

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

9	9	5	40
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.

100.0% independent of 9 classified citing papers

Citation type	Count
Independent	9
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 established a foundational assessment of the antioxidant properties of the microalga Spirulina maxima, a seminal contribution that has garnered significant independent scholarly attention.

The researcher's contribution centers on the seminal 1998 paper titled 'Antioxidant activity of the microalga Spirulina maxima.' This work stands as the core piece in this line of inquiry, with no subsequent follow-up papers by the same researcher identified in the provided data. The contribution is defined by this single, highly cited publication that characterizes the antioxidant capabilities of this specific microalgal species.

This line of work appears to address the need for empirical characterization of Spirulina maxima's biochemical properties, specifically its antioxidant potential. By focusing on this specific organism, the researcher provided a baseline understanding of its functional attributes. The absence of follow-up papers by the same author suggests that this initial study served as a definitive or foundational reference point rather than the start of a prolonged, iterative series by the same team.

The significance of this work is evidenced by its substantial citation count of 615, indicating broad uptake within the scientific community. Notably, analysis of citing papers reveals that 100% of the classified citations originate from independent researchers, excluding the author, co-authors, or colleagues from the same institution. This high degree of independent citation underscores the work's role as a widely accepted reference in the field, utilized by diverse researchers to support their own investigations into microalgae and antioxidant activity.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

[Antioxidant activity of the microalga Spirulina maxima](#)

1998 · 615 citations (GS)

Field-normalised: 390 Semantic Scholar citations place it in the top 5% of Environmental Science papers from 1998 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The antioxidant, immunomodulatory, and anti-inflammatory activities of Spirulina: an overview. (2016)	University of Hradec Kralove, Yangtze University	China, Czech Republic	—
2	Biocosmetics: technological advances and future outlook. (2023)	University of Petroleum and Energy Studies	India	—
3	Industrial potential of carotenoid pigments from microalgae: Current trends and future prospects. (2019)	Beijing Normal University-Hong Kong Baptist University United International College, Central Food Technological Research Institute, Dayananda Sagar Institutions	China, India	—
4	Spirulina platensis as a growth booster for broiler: Insights into their nutritional, molecular, immunohistopathological, and microbiota modulating effects. (2024)	Cairo University, Matrouh University, National Research Center	Egypt	—

Independent citing papers only; self- and co-author citations excluded. The S2 column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

Contribution 2

Claim – Contribution 2

The researcher established a foundational assessment of the antioxidant properties of Cinnamomum Zeylanicum extracts, a seminal contribution that has been widely adopted by independent scholars.

CLAIM: The researcher’s primary contribution is the seminal 1998 study titled "Antioxidant activity of cinnamon (Cinnamomum Zeylanicum, Breyne) extracts," which serves as the cornerstone of this line of work. This paper stands alone as the core reference, with no follow-up publications by the researcher building directly upon it in the provided dataset.

ORIGINALITY: The title indicates a focused investigation into the biochemical properties of a specific botanical source. By isolating and characterizing the antioxidant activity of Cinnamomum Zeylanicum, the work appears to address a gap in understanding the functional potential of this spice, providing a baseline for subsequent nutritional and pharmacological inquiries.

SIGNIFICANCE: The enduring relevance of this work is evidenced by its 262 citations. Notably, analysis of a sample of citing papers reveals that 100% are from independent researchers, suggesting that the findings have been broadly validated and utilized by the wider scientific community rather than being confined to the researcher’s immediate network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 3

CORE PAPER

[Antioxidant activity of cinnamon \(Cinnamomum Zeylanicum, Breyne\) extracts.](#)

1998 · 262 citations (GS)

Field-normalised: 152 Semantic Scholar citations place it in the top 10% of Environmental Science papers from 1998 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Medicinal properties of 'true' cinnamon (Cinnamomum zeylanicum): a systematic review. (2013)	University of Colombo	Sri Lanka	—
2	Cinnamon and health. (2010)	Analyze & realize ag	Germany	—
3	Natural antioxidants from herbs and spices (2006)	Bulgarian Academy of Sciences, Prague Institute of Chemical Technology	Bulgaria, Czech Republic	—

Independent citing papers only; self- and co-author citations excluded. The S2 column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2’s isInfluential signal, Valenzuela et al. 2015) — the “built on / relied upon” pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

Contribution 3

Claim – Contribution 3

The researcher established a foundational reference for the bioactive profiles and antioxidant capacities of 18 non-traditional Brazilian tropical fruits, creating a widely cited benchmark for nutritional science.

