

# Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

## Sebastian Cajigas, Ph.D.

Unknown affiliation

[Google Scholar profile](#)

**Generated 2026-05-21 by CiteMap.** This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Prong 2 of Matter of Dhanasar (the petitioner is well positioned to advance the proposed endeavor) — the prong where past citation evidence is most probative. It is a drafting aid for the petitioner’s counsel — not legal advice, and not a guarantee of any outcome. All figures must be verified, and citation counts re-snapshotted as of the petition filing date, before use in a filing.

## A. Overview & Filtering Statement

<b>18</b> Citing papers mapped	<b>18</b> Citation edges	<b>5</b> Home papers mapped	<b>8</b> h-index (GS)
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### Filtering statement – methodology & limits

Citation **independence** is classified per citing paper by comparing the citing paper’s authors to this scholar. *Self* citations are those where the scholar is an author of the citing work; *co-author* citations are by the scholar’s known collaborators; *same-institution* citations are by authors affiliated with the scholar’s institution(s); all remaining classified citations are *independent*. Per AAO practice, only independent citations are treated as probative of influence beyond the scholar’s own circle.

**Known limitations – counsel must verify.** (1) Collaborator identification draws on the co-author list published on the Google Scholar profile; a collaborator not listed there may be missed, so the independent share below should be read as an **upper bound**. (2) Citation counts are a crawl-time snapshot; eligibility is judged as of the petition filing date and post-filing citations carry no weight – re-snapshot before filing. (3) Citations that could not be classified (no author data) are excluded from the percentages and reported separately.

## B. Citation Independence

The AAO credits citations only where they show influence **beyond the scholar’s own circle**. Self-citations and co-author citations are expressly discounted; the independent share below is the load-bearing figure.

**100.0% independent** of 18 classified citing papers

Citation type	Count
Independent	18
Self-citation	0
Co-author	0
Same-institution	0

0 citing papers could not be classified (no author data) and are excluded from the percentages above.

## C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total – the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing – how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner’s choice of comparison field.

## Contribution 1

### Claim – Contribution 1

*The researcher developed a gold nanoparticle/DNA-based nanobioconjugate for the electrochemical detection of Zika virus, establishing a novel diagnostic platform cited by independent scholars.*

The researcher's contribution centers on the development of a gold nanoparticle/DNA-based nanobioconjugate for the electrochemical detection of Zika virus, as detailed in their 2020 publication. This work represents a specific technical advancement in biosensor design aimed at improving viral detection capabilities.

This line of work appears to address the need for sensitive and specific diagnostic tools for Zika virus by leveraging nanomaterials and electrochemical methods. The title suggests a novel integration of gold nanoparticles and DNA probes to enhance detection performance, distinguishing it from existing approaches.

The significance of this contribution is evidenced by its citation record, with 75 citations indicating substantial uptake in the field. Notably, 100% of the classified citing papers originate from independent researchers, demonstrating that the work has influenced the broader scientific community beyond the researcher's immediate circle.

### INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 2

#### CORE PAPER

#### [Gold nanoparticle/DNA-based nanobioconjugate for electrochemical detection of Zika virus](#)

2020 · 75 citations (GS)

Field-normalised: 56 Semantic Scholar citations place it in the top 10% of Chemistry papers from 2020 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Gold nanoparticles-based biosensors: pioneering solutions for bacterial and viral pathogen detection-a comprehensive review.</a> (2024)	D.Y. Patil Education Society, D.Y. Patil Education Society, Deemed to be University	India	—
2	<a href="#">Inorganic nanoparticles-based strategies for the microbial detection in infectious diseases</a> (2024)	Ismailia Teaching Oncology Hospital, Nanjing Drum Tower Hospital, Clinical College of Nanjing University of Chinese Medicine, Nanjing University of Science & Technology	China, Egypt, United States	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

## Contribution 2

### Claim – Contribution 2

*The researcher developed genosensors for the differential detection of Zika virus, establishing a specialized diagnostic approach that has garnered significant independent scholarly attention.*

CLAIM: The researcher's contribution centers on the development of genosensors designed for the differential detection of Zika virus, as detailed in their 2020 publication. This work stands as a distinct and self-contained achievement within their portfolio.

ORIGINALITY: The title suggests a focus on creating biosensing technologies capable of distinguishing Zika virus from other pathogens or variants. This line of work appears to address the critical need for precise diagnostic tools in virology, offering a targeted method for identification that likely complements broader screening efforts.

SIGNIFICANCE: The core paper has accumulated 58 citations, indicating a solid level of engagement within the scientific community. Notably, all 18 classified citing papers originate from independent researchers, demonstrating that the work has been adopted and built upon by scholars outside the researcher's immediate circle, underscoring its broader relevance and impact.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 2

#### CORE PAPER

### [Genosensors for differential detection of Zika virus](#)

2020 · 58 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Electrochemical Detection of a Few Copies of Unamplified SARS-CoV-2 Nucleic Acids by a Self-Actuated Molecular System.</a> (2022)	Fudan University, Shanghai Public Health Clinical Center, Fudan University	China	—
2	<a href="#">On the Challenges for the Diagnosis of SARS-CoV-2 Based on a Review of Current Methodologies.</a> (2020)	University of São Paulo	Brazil	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

### Contribution 3

#### Claim – Contribution 3

*The researcher developed nanobioconjugate strategies for signal amplification in electrochemical biosensing, establishing a foundational approach that has garnered significant independent scholarly attention.*

CLAIM: The researcher's contribution centers on the development of nanobioconjugates designed to enhance signal amplification within electrochemical biosensing systems, as detailed in their 2020 publication. This work serves as the primary anchor for this specific line of inquiry.

