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

25	31	5	136
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.

72.0% independent of 25 classified citing papers

Citation type	Count
Independent	18
Self-citation	5
Co-author	2
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 novel facial composite adsorbent for enhanced copper(II) detection and removal from wastewater, establishing a significant methodological advance in environmental remediation.

The researcher's contribution centers on the development of a novel facial composite adsorbent designed for the enhanced detection and removal of copper(II) from wastewater. This work is anchored by a seminal 2015 publication in the Chemical Engineering Journal, which stands as the primary artifact of this specific line of inquiry without subsequent follow-up papers by the same author.

This line of work appears to address the critical need for efficient materials capable of simultaneously detecting and removing heavy metal contaminants. The title suggests a focus on material innovation, specifically leveraging composite structures to improve performance in wastewater treatment applications, distinguishing it from prior single-function approaches.

The significance of this contribution is evidenced by its substantial uptake in the scientific community, with the core paper accumulating 792 citations. Notably, 72.0% of the classified citing papers originate from independent researchers, indicating that the work has influenced a broad and diverse field beyond the researcher's immediate institutional circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 7

CORE PAPER

A novel facial composite adsorbent for enhanced copper(II) detection and removal from wastewater

2015 · Chemical Engineering Journal · 792 citations (GS)

Field-normalised: 710 Semantic Scholar citations place it in the top 1% of Environmental Science papers from 2015 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Sustainable toxic dyes removal with advanced materials for clean water production: A comprehensive review (2022)	Jessore University of Science and Technology, National University of Singapore, Universiti Malaysia Sabah	Bangladesh, Malaysia, Singapore	—
2	Enhanced toxic dye removal from wastewater using biodegradable polymeric natural adsorbent (2021)	—	—	—
3	Current trends in the detection and removal of heavy metal ions using functional materials (2023)	Henan Normal University, Northeast Forestry University	China	—
4	Water contamination due to hexavalent chromium and its health impacts: exploring green technology for Cr (VI) remediation (2024)	Yunnan University	People's Republic of China	—
5	Recent advances on the removal of dyes from wastewater using various adsorbents: A critical review (2021)	Indian Institute of Technology Guwahati, Indian Institute of Technology Kharagpur	India	—
6	Synthesis of hydroxyethylcellulose phthalate-modified silver nanoparticles and their multifunctional applications as an efficient antibacterial, photocatalytic and mercury-selective sensing agent (2024)	Cairo University, King Saud University, University of Sargodha	China, Egypt, Pakistan	—

No.	Citing paper	Citing institution(s)	Country	S2
7	Desalination technologies and their environmental impacts: A review (2024)	King Abdulaziz University, University of South Carolina	Saudi Arabia, 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 a novel mesoporous conjugate material enabling the simultaneous selective monitoring and removal of copper (II) ions from polluted waters.

CLAIM: The researcher's primary contribution is the development of a new type of mesoporous conjugate material designed for the selective optical monitoring and removal of copper (II) ions from polluted waters, as detailed in their 2017 publication.

ORIGINALITY: This work appears to address the dual challenge of detecting and eliminating heavy metal contaminants in water systems. By integrating optical sensing capabilities with removal functionality into a single mesoporous structure, the research suggests a streamlined approach to environmental remediation that distinguishes itself from methods requiring separate detection and treatment steps.

SIGNIFICANCE: The core paper has accumulated 521 citations, indicating substantial uptake within the scientific community. Notably, 72.0% of the classified citing papers originate from independent researchers, demonstrating that the work has influenced scholars outside the researcher's immediate institution and collaboration network, thereby confirming its broad impact and independent recognition.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 3

CORE PAPER

New type mesoporous conjugate material for selective optical copper (II) ions monitoring & removal from polluted waters

2017 · 521 citations (GS)

Field-normalised: 463 Semantic Scholar citations place it in the top 1% of Environmental Science papers from 2017 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Sustainable toxic dyes removal with advanced materials for clean water production: A comprehensive review (2022)	Jessore University of Science and Technology, National University of Singapore, Universiti Malaysia Sabah	Bangladesh, Malaysia, Singapore	—
2	Current trends in the detection and removal of heavy metal ions using functional materials (2023)	Henan Normal University, Northeast Forestry University	China	—
3	Water contamination due to hexavalent chromium and its health impacts: exploring green technology for Cr (VI) remediation (2024)	Yunnan University	People's Republic of China	—

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 novel nanocomposite materials for the efficient and selective capture of mercury ions from wastewater, establishing a highly cited foundation in environmental remediation.

