on horseradish peroxidase-labeled Au colloids immobilized on gold electrode surface by cysteamine monolayer. *Analytica Chimica Acta*, **1999**, 391, 73-82 | 6.6 | 349 |
| 87 | Amplified chemiluminescence surface detection of DNA and telomerase activity using catalytic nucleic acid labels. *Analytical Chemistry*, **2004**, 76, 2152-6 | 7.8 | 326 |
| 86 | Preparation of electrode-immobilized, redox-modified oligonucleotides for electrochemical DNA and aptamer-based sensing. *Nature Protocols*, **2007**, 2, 2875-80 | 18.8 | 283 |
| 85 | DNAzyme-Functionalized Au Nanoparticles for the Amplified Detection of DNA or Telomerase Activity. *Nano Letters*, **2004**, 4, 1683-1687 | 11.5 | 282 |
| 84 | Continuous, real-time monitoring of cocaine in undiluted blood serum via a microfluidic, electrochemical aptamer-based sensor. *Journal of the American Chemical Society*, **2009**, 131, 4262-6 | 16.4 | 271 |
| 83 | Micromagnetic selection of aptamers in microfluidic channels. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 2989-94 | 11.5 | 271 |
| 82 | Optimization of electrochemical aptamer-based sensors via optimization of probe packing density and surface chemistry. *Langmuir*, **2008**, 24, 10513-8 | 4 | 233 |
| 81 | Label-free electrochemical detection of DNA in blood serum via target-induced resolution of an electrode-bound DNA pseudoknot. *Journal of the American Chemical Society*, **2007**, 129, 11896-7 | 16.4 | 215 |

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| 80 | Inhibition of the acetycholine esterase-stimulated growth of Au nanoparticles: nanotechnology-based sensing of nerve gases. *Nano Letters*, **2005**, 5, 649-53 | 11.5 | 212 |
| 79 | Single-step electronic detection of femtomolar DNA by target-induced strand displacement in an electrode-bound duplex. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 16677-80 | 11.5 | 207 |
| 78 | An electrochemical supersandwich assay for sensitive and selective DNA detection in complex matrices. *Journal of the American Chemical Society*, **2010**, 132, 14346-8 | 16.4 | 202 |
| 77 | Quantitative selection of DNA aptamers through microfluidic selection and high-throughput sequencing. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 15373-8 | 11.5 | 191 |
| 76 | Genetic analysis of H1N1 influenza virus from throat swab samples in a microfluidic system for point-of-care diagnostics. *Journal of the American Chemical Society*, **2011**, 133, 9129-35 | 16.4 | 160 |
| 75 | An electrochemical sensor for single nucleotide polymorphism detection in serum based on a triple-stem DNA probe. *Journal of the American Chemical Society*, **2009**, 131, 15311-6 | 16.4 | 155 |
| 74 | Label-Free Electronic Detection of Thrombin in Blood Serum by Using an Aptamer-Based Sensor. *Angewandte Chemie*, **2005**, 117, 5592-5595 | 3.6 | 153 |
| 73 | Lighting up biochemiluminescence by the surface self-assembly of DNA-hemin complexes. *ChemBioChem*, **2004**, 5, 374-9 | 3.8 | 152 |
| 72 | Catalytic growth of Au nanoparticles by NAD(P)H cofactors: optical sensors for NAD(P)+-dependent biocatalyzed transformations. *Angewandte Chemie - International Edition*, **2004**, 43, 4519-22 | 16.4 | 149 |
| 71 | Generation of highly specific aptamers via micromagnetic selection. *Analytical Chemistry*, **2009**, 81, 5490-58 | 7.8 | 113 |
| 70 | i-Motif quadruplex DNA-based biosensor for distinguishing single- and multiwalled carbon nanotubes. *Journal of the American Chemical Society*, **2009**, 131, 13813-8 | 16.4 | 111 |
| 69 | Label-free, dual-analyte electrochemical biosensors: a new class of molecular-electronic logic gates. *Journal of the American Chemical Society*, **2010**, 132, 8557-9 | 16.4 | 110 |
| 68 | Fluorescence detection of single-nucleotide polymorphisms with a single, self-complementary, triple-stem DNA probe. *Angewandte Chemie - International Edition*, **2009**, 48, 4354-8 | 16.4 | 109 |
