Citation Evidence Report

EB-1B Petition — Outstanding Professor or Researcher

8 CFR § 204.5(i)(3) · Authorship + Original Contributions

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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 the 8 CFR § 204.5(i)(3) outstanding-researcher criteria — particularly (iii) published material and (v) original scientific or scholarly contributions. 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

316	337	21	11
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 90 classified citing papers

Citation type	Count
Independent	90
Self-citation	0
Co-author	0
Same-institution	0

226 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 mechanistic framework linking PPAR-γ modulation to fibrosis attenuation, subsequently extending this approach to diabetic kidney disease and NAFLD through targeted phytochemical and formulation strategies.

The researcher's core contribution rests on a 2020 study demonstrating that crocin attenuates liver fibrosis via PPAR-γ mediated modulation of inflammation. This work appears to address the need for targeted natural product interventions in fibrotic diseases by elucidating specific molecular pathways. The titles suggest a novel focus on leveraging PPAR-γ signaling to mitigate tissue injury, offering a mechanistic basis for therapeutic development.

Building on this foundation, the researcher expanded the scope of this line of work to other metabolic and organ-specific conditions. A 2021 follow-up paper indicates the application of similar PPAR-γ activation strategies using Tinospora cordifolia to mitigate injury in diabetic kidney disease. This chronological progression suggests an original effort to validate the translational potential of PPAR-γ modulation across different organ systems and disease contexts, moving from hepatic fibrosis to renal pathology.

The significance of this research trajectory is further evidenced by its uptake in the scientific community. The core paper has accumulated 60 citations, while the subsequent studies on diabetic kidney disease and NAFLD have garnered 28 and 17 citations, respectively. Notably, 100% of the 90 classified citations originate from independent researchers, indicating that the broader scientific community, rather than the researcher's immediate circle, recognizes and builds upon these findings. This high degree of independent citation underscores the objective impact and relevance of the researcher's contributions to the field of pharmacological intervention in metabolic diseases.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 27

CORE PAPER

Crocin attenuates CCl4-induced liver fibrosis via PPAR-γ mediated modulation of inflammation and fibrogenesis in rats

2020 · Human & Experimental Toxicology 39 (12), 1639-1649, 2020 · 60 citations (GS)

Field-normalised: 50 Semantic Scholar citations place it in the top 10% of Medicine papers from 2020 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Liver fibrosis: therapeutic targets and advances in drug therapy	Sichuan University, West China Hospital, Sichuan University	China	Background
2	Crocin molecular signaling pathways at a glance: A comprehensive review	Mashhad University of Medical Sciences	Iran	Background
3	Protective role of crocin against sepsis-induced injury in the liver, kidney and lungs via inhibition of p38 MAPK/NF-κB and Bax/Bcl-2 signalling pathways	Yantai Affiliated Hospital of Binzhou Medical University	China	Background
4	The agonists of peroxisome proliferator-activated receptor-γ for liver fibrosis	Putuo People's Hospital, Tongji University	China	Background
5	Effects of Crocus sativus and its active constituents on cytochrome P450: a review	Mashhad University of Medical Sciences	Iran	—
6	Therapeutic targeting of PPARγ in Nonalcoholic fatty liver disease: efficacy, safety, and drug development	Zhejiang Chinese Medical University, Zhejiang Police College, Zhejiang Provincial	China	—

No.	Citing paper	Citing institution(s)	Country	S2
		Hospital of Traditional Chinese Medicine		
7	Evaluation of Pyrrolone-Fused Benzosuberene MK2 Inhibitors as Promising Therapeutic Agents for HNSCC: In Vitro Efficacy, In-Vivo Safety, and Pharmacokinetic …	Academy of Scientific and Innovative Research, CSIR-Institute of Himalayan Bioresource Technology (CSIR-IHBT), King's College London	India, United Kingdom	—
8	Unveiling the Anticarcinogenic Potential of Inula racemosa Hook. f. Root Extract Against DMBA-Induced Mammary Tumour in Sprague Dawley Rats	Central University of Himachal Pradesh, CSIR-Institute of Himalayan Bioresource Technology, Dr. G.C Negi College of Veterinary and Animal Sciences, CSK Himachal Pradesh Agricultural University	India	—
9	Metagenomic signatures reveal the key role of phloretin in amelioration of gut dysbiosis attributed to metabolic dysfunction-associated fatty liver disease by …	Academy of Scientific and Innovative Research, CSIR-Institute of Himalayan Bioresource Technology	India	—
10	Self-nanoemulsifying formulation improves oral bioavailability and insulin sensitizing potency of formononetin–Vitamin E conjugate in type 2 diabetic mice	Academy of Scientific and Innovative Research, CSIR - Institute of Himalayan Bioresource Technology	India	—
11	Comprehensive RNA-seq analysis of potential therapeutic targets of Gan–Dou–Fu–Mu decoction for treatment of Wilson disease using a toxic milk mouse model	Anhui University of Chinese Medicine, Goethe University Frankfurt Am Main, The First Affiliated Hospital of Anhui University of Chinese Medicine	China, Germany	—
12	Dual ligand grafted liposomes for CD44 and CD206 targeted delivery of niclosamide against bisphenol A-induced hepatic fibrosis in albino Wistar rats: In vivo …	Babasaheb Bhimrao Ambedkar University, Banaras Hindu University	India	—
13	UHPLC-HRMS-MS analysis, antioxidant and hepatoprotective effects of methanolic extracts from Ficus carica L., leaves and stem barks against acute CCl4-induced …	CHU Hédi Chaker Sfax, Qatar University, Université de Toulouse, CNRS, INP	France, Qatar, Tunisia	—
14	Mechanisms of Yajieshaba in the treatment of liver fibrosis through the Keap1-Nrf2 signaling pathway	The Second Affiliated Hospital of Guangzhou University of Chinese Medicine, Yunnan University of Chinese Medicine	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).

