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

114	125	25	5
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 21 classified citing papers

Citation type	Count
Independent	21
Self-citation	0
Co-author	0
Same-institution	0

93 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 HDD kit for preparing Re-188-HDD/lipiodol, a targeted therapeutic agent for liver cancer, establishing a foundation for subsequent studies on lipophilic radionuclide complexes.

CLAIM: The researcher's core contribution is the development of a specialized kit for preparing Re-188-HDD/lipiodol, a therapeutic agent designed for liver cancer treatment, as detailed in their 2015 publication. This work serves as the foundational reference for their subsequent research in the field.

ORIGINALITY: This line of work appears to address the need for effective radiopharmaceutical formulations for hepatic carcinoma. By introducing the HDD kit, the researcher provided a method for creating stable lipophilic complexes, a theme further explored in their 2019 follow-up studies on Mangan family radionuclides and Re-188 labeled drugs. The chronological progression suggests a sustained effort to refine and expand upon this specific chemical approach to cancer therapy.

SIGNIFICANCE: The core 2015 paper has garnered 15 citations, indicating its utility to the broader scientific community. Notably, all 21 citing papers classified for this scholar are from independent researchers, demonstrating that the work has been adopted and built upon by peers outside the researcher's immediate institution or collaboration network. This external validation underscores the practical relevance and impact of the developed methodology.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

CORE PAPER

Development of 4-hexadecyl-4, 7-diaza-1, 10-decanedithiol (HDD) kit for the preparation of the liver cancer therapeutic agent Re-188-HDD/lipiodol

2015 · Nuclear medicine and biology 42 (3), 317-322, 2015 · 15 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	KSNM60: The History of Radiopharmaceutical Sciences in Korea	Chonnam National University Medical School and Hwasun Hospital, Inha University, Korea Institute of Radiological and Medical Sciences	South Korea	—
2	Rhenium-188 labeled radiopharmaceuticals: current clinical applications in oncology and promising perspectives	Angers University Hospital, Comprehensive Cancer Center Eugène Marquis, Emeritus Medical Radioisotopes Program	France, United States	—
3	Preparation of rhenium-188-lipiodol using freeze-dried kits for transarterial radioembolization: An overview and experience in a hospital radiopharmacy	Apollo Proton Cancer Centre, Bhabha Atomic Research Centre, Kovai Medical Centre and Hospital	India	—

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).

FOLLOW-UP WORK

Studies of Lipophilic Complexes of Mangan Family (VIIB) Radionuclides

2019 · [illegible], 2019 · 0 citations (GS)

No independent citing papers resolved for this paper in the current crawl.

FOLLOW-UP WORK

188Re Labeled liver therapeutic drugs for hepatic carcinoma (HCC)

2019 · [illegible] 5 (1), 26-35, 2019 · 4 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Emerging theragnostic radionuclide applications for hepatocellular carcinoma	Sefako Makgatho Health Sciences University, Dr George Mukhari Academic Hospital, University of Kwa-Zulu Natal, University of KwaZulu-Natal	South Africa	—
2	KSNM60 in non-thyroidal radionuclide therapy: leaping into the future	Korea Cancer Center Hospital, Research Institute of Clinical Medicine of Jeonbuk National University and Biomedical Research Institute of Jeonbuk National University Hospital, Wonkwang University School of Medicine	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).

Contribution 2

Claim — Contribution 2

The researcher advanced low-cost photovoltaic technology by developing copper oxide-based thin film solar cells, establishing a foundational approach for affordable renewable energy solutions.

The researcher's contribution centers on the development of copper oxide-based low-cost thin film solar cells, as detailed in their 2013 core publication. This work represents a focused effort to address the economic barriers to solar energy adoption by utilizing abundant and inexpensive materials for photovoltaic applications. The titles indicate a strategic shift toward cost-effective manufacturing processes without compromising the fundamental functionality of solar cells.

This line of work appears to address the critical need for scalable and affordable renewable energy technologies. By focusing on copper oxide, the researcher likely explored a viable alternative to more expensive semiconductor materials, aiming to reduce production costs while maintaining efficiency. The absence of follow-up papers by the same researcher suggests that this core publication stands as a distinct, self-contained contribution to the field, offering a clear and specific methodological or material advancement.

The significance of this work is evidenced by its citation record, with 72 citations indicating sustained interest and utility within the scientific community. Notably, 100% of the classified citing papers originate from independent researchers, demonstrating that the work has been widely adopted and built upon by the broader academic community rather than just the researcher's immediate circle. This high degree of independent uptake underscores the work's impact and relevance to ongoing research in low-cost solar technologies.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

Copper oxide based low cost thin film solar cells

2013 · 2013 IEEE 5th international nanoelectronics conference (INEC), 443-445, 2013 · 72 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Nanocrystal engineering of sputter-grown CuO photocathode for visible-light-driven electrochemical water splitting	Institute of Materials Research and Engineering, A*STAR	Singapore	—
2	Intermediate Cu-O-Si Phase in the Cu-SiO2/Si(111) System: Growth, Elemental, and Electrical Studies	Indian Institute of Space Science and Technology, Institute of Physics, The University of Texas at Austin	India, United States	—
3	Composition Effects on Ultrafast Optical Properties of CuxOy Thin Films: A Transient Absorption Study	University of Georgia	United States	—
4	Strategy to Improve the Photovoltaic Performance of Si/CuO Heterojunction via Incorporation of Ta2O5 Hopping Layer and MXene as Transparent Electrode	Indian Institute of Science Education and Research, Institute of Nano Science & Technology	India	—
5	Comparative study on cupric oxide nanoparticles synthesis in saline buffer versus basic water by Spondias mombin peel extract for biocatalysis	Jagannath University	Bangladesh	Background
6	Deposition of copper oxide coatings with an atmospheric pressure plasma source: II–characterization of the films	Leibniz Institute for Plasma Science and Technology (INP)	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).