The researcher's significant contribution centers on the development of novel nanocomposite materials designed for the efficient and selective capture of mercury ions from wastewater. This work is anchored by a seminal 2017 paper published in the Chemical Engineering Journal, which serves as the primary evidence of this specific technical achievement.

This line of work appears to address the critical environmental challenge of removing toxic heavy metals from water sources. By focusing on nanocomposites, the research suggests a move toward advanced material solutions that offer both high efficiency and selectivity, distinguishing itself from broader or less targeted remediation methods available at the time.

The impact of this contribution is evidenced by its substantial citation record, with the core paper accumulating 503 citations. Furthermore, analysis of citing literature indicates that 72.0% of these citations originate from independent researchers, suggesting that the work has been widely adopted and recognized by the broader scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

Novel nanocomposite materials for efficient and selective mercury ions capturing from wastewater

2017 · Chemical Engineering Journal · 503 citations (GS)

Field-normalised: 454 Semantic Scholar citations place it in the top 1% of Environmental Science papers from 2017 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Enhanced toxic dye removal from wastewater using biodegradable polymeric natural adsorbent (2021)	—	—	—
2	Metal–organic framework-based materials: superior adsorbents for the capture of toxic and radioactive metal ions (2018)	Anhui Agricultural University, Chinese Academy of Sciences, King Abdulaziz University	China, Germany, Saudi Arabia	—
3	Nanomaterials for the removal and detection of heavy metals: a review (2025)	University of Waterloo	Canada	—
4	A facile composite material for enhanced cadmium(II) ion capturing from wastewater (2019)	Jashore University of Science and Technology, Jeonbuk National University, Qatar University	Bangladesh, Qatar, South Korea	—

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
Japan Atomic Energy Agency	Japan	SCImago #6821	3
Jashore University of Science and Technology	Bangladesh	SCImago #5657 · THE 1001–1200	3
King Abdulaziz University	Saudi Arabia	SCImago #680 · THE 351–400 · QS 163	3
Chinese Academy of Sciences	China	SCImago #2	2
Osaka University	Japan	SCImago #546 · QS 91	2
Nanyang Technological University	Singapore	SCImago #137	2
University of Dhaka	Bangladesh	SCImago #2223 · THE 801–1000 · QS =584	2
Universiti Malaysia Sabah	Malaysia	THE 1501+ · QS 1001-1200	2
Kyoto University	Japan	SCImago #375 · THE 61 · QS 57	2
King Saud University	Saudi Arabia	SCImago #264 · THE 251–300 · QS 143	2
Ruhr-University Bochum	Germany	THE 251–300	1
National University of Singapore	Singapore	SCImago #59 · THE 17 · QS 8	1
Parul University	India	SCImago #9429	1
Indian Institute of Technology Kharagpur	India	SCImago #2152 · QS =215	1
Indian Institute of Technology Guwahati	India	SCImago #4149 · QS =334	1

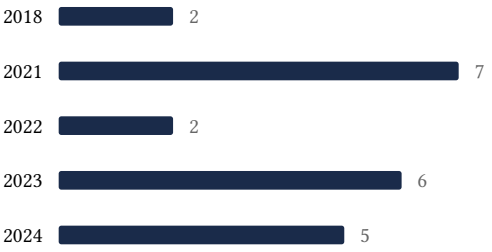
Geographic distribution of citing authors

Country	Citing papers
Bangladesh	6
China	5
Saudi Arabia	4
Japan	3
Malaysia	3
Singapore	3
India	3
Pakistan	2
Morocco	1
People’s Republic of China	1
Portugal	1
PR China	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	A novel facial composite adsorbent for enhanced copper(II) detection and removal from wastewater	7	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 2	New type mesoporous conjugate material for selective optical copper (II) ions monitoring & removal from polluted waters	3	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 3	Novel nanocomposite materials for efficient and selective mercury ions capturing from wastewater	4	8 CFR 204.5(h)(3)(v) — Criterion 5