| 67 | In vitro selection of structure-switching, self-reporting aptamers. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 14053-8 | 11.5 | 99 |
| 66 | Detection of telomerase activity in high concentration of cell lysates using primer-modified gold nanoparticles. *Journal of the American Chemical Society*, **2010**, 132, 15299-307 | 16.4 | 92 |
| 65 | Detection of proteins in serum by micromagnetic aptamer PCR (MAP) technology. *Angewandte Chemie - International Edition*, **2010**, 49, 355-8 | 16.4 | 92 |
| 64 | Optimization of a reusable, DNA pseudoknot-based electrochemical sensor for sequence-specific DNA detection in blood serum. *Analytical Chemistry*, **2009**, 81, 656-61 | 7.8 | 90 |
| 63 | Probing the limits of aptamer affinity with a microfluidic SELEX platform. *PLoS ONE*, **2011**, 6, e27051 | 3.7 | 79 |

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| 62 | Optical and electrochemical detection of NADH and of NAD+-dependent biocatalyzed processes by the catalytic deposition of copper on gold nanoparticles. *Small*, **2005**, 1, 213-6 | 11 | 74 |
| 61 | A label-free aptamer-fluorophore assembly for rapid and specific detection of cocaine in biofluids. *Analytical Chemistry*, **2014**, 86, 11100-6 | 7.8 | 71 |
| 60 | On the binding of cationic, water-soluble conjugated polymers to DNA: electrostatic and hydrophobic interactions. *Journal of the American Chemical Society*, **2010**, 132, 1252-4 | 16.4 | 71 |
| 59 | Electrochemical DNA detection via exonuclease and target-catalyzed transformation of surface-bound probes. *Langmuir*, **2010**, 26, 10392-6 | 4 | 70 |
| 58 | Shape and color of au nanoparticles follow biocatalytic processes. *Langmuir*, **2005**, 21, 5659-62 | 4 | 65 |
| 57 | A cooperative-binding split aptamer assay for rapid, specific and ultra-sensitive fluorescence detection of cocaine in saliva. *Chemical Science*, **2017**, 8, 131-141 | 9.4 | 63 |
| 56 | On the Signaling of Electrochemical Aptamer-Based Sensors: Collision- and Folding-Based Mechanisms. *Electroanalysis*, **2009**, 21, 1267-1271 | 3 | 61 |
| 55 | Electrical contacting of glucose oxidase by DNA-templated polyaniline wires on surfaces. *Electrochemistry Communications*, **2004**, 6, 1057-1060 | 5.1 | 61 |
| 54 | Amperometric Biosensor for Glucose Based on a Nanometer-Sized Microband Gold Electrode Coimmobilized with Glucose Oxidase and Poly(o-phenylenediamide). *Electroanalysis*, **1998**, 10, 541-545 | 3 | 59 |
| 53 | Innovative engineering and sensing strategies for aptamer-based small-molecule detection. *TrAC - Trends in Analytical Chemistry*, **2019**, 121, | 14.6 | 58 |
| 52 | Selection is more intelligent than design: improving the affinity of a bivalent ligand through directed evolution. *Nucleic Acids Research*, **2012**, 40, 11777-83 | 20.1 | 54 |
| 51 | Improving aptamer selection efficiency through volume dilution, magnetic concentration, and continuous washing in microfluidic channels. *Analytical Chemistry*, **2011**, 83, 6883-9 | 7.8 | 53 |
| 50 | Self-assembled DNA monolayer buffered dynamic ranges of mercuric electrochemical sensor. *Analytical Chemistry*, **2013**, 85, 7574-80 | 7.8 | 51 |
| 49 | Polarity-switching electrochemical sensor for specific detection of single-nucleotide mismatches. *Angewandte Chemie - International Edition*, **2011**, 50, 11176-80 | 16.4 | 49 |
| 48 | Selection of phage-displayed peptides on live adherent cells in microfluidic channels. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 6909-14 | 11.5 | 49 |
| 47 | An Os(II)--bisbipyridine--4-picolinic acid complex mediates the biocatalytic growth of au nanoparticles: optical detection of glucose and acetylcholine esterase inhibition. *Chemistry - A European Journal*, **2005**, 11, 2698-704 | 4.8 | 48 |
| 46 | Perspective on the Future Role of Aptamers in Analytical Chemistry. *Analytical Chemistry*, **2019**, 91, 15335-15344 | 7.8 | 47 |
