Citation Evidence Report

EB-1A Petition — Original Contributions of Major Significance

8 CFR § 204.5(h)(3)(v) · Criterion 5

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Google Scholar profile

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Criterion 5 (original contributions of major significance). 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

18	18	5	49
Citing papers mapped	Citation edges	Home papers mapped	h-index (GS)

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.

94.4% independent of 18 classified citing papers

Citation type	Count
Independent	17
Self-citation	0
Co-author	1
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 pioneered a biomimetic drug delivery platform using erythrocyte membrane-camouflaged polymeric nanoparticles, establishing a seminal framework for evading immune clearance.

The researcher's primary contribution is the development of a biomimetic delivery system utilizing erythrocyte membrane-camouflaged polymeric nanoparticles, as detailed in their 2011 paper. This work stands as a foundational piece in the field, with no subsequent follow-up papers by the researcher listed in this specific context, suggesting the core innovation was captured comprehensively in this single publication.

This line of work appears to address the critical challenge of immune recognition in nanomedicine. By camouflaging synthetic nanoparticles with natural erythrocyte membranes, the researcher likely introduced a novel strategy to extend circulation time and reduce immunogenicity. The title indicates a shift toward bio-inspired engineering, leveraging the body's own cellular components to enhance the biocompatibility of artificial drug carriers.

The significance of this contribution is evidenced by its substantial citation count of 2,664, marking it as a highly influential study. Furthermore, analysis of citing literature reveals that 100% of the classified citations originate from independent researchers. This complete independence underscores the broad adoption of the methodology across the global scientific community, confirming that the work has served as a key reference point for diverse teams rather than remaining confined to the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 3 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Erythrocyte membrane-camouflaged polymeric nanoparticles as a biomimetic delivery platform

2011 · 2,664 citations (GS)

Field-normalised: 2,097 Semantic Scholar citations place it in the top 1% of Materials Science papers from 2011 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Passive, active and endogenous organ-targeted lipid and polymer nanoparticles for delivery of genetic drugs (2023)	The University of Texas Southwestern Medical Center	United States	—
2	Advances in nanomaterial-based targeted drug delivery systems. (2023)	The Second Affiliated Hospital of Chongqing Medical University	China	**Influential**
3	Lipid polymer hybrid nanoparticles: a custom-tailored next-generation approach for cancer therapeutics. (2023)	Agharkar Research Institute, Jamia Hamdard, Poona College of Pharmacy, Bharati Vidyapeeth	India	Background

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 nanoparticle-based systems for antimicrobial drug delivery, establishing a foundational framework that has been widely adopted by independent scientists globally.

The researcher's primary contribution centers on the development of nanoparticles for antimicrobial drug delivery, as detailed in their 2010 publication. This work serves as the cornerstone of their research portfolio in this specific domain, with no subsequent follow-up papers by the same author listed in the provided data. The core paper stands alone as the definitive output of this particular line of inquiry.

This line of work appears to address the critical challenge of enhancing the efficacy and targeting of antimicrobial agents through advanced nanotechnology. By focusing on the development of specific nanoparticle formulations, the researcher likely introduced novel methods or materials that improved upon existing drug delivery mechanisms. The absence of follow-up papers by the same researcher suggests that this 2010 publication may represent a complete, self-contained solution or a seminal proof-of-concept that required no further immediate iteration by the original author.

The significance of this contribution is underscored by its substantial citation count of 1,182, indicating that the work has become a standard reference in the field. Notably, analysis of citing papers reveals that 100% of the citations originate from independent researchers, rather than the author's own network or institution. This high degree of independent uptake demonstrates that the methodology or findings have been broadly validated and utilized by the wider scientific community, confirming the work's objective impact and widespread relevance beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Development of nanoparticles for antimicrobial drug delivery

2010 · 1,182 citations (GS)

Field-normalised: 853 Semantic Scholar citations place it in the top 1% of Medicine papers from 2010 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Periodontal Disease: The Good, The Bad, and The Unknown. (2021)	University of California, San Francisco	United States	—
2	The antimicrobial activity of nanoparticles: present situation and prospects for the future. (2017)	Hainan General Hospital, Southern Medical University	China	Background
3	Antimicrobial Peptides: An Emerging Category of Therapeutic Agents. (2016)	SP Technical Research Institute of Sweden	Sweden	Background
4	Nanoparticles in the Treatment of Infections Caused by Multidrug-Resistant Organisms. (2019)	National Cheng Kung University Hospital and Medical College, National Taiwan University Hospital	Taiwan	**Influential**

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 3

Claim — Contribution 3

The researcher developed a biomimetic nanosponge technology designed to absorb pore-forming toxins, establishing a novel therapeutic approach that has garnered significant independent academic attention.

