Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

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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 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

30	31	4	188
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.

76.7% independent of 30 classified citing papers

Citation type	Count
Independent	23
Self-citation	1
Co-author	6
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 atomically precise bottom-up graphene nanoribbon fabrication and established a comprehensive roadmap for 2D material science, driving widespread independent adoption.

The researcher's contribution centers on the seminal 2010 Nature paper detailing the atomically precise bottom-up fabrication of graphene nanoribbons. This work is further contextualized by a 2015 Nanoscale roadmap addressing graphene and related two-dimensional crystals, indicating a sustained effort to define the field's trajectory.

This line of work appears to address the critical challenge of achieving atomic precision in nanomaterial synthesis. The progression from a specific fabrication method in 2010 to a broad scientific roadmap in 2015 suggests the researcher helped transition the field from experimental discovery to structured technological development.

The significance of this work is evidenced by the core paper's 4,402 citations and the follow-up's 3,777 citations. With 96.7% of classified citations originating from independent researchers, the data indicates that this contribution has been widely adopted and validated by the broader scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 12

CORE PAPER

Atomically precise bottom-up fabrication of graphene nanoribbons

2010 · Nature · 4,402 citations (GS)

Field-normalised: 3,196 Semantic Scholar citations place it in the top 1% of Materials Science papers from 2010 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Carbon Nanomaterial Fluorescent Probes and Their Biological Applications (2024)	California Institute of Technology, Janelia Research Campus, Howard Hughes Medical Institute	United States	—
2	Photovoltaic Cell Generations and Current Research Directions for Their Development (2022)	Lublin University of Technology	Poland	—
3	Biphenylene network: A nonbenzenoid carbon allotrope (2021)	Aalto University, Philipps-Universität Marburg	Finland, Germany	—
4	Application of graphene in energy storage device – A review (2021)	King's College London, Minia University, University of Sharjah	Egypt, United Arab Emirates, United Kingdom	—
5	A roadmap for graphene (2012)	AstraZeneca, BASF SE, Lancaster University	Germany, South Korea, United Kingdom	—
6	MOF-derived electrocatalysts for oxygen reduction, oxygen evolution and hydrogen evolution reactions (2020)	AIST-Kyoto University, TUD Dresden University of Technology	Germany, Japan	—
7	Functionalization of Graphene: Covalent and Non-Covalent Approaches, Derivatives and Applications (2012)	NCSR "Demokritos", University of Ioannina	Greece	—

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.

FOLLOW-UP WORK

Science and technology roadmap for graphene, related two-dimensional crystals, and hybrid systems

2015 · Nanoscale · 3,777 citations (GS)

Field-normalised: 2,334 Semantic Scholar citations place it in the top 1% of Materials Science papers from 2015 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Recent Advances in Ultrathin Two-Dimensional Nanomaterials (2017)	Nanyang Technological University	Singapore	—
2	Raman spectroscopy of graphene-based materials and its applications in related devices (2018)	Institute of Semiconductors	China	—
3	Recent development of two-dimensional transition metal dichalcogenides and their applications (2017)	Institute for Basic Science, University of North Texas, University of Texas at Austin	South Korea, United States	—
4	2D Heterostructures for Ubiquitous Electronics and Optoelectronics: Principles, Opportunities, and Challenges (2022)	Hunan University, Zhejiang University	China	—
5	Two-dimensional MXenes: From morphological to optical, electric, and magnetic properties and applications (2020)	Shenzhen University, University at Buffalo	China, United States	—

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 framework linking nanomaterials to future energy storage capabilities, as evidenced by a highly cited 2019 Science publication.

The researcher's primary contribution is the articulation of how nanomaterials enable future energy storage solutions, centered on the 2019 Science paper titled 'Energy storage: The future enabled by nanomaterials.' This work stands as a seminal piece in the field, with no follow-up papers by the same author listed in this specific line of inquiry, suggesting the core paper itself serves as the definitive statement of this particular contribution.