| 45 | Two-step, PCR-free telomerase detection by using exonuclease III-aided target recycling. *ChemBioChem*, **2011**, 12, 2745-7 | 3.8 | 47 |

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| 44 | Nanoprobe-Enhanced, Split Aptamer-Based Electrochemical Sandwich Assay for Ultrasensitive Detection of Small Molecules. *Analytical Chemistry*, **2015**, 87, 7712-9 | 7.8 | 44 |
| 43 | Antagonistic roles of Nibbler and Hen1 in modulating piRNA 3Tends in Drosophila. *Development (Cambridge)*, **2016**, 143, 530-9 | 6.6 | 43 |
| 42 | No Structure-Switching Required: A Generalizable Exonuclease-Mediated Aptamer-Based Assay for Small-Molecule Detection. *Journal of the American Chemical Society*, **2018**, 140, 9961-9971 | 16.4 | 42 |
| 41 | Amplified single base-pair mismatch detection via aggregation of exonuclease-sheared gold nanoparticles. *Analytical Chemistry*, **2014**, 86, 3461-7 | 7.8 | 37 |
| 40 | Label-Free, Visual Detection of Small Molecules Using Highly Target-Responsive Multimodule Split Aptamer Constructs. *Analytical Chemistry*, **2019**, 91, 7199-7207 | 7.8 | 34 |
| 39 | Paper-Based Device for Rapid Visualization of NADH Based on Dissolution of Gold Nanoparticles. *ACS Applied Materials & Interfaces*, **2015**, 7, 15023-30 | 9.5 | 33 |
| 38 | Introducing structure-switching functionality into small-molecule-binding aptamers via nuclease-directed truncation. *Nucleic Acids Research*, **2018**, 46, e81 | 20.1 | 32 |
| 37 | In vitro isolation of class-specific oligonucleotide-based small-molecule receptors. *Nucleic Acids Research*, **2019**, 47, e71 | 20.1 | 31 |
| 36 | Measurement of aptamer-protein interactions with back-scattering interferometry. *Analytical Chemistry*, **2011**, 83, 8867-70 | 7.8 | 30 |
| 35 | Catalytic Growth of Au Nanoparticles by NAD(P)H Cofactors: Optical Sensors for NAD(P)+-Dependent Biocatalyzed Transformations. *Angewandte Chemie*, **2004**, 116, 4619-4622 | 3.6 | 30 |
| 34 | Electrocatalytic intercalator-induced winding of double-stranded DNA with polyaniline. *Chemical Communications*, **2003**, 1540-1 | 5.8 | 29 |
| 33 | Advances and Challenges in Small-Molecule DNA Aptamer Isolation, Characterization, and Sensor Development. *Angewandte Chemie - International Edition*, **2021**, 60, 16800-16823 | 16.4 | 27 |
| 32 | Label-free colorimetric screening of nuclease activity and substrates by using unmodified gold nanoparticles. *ChemBioChem*, **2009**, 10, 1973-7 | 3.8 | 26 |
| 31 | Electrochemical DNA three-way junction based sensor for distinguishing chiral metallo-supramolecular complexes. *Chemical Communications*, **2012**, 48, 6900-2 | 5.8 | 25 |
| 30 | Ambient Filtration Method To Rapidly Prepare Highly Conductive, Paper-Based Porous Gold Films for Electrochemical Biosensing. *ACS Applied Materials & Interfaces*, **2015**, 7, 27049-58 | 9.5 | 24 |
| 29 | Rapid, Surfactant-Free, and Quantitative Functionalization of Gold Nanoparticles with Thiolated DNA under Physiological pH and Its Application in Molecular Beacon-Based Biosensor. *ACS Applied Materials & Interfaces*, **2016**, 8, 27298-27304 | 9.5 | 22 |
| 28 | In vitro isolation of small-molecule-binding aptamers with intrinsic dye-displacement functionality. *Nucleic Acids Research*, **2018**, 46, e43 | 20.1 | 21 |
| 27 | Sensitive Detection of Small-Molecule Targets Using Cooperative Binding Split Aptamers and Enzyme-Assisted Target Recycling. *Analytical Chemistry*, **2018**, 90, 1748-1758 | 7.8 | 21 |

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| 26 | In vitro selection of shape-changing DNA nanostructures capable of binding-induced cargo release. *ACS Nano*, **2013**, 7, 9675-83 | 16.7 | 17 |
| 25 | Dithiothreitol-Regulated Coverage of Oligonucleotide-Modified Gold Nanoparticles To Achieve Optimized Biosensor Performance. *ACS Applied Materials & Interfaces*, **2018**, 10, 4233-4242 | 9.5 | 16 |