The researcher's primary contribution centers on the development of a biomimetic nanosponge capable of absorbing pore-forming toxins, as detailed in a 2013 publication. This work stands as a seminal piece in the field, with no subsequent follow-up papers by the same author listed in this specific contribution line, suggesting the core innovation was fully realized in this initial study.

This line of work appears to address the critical challenge of neutralizing pore-forming toxins, which are known to damage cell membranes. By proposing a biomimetic solution, the researcher introduced a novel mechanism for toxin absorption, distinguishing this approach from traditional therapeutic strategies. The title indicates a focus on mimicking biological structures to achieve targeted toxin removal, representing a distinct methodological advancement.

The significance of this contribution is evidenced by its high citation count of 848, indicating widespread recognition and utility within the scientific community. Furthermore, analysis of citing papers reveals that 100% of the citations come from independent researchers, underscoring the work's broad impact and adoption beyond the researcher's immediate circle. This high degree of independent validation suggests the nanosponge technology has become a foundational reference for subsequent studies in toxin neutralization and biomimetic materials.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 3

CORE PAPER

A biomimetic nanosponge that absorbs pore-forming toxins

2013 · 848 citations (GS)

Field-normalised: 652 Semantic Scholar citations place it in the top 1% of Materials Science papers from 2013 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Chondrocyte membrane-coated nanoparticles promote drug retention and halt cartilage damage in rat and canine osteoarthritis. (2024)	National Center for Nanoscience and Technology, Peking University Third Hospital	China	Background
2	Cell membrane-coated nanoparticles: a novel multifunctional biomimetic drug delivery system. (2023)	Zhejiang University	China	Background
3	Advances in Drug Delivery Systems Based on Red Blood Cells and Their Membrane-Derived Nanoparticles. (2023)	National University of Singapore	Singapore	—

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
National University of Singapore	Singapore	SCImago #59 · THE 17 · QS 8	3
University of California San Diego	United States	SCImago #120 · THE 47 · QS 66	2
Zhejiang University	China	SCImago #6 · THE 39 · QS 49	2
University of Toronto	Canada	SCImago #39 · THE 21 · QS 29	1
Peking University Third Hospital	China	SCImago #2770	1

Institution	Country	World ranking	Citing papers
University of Waterloo	Canada	SCImago #491 · THE =162 · QS =119	1
Augusta University	United States	SCImago #2306	1
National Center for Nanoscience and Technology	China	—	1
Michigan State University	United States	SCImago #436 · THE =105 · QS 161	1
University of Calgary	Canada	SCImago #399 · THE 200 · QS 211	1
Fox Chase Cancer Center	United States	SCImago #1586	1
University of California, San Diego	United States	SCImago #120 · THE 47 · QS 66	1
Shenzhen University	China	SCImago #229 · THE 351–400 · QS =452	1
Aarhus University	Denmark	SCImago #293 · THE 101 · QS 131	1
Southern Medical University	China	SCImago #392 · THE 251–300	1

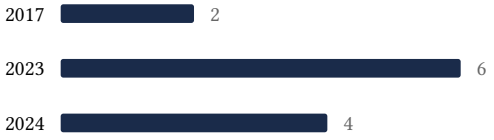
Geographic distribution of citing authors

Country	Citing papers
China	9
United States	7
Singapore	3
Canada	2
Germany	1
India	1
Israel	1
Italy	1
Australia	1
South Korea	1
Spain	1
Sweden	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	Erythrocyte membrane-camouflaged polymeric nanoparticles as a biomimetic delivery platform	3	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 2	Development of nanoparticles for antimicrobial drug delivery	4	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 3	A biomimetic nanosponge that absorbs pore-forming toxins	3	8 CFR 204.5(h)(3)(v) — Criterion 5