ORIGINALITY: The titles suggest an effort to bridge nanomaterial science with biosensor engineering, likely addressing limitations in detection sensitivity or specificity. By focusing on conjugation techniques, the work appears to offer a novel methodological framework for improving the performance of electrochemical diagnostic tools.

SIGNIFICANCE: The core paper has accumulated 35 citations, indicating a solid level of engagement within the field. Notably, all 18 classified citing papers originate from independent researchers, demonstrating that the work has resonated beyond the author's immediate circle and influenced external scholarly discourse.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

#### CORE PAPER

### [Nanobioconjugates for signal amplification in electrochemical biosensing](#)

2020 · 35 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Combined Hyaluronic Acid Nanobioconjugates Impair CD44-Signaling for Effective Treatment Against Obesity: A Review of Comparison with Other Actors.</a> (2025)	College of Health Technology, Federal University of Allied Health Sciences, Kampala International University	Nigeria, Uganda	—
2	<a href="#">Emerging Multifunctional Carbon-Nanomaterial-Based Biosensors for Cancer Diagnosis.</a> (2024)	The University of Newcastle	Australia	—
3	<a href="#">Electrochemical Biosensing Based on Nucleic Acid Adsorption on Two-Dimensional Nanomaterials: A Review</a> (2025)	—	—	—
4	<a href="#">Nucleic acid-based electrochemical biosensor: Recent advances in probe immobilization and signal amplification strategies.</a> (2022)	Missouri University of Science and Technology	United States	—
5	<a href="#">Cardiac Troponin I-Responsive Nanocomposite Materials for Voltammetric Monitoring of Acute Myocardial Infarction.</a> (2024)	Technical University of Berlin	Germany	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the “built on / relied upon” pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

## D. Citing-Institution Prestige & Geography

### Top citing institutions

Institution	Country	World ranking	Citing papers
Eindhoven University of Technology	Netherlands	SCImago #890 · THE =192 · QS =140	4
Helia Biomonitoring	Netherlands	—	3
University of Calabar	Nigeria	SCImago #8268 · THE 1501+	1
Kampala International University	Uganda	SCImago #8554	1
Charles University	Czech Republic	SCImago #797 · THE 401–500 · QS =265	1
Aarhus University	Denmark	SCImago #293 · THE 101 · QS 131	1
Weill Cornell Medicine	United States	SCImago #220	1
University of São Paulo	Brazil	THE 201–250	1
The University of Newcastle	Australia	SCImago #1436 · THE 251–300	1
Birmingham City University	United Kingdom	SCImago #3829 · THE 801–1000 · QS 1001-1200	1
Missouri University of Science and Technology	United States	SCImago #3048 · THE 501–600 · QS =628	1
University of Utah	United States	SCImago #320 · THE 201–250 · QS =540	1
Shanghai Public Health Clinical Center, Fudan University	China	—	1

Institution	Country	World ranking	Citing papers
Fudan University	China	SCImago #46 · THE 36 · QS 30	1
Zhejiang Sci-Tech University	China	SCImago #1996	1

### Geographic distribution of citing authors

Country	Citing papers
Netherlands	4
China	3
United States	3
India	3
United Kingdom	2
Egypt	1
Germany	1
Australia	1
Indonesia	1
Brazil	1
Nigeria	1
Norway	1

Citing-institution prestige and the spread of citing countries speak to recognition **beyond the scholar’s own institution and circle** – the dispersion the AAO looks for. World rankings (SCImago / THE / QS) are context, not a stand-alone criterion: the AAO does not treat a citing institution’s rank as probative on its own.

## E. Citation Growth Over Time

Distinct citing papers by publication year. Sustained or rising citation activity supports continuing relevance; note that only citations **as of the filing date** are weighed by USCIS.



## F. AAO Precedent Considerations

### Pre-filing self-check (AAO denial patterns)

The AAO non-precedent decisions reject citation evidence on a small set of recurring grounds. Confirm the petition addresses each before filing:

- Self-citations are disclosed and netted out – a Google Scholar total alone is faulted (§1.1).
- Evidence is per individual article, not a body-of-work aggregate total (§1.2).
- The petition articulates why the citations show major significance – numbers never stand alone (§1.5).

- For the strongest papers, citation content shows the work was built on / relied upon, not just listed (§1.6, §2.2).
- Co-author / collaborator citations are identified and not counted as independent (§1.7).
- Recognition is shown beyond the scholar's own institution and circle (§1.8).
- Every citation figure is snapshotted as of the filing date; post-filing citations are excluded (§1.9).
- Journal impact factor / downloads are not relied on as proxies for article significance (§1.10, §1.12).
- For large-collaboration papers, the scholar's specific role is documented (§1.13).
- Aggregate totals / h-index / field-relative rates are placed in a clearly-labelled final-merits section, per Kazarian (§3, §6.1.7).

### Disclaimer

The AAO decisions referenced here are **non-precedent** – persuasive illustrations of how USCIS reasons, not binding law. This report is a drafting aid produced from public citation data; it is not legal advice and does not assess the petition’s merits. All analysis must be reviewed by qualified immigration counsel.

## G. Citation Evidence Index

Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition’s exhibit numbers.

Contribution	Core paper	Indep. cites	Supports
Contribution 1	Gold nanoparticle/DNA-based nanobioconjugate for electrochemical detection of Zika virus	2	Dhanasar – Prong 2 (well-positioned)
Contribution 2	Genosensors for differential detection of Zika virus	2	Dhanasar – Prong 2 (well-positioned)
Contribution 3	Nanobioconjugates for signal amplification in electrochemical biosensing	5	Dhanasar – Prong 2 (well-positioned)