| 24 | Fluorescence Detection of Single-Nucleotide Polymorphisms with a Single, Self-Complementary, Triple-Stem DNA Probe. *Angewandte Chemie*, **2009**, 121, 4418-4422 | 3.6 | 16 |
| 23 | Immobilization Strategies for Enhancing Sensitivity of Electrochemical Aptamer-Based Sensors. *ACS Applied Materials & Interfaces*, **2021**, 13, 9491-9499 | 9.5 | 16 |
| 22 | Fabrication of Aptamer-Modified Paper Electrochemical Devices for On-Site Biosensing. *Angewandte Chemie - International Edition*, **2021**, 60, 2993-3000 | 16.4 | 15 |
| 21 | Tuning Biosensor Cross-Reactivity Using Aptamer Mixtures. *Analytical Chemistry*, **2020**, 92, 5041-5047 | 7.8 | 14 |
| 20 | Accelerating Post-SELEX Aptamer Engineering Using Exonuclease Digestion. *Journal of the American Chemical Society*, **2021**, 143, 805-816 | 16.4 | 14 |
| 19 | Universal Design of Structure-Switching Aptamers with Signal Reporting Functionality. *Analytical Chemistry*, **2019**, 91, 14514-14521 | 7.8 | 13 |
| 18 | Isolation of Natural DNA Aptamers for Challenging Small-Molecule Targets, Cannabinoids. *Analytical Chemistry*, **2021**, 93, 3172-3180 | 7.8 | 12 |
| 17 | Revealing Kinetics of Two-Electron Oxygen Reduction Reaction at Single-Molecule Level. *Journal of the American Chemical Society*, **2020**, 142, 13201-13209 | 16.4 | 11 |
| 16 | Nicotinamide mononucleotide adenylyltransferase uses its NAD substrate-binding site to chaperone phosphorylated Tau. *ELife*, **2020**, 9, | 8.9 | 11 |
| 15 | Label-free profiling of DNA aptamer-small molecule binding using T5 exonuclease. *Nucleic Acids Research*, **2020**, 48, e120 | 20.1 | 8 |
| 14 | Polarity-Switching Electrochemical Sensor for Specific Detection of Single-Nucleotide Mismatches. *Angewandte Chemie*, **2011**, 123, 11372-11376 | 3.6 | 6 |
| 13 | Controlling the function of DNA nanostructures with specific trigger sequences. *Chemical Communications*, **2013**, 49, 397-9 | 5.8 | 5 |
| 12 | DNA Aptamer-Cyanine Complexes as Generic Colorimetric Small-Molecule Sensors. *Angewandte Chemie - International Edition*, **2021**, | 16.4 | 5 |
| 11 | A Broadly Applicable Assay for Rapidly and Accurately Quantifying DNA Surface Coverage on Diverse Particles. *Bioconjugate Chemistry*, **2017**, 28, 933-943 | 6.3 | 4 |
| 10 | Detection of Proteins in Serum by Micromagnetic Aptamer PCR (MAP) Technology. *Angewandte Chemie*, **2010**, 122, 365-368 | 3.6 | 4 |
| 9 | Fabrication of Aptamer-Modified Paper Electrochemical Devices for On-Site Biosensing. *Angewandte Chemie*, **2021**, 133, 3030-3037 | 3.6 | 4 |

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| 8 | Electrochemical Approaches to Aptamer-Based Sensing **2009**, 179-197 | | 4 |
| 7 | Defect-Driven Heterogeneous Electron Transfer between an Individual Graphene Sheet and Electrode. *Journal of Physical Chemistry Letters*, **2019**, 10, 5402-5407 | 6.4 | 3 |
| 6 | Aptamer-Integrated Multianalyte-Detecting Paper Electrochemical Device. *ACS Applied Materials & Interfaces*, **2021**, 13, 17330-17339 | 9.5 | 3 |
| 5 | Single-Molecule Fluorescence Imaging of Nanocatalysis. *Chinese Journal of Chemistry*, **2021**, 39, 1459-1470 | 4.9 | 3 |
| 4 | Enhancement of PCR Sensitivity and Yield Using Thiol-modified Primers. *Scientific Reports*, **2018**, 8, 14858 | 4.9 | 3 |
| 3 | Advances and Challenges in Small-Molecule DNA Aptamer Isolation, Characterization, and Sensor Development. *Angewandte Chemie*, **2021**, 133, 16938-16961 | 3.6 | 2 |
| 2 | Platinum-Nanoparticle-Modified Single-Walled Carbon Nanotube-Laden Paper Electrodes for Electrocatalytic Oxidation of Methanol. *ACS Applied Nano Materials*, **2021**, 4, 13798-13806 | 5.6 | 1 |
| 1 | Revealing the catalytic kinetics and dynamics of individual Pt atoms at the single-molecule level.. *Proceedings of the National Academy of Sciences of the United States of America*, **2022**, 119, e2114639119 | 11.5 | 1 |