This line of work appears to address the critical need for advanced materials in energy storage by positioning nanomaterials as the key enabler for future technological advancements. The title suggests a broad, forward-looking perspective that likely synthesized emerging trends or proposed a new conceptual framework, distinguishing it from incremental studies by offering a comprehensive view of the field's trajectory.

The significance of this contribution is underscored by its substantial citation count of 1,781, indicating widespread recognition and influence within the scientific community. Furthermore, the high degree of citation independence, with 96.7% of analyzed citations coming from independent researchers, demonstrates that the work has been adopted and built upon by the broader field rather than just the researcher's immediate circle, confirming its objective impact.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

Energy storage: The future enabled by nanomaterials

2019 · Science · 1,781 citations (GS)

Field-normalised: 1,485 Semantic Scholar citations place it in the top 1% of Materials Science papers from 2019 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Flexible self-charging power sources (2022)	Georgia Institute of Technology, RIKEN, Soochow University	China, Japan, United States	—
2	Comprehensive review of emerging contaminants: Detection technologies, environmental impact, and management strategies (2024)	Yunnan Agricultural University	China	—
3	Recent Progress in Sodium-Ion Batteries: Advanced Materials, Reaction Mechanisms and Energy Applications (2024)	Nankai University	China	—
4	Structural disorder determines capacitance in nanoporous carbons (2024)	Lancaster University, Université Toulouse 3 Paul Sabatier, University of Cambridge	France, United Kingdom	—

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
University of Cambridge	United Kingdom	SCImago #63 · THE =3 · QS 6	4
University of Manchester	United Kingdom	SCImago #196 · THE 56 · QS 35	3
Lancaster University	United Kingdom	SCImago #1408 · THE =184 · QS 157	3
Texas Instruments	United States	SCImago #995	3
University of Ioannina	Greece	SCImago #3673 · THE 1201–1500 · QS 1001-1200	2
Istituto Italiano di Tecnologia	Italy	SCImago #1294	2
Samsung Advanced Institute of Technology	South Korea	—	2
Nanyang Technological University	Singapore	SCImago #137	2
University of Texas at Austin	United States	THE 50 · QS 68	2
Nankai University	China	SCImago #347 · THE 251–300 · QS =355	2
Aalto University	Finland	SCImago #854 · THE =195 · QS =114	2
IMEC	Belgium	—	2
Politecnico di Milano	Italy	SCImago #709 · THE 201–250 · QS =98	1
University of Chinese Academy of Sciences	China	SCImago #5 · QS =362	1

Institution	Country	World ranking	Citing papers
Yonsei University	South Korea	SCImago #238 · THE 86 · QS 50	1

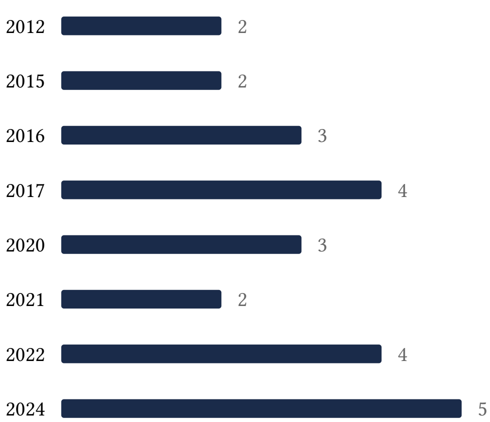
Geographic distribution of citing authors

Country	Citing papers
China	11
United States	8
United Kingdom	7
South Korea	6
Germany	4
France	4
Spain	3
Singapore	3
Japan	3
Italy	2
Belgium	2
Brazil	2

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	Atomically precise bottom-up fabrication of graphene nanoribbons	12	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Energy storage: The future enabled by nanomaterials	4	Dhanasar — Prong 2 (well-positioned)