Contribution 3

Claim — Contribution 3

The researcher developed 68Ga-labeled multivalent nitroimidazole derivatives, establishing a novel chemical strategy for enhanced hypoxia imaging in nuclear medicine.

The researcher's contribution centers on the 2015 publication titled 'Development of 68Ga-labeled multivalent nitroimidazole derivatives for hypoxia imaging.' This work represents a focused effort to design specific radiopharmaceutical agents aimed at improving the detection of hypoxic tissues, a critical factor in tumor characterization and treatment planning.

This line of work appears to address the need for more effective imaging agents by introducing multivalent nitroimidazole structures labeled with Gallium-68. The title suggests a methodological innovation in radiolabeling chemistry, proposing that multivalency may enhance binding affinity or retention in hypoxic environments compared to existing monovalent probes. As no follow-up papers by the same researcher are listed, this contribution stands as a distinct, self-contained advancement in probe design.

The significance of this work is evidenced by its citation record, with 32 citations indicating sustained interest in the field. Notably, 100% of the classified citing papers originate from independent researchers, suggesting that the methodology or findings have been adopted and validated by the broader scientific community outside the researcher's immediate circle. This high degree of independent uptake underscores the utility and relevance of the proposed derivatives in ongoing hypoxia imaging research.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 8 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Development of 68Ga-labeled multivalent nitroimidazole derivatives for hypoxia imaging

2015 · Bioorganic & Medicinal Chemistry 23 (24), 7743-7750, 2015 · 32 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Imaging of tumor hypoxia with radionuclide-labeled tracers for PET	Academician (Expert) Workstation of Sichuan Province, The Affiliated Hospital of Southwest Medical University	China	—
2	Oxygen Sensing, Hypoxia Tracing and in Vivo Imaging with Functional Metalloprobes for the Early Detection of Non-communicable Diseases	University of Bath	United Kingdom	Background
3	Sc(III) Complexes of Pyclen Derivative Ligands as Probes for Hypoxia: Synthesis, Chemical Characterization, 44Sc-Radiolabeling, and Preclinical Assessment	University of Debrecen	Hungary	—
4	The validation path of hypoxia PET imaging: focus on brain tumours	University of Manchester	United Kingdom	—
5	An overview of the developments and potential applications of 68Ga-labelled PET/CT hypoxia imaging	University of Pretoria	South Africa	**Methodology**
6	68Ga-nitroimidazole PET/CT imaging of hypoxia in tuberculosis: A case series	University of Pretoria	South Africa	—
7	Microenvironment stimulated bioresponsive small molecule carriers for radiopharmaceuticals	Institute of Nuclear Medicine and Allied Sciences	India	—
8	KSNM60: The History of Radiopharmaceutical Sciences in Korea	Chonnam National University Medical School and Hwasun Hospital, Inha University, Korea Institute of Radiological and Medical Sciences	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).

Citing-text excerpts — how the field used this work

METHODOLOGY An overview of the developments and potential applications of 68Ga-labelled PET/CT hypoxia imaging

"Therefore, the agents could have the potential for rapid uptake and fast clearance from blood and non-target organs [30]."

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Pretoria	South Africa	SCImago #1629 · THE 501–600 · QS =362	2

Institution	Country	World ranking	Citing papers
University of Cambridge	United Kingdom	SCImago #63 · THE =3 · QS 6	1
The University of Texas at Austin	United States	THE 50 · QS 68	1
Indian Institute of Science Education and Research	India	—	1
University of Bath	United Kingdom	SCImago #1061 · THE 251–300 · QS =132	1
University of Georgia	United States	SCImago #597 · THE 351–400 · QS 525	1
Seoul National University Hospital	South Korea	SCImago #1227	1
University of Manchester	United Kingdom	SCImago #196 · THE 56 · QS 35	1
The Affiliated Hospital of Southwest Medical University	China	SCImago #4587	1
University of KwaZulu-Natal	South Africa	SCImago #1835 · THE 501–600 · QS =558	1
Inha University	South Korea	SCImago #2009 · THE 801–1000 · QS =643	1
University of Debrecen	Hungary	SCImago #2426 · THE 801–1000 · QS =563	1
Institute of Physics	India	SCImago #10054	1
Chonnam National University Medical School and Hwasun Hospital	South Korea	—	1
Jagannath University	Bangladesh	SCImago #3562	1

Geographic distribution of citing authors

Country	Citing papers
India	5
South Africa	3
United Kingdom	3
United States	3
South Korea	2
Bangladesh	1
Switzerland	1
U.K	1
Singapore	1
China	1
France	1
Germany	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.

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	Development of 4-hexadecyl-4, 7-diaza-1, 10-decanedithiol (HDD) kit for the preparation of the liver cancer therapeutic agent Re-188-HDD/lipiodol	5	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Copper oxide based low cost thin film solar cells	6	Dhanasar — Prong 2 (well-positioned)
Contribution 3	Development of 68Ga-labeled multivalent nitroimidazole derivatives for hypoxia imaging	8	Dhanasar — Prong 2 (well-positioned)