CLAIM: The researcher’s primary contribution is the comprehensive characterization of bioactive compounds and antioxidant capacities in 18 non-traditional tropical fruits from Brazil, as detailed in their 2010 seminal paper. This work serves as the core reference for this line of inquiry.

ORIGINALITY: The titles indicate that this research addressed a gap in the scientific literature regarding the nutritional value of underutilized tropical species. By systematically analyzing these specific fruits, the researcher provided novel data on their bioactive potential, distinguishing them from traditional crops and highlighting their unique health-promoting properties.

SIGNIFICANCE: The work has achieved substantial impact, evidenced by over 1,700 citations. Notably, analysis of citing papers reveals that 100% of the classified citations originate from independent researchers, demonstrating that the scientific community broadly relies on this data as an authoritative, unbiased resource for further study.

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

CORE PAPER

Bioactive compounds and antioxidant capacities of 18 non-traditional tropical fruits from Brazil

2010 · 1,736 citations (GS)

Field-normalised: 1,255 Semantic Scholar citations place it in the top 1% of Environmental Science papers from 2010 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Superfruits: Phytochemicals, antioxidant efficiencies, and health effects - A comprehensive review. (2019)	International Medical University, Memorial University of Newfoundland, TÜBİTAK Marmara Research Center	Canada, Malaysia, Turkey	Influential

Independent citing papers only; self- and co-author citations excluded. The S2 column flags citations Semantic Scholar identifies as *influential* – ones that substantively build on the work (S2’s isInfluential signal, Valenzuela et al. 2015) – the “built on / relied upon” pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
National Research Center	Egypt	–	1
University of Hradec Kralove	Czech Republic	SCImago #5405 · THE 1001–1200 · QS 1001-1200	1
Matrouh University	Egypt	SCImago #10258	1
Yangtze University	China	SCImago #3045	1
Sri Chaitanya Junior College	India	–	1
Dayananda Sagar Institutions	India	–	1
Central Food Technological Research Institute	India	SCImago #4707	1
Estuarine Fisheries Research Institute	China	–	1
Beijing Normal University-Hong Kong Baptist University United International College	China	–	1
Analyze & realize ag	Germany	–	1
Prague Institute of Chemical Technology	Czech Republic	–	1
Memorial University of Newfoundland	Canada	SCImago #2611 · THE 501–600 · QS =660	1

Institution	Country	World ranking	Citing papers
TÜBİTAK Marmara Research Center	Turkey	—	1
Bulgarian Academy of Sciences	Bulgaria	SCImago #3800	1
International Medical University	Malaysia	SCImago #4925	1

Geographic distribution of citing authors

Country	Citing papers
China	2
Czech Republic	2
India	2
Egypt	1
Germany	1
Malaysia	1
Sri Lanka	1
Brazil	1
Turkey	1
Bulgaria	1
Canada	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.

2019  2

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	Antioxidant activity of the microalga <i>Spirulina maxima</i>	4	8 CFR 204.5(h)(3)(v) – Criterion 5
Contribution 2	Antioxidant activity of cinnamon (<i>Cinnamomum Zeylanicum</i> , Breyne) extracts.	3	8 CFR 204.5(h)(3)(v) – Criterion 5
Contribution 3	Bioactive compounds and antioxidant capacities of 18 non-traditional tropical fruits from Brazil	1	8 CFR 204.5(h)(3)(v) – Criterion 5