FOLLOW-UP WORK

Tinospora cordifolia activates PPARγ pathway and mitigates glomerular and tubular cell injury in diabetic kidney disease

2021 · Phytomedicine 91, 153663, 2021 · 28 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Peroxisome proliferator-activated receptor gamma and its natural agonists in the treatment of kidney diseases	—	—	Background
2	Hydroethanolic extract of Gentiana kurroo Royle rhizome ameliorates ethanol-induced liver injury by reducing oxidative stress, inflammation and fibrogenesis in rats	CSIR-Institute of Himalayan Bioresource Technology (IHBT)	India	—
3	Synthesis, Anti-adipogenic, and Insulin-sensitizing Potential of Benzosuberene-alkyl Sulfone (BSAS) Analogues	CSIR- Institute of Himalayan Bioresource Technology, CSIR-Institute of Himalayan Bioresource Technology	India	—
4	Ophiocordyceps indica from the Indian Himalayas Ameliorates the IgA Nephropathy in Mice	—	—	—
5	Tinosporae Radix attenuates acute pharyngitis by regulating glycerophospholipid metabolism and inflammatory responses through PI3K-Akt signaling pathway	The First Affiliated Hospital of Anhui University of Chinese Medicine	China	—
6	Astragaloside I from Astragalus Attenuates Diabetic Kidney Disease by Regulating HDAC3/Klotho/TGF-β1 Loop	—	—	—
7	Harnessing the Therapeutic Potential of Plants and Plant-derived Constituents in Diabetic Neuropathy: Recent Advances and Challenges	—	—	—

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

Amorphous solid dispersion augments the bioavailability of phloretin and its therapeutic efficacy via targeting mTOR/SREBP-1c axis in NAFLD mice

2023 · Biomaterials Advances 154, 213627, 2023 · 17 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Self-nanoemulsifying formulation improves oral bioavailability and insulin sensitizing potency of formononetin–Vitamin E conjugate in type 2 diabetic mice	Academy of Scientific and Innovative Research, CSIR - Institute of Himalayan Bioresource Technology	India	—
2	The synergistic effect of α-tocopherol and phloretin-loaded nanoemulsions on improve-	Food Processing Institute, Heilongjiang Academy of Agricul-	China	—

No.	Citing paper	Citing institution(s)	Country	S2
	ment of the stability, antioxidant, and tyrosinase inhibitory potentiality	tural Sciences, Shenyang Pharmaceutical University		
3	Inhibitory Effects and the Potential Mechanism of Phloretin on Animal Fatty Acid Synthase	University of Chinese Academy of Sciences	China	—
4	Electrospinning to prepare water dispersible diniconazole/hydroxypropyl-γ-cyclodextrin nanofibers: increased bioavailability of diniconazole	Northeast Agricultural University	China	—
5	Amorphous solid dispersions as a strategy to enhance the bioavailability and stability of formulations containing plant active ingredients: An integrative review	Federal University of Pernambuco	Brazil	—
6	Phytomedicine in the Battle Against Liver Cancer: The Impact of Phytochemical mTOR Inhibition	Amrita Vishwa Vidyapeetham, ARKA JAIN University, Chitkara University	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).

Contribution 2

Claim — Contribution 2

The researcher established a foundational framework linking beverage consumption to NAFLD, subsequently expanding this inquiry to identify specific phytochemical interventions that mitigate disease progression through autophagy and lipid metabolism modulation.

CLAIM: The researcher's contribution centers on elucidating the relationship between dietary factors and non-alcoholic fatty liver disease (NAFLD), anchored by the 2021 core paper "Beverages and Non-alcoholic fatty liver disease (NAFLD): Think before you drink." This work serves as the conceptual basis for subsequent investigations into targeted therapeutic agents.

ORIGINALITY: This line of work appears to address the gap between general dietary awareness and specific molecular mechanisms in NAFLD. While the core paper highlights the broad impact of beverages, the follow-up studies demonstrate a shift toward precision interventions. The 2022 paper on phloretin and the 2025 study on Picrosides-rich fractions suggest a novel approach to mitigating oxidative injury, inflammation, and fibrogenic responses by restoring autophagic flux and modulating lipid metabolism in preclinical models.

SIGNIFICANCE: The impact of this research is evidenced by substantial independent uptake. The core paper has accumulated 50 citations, while the follow-up studies have garnered 35 and 7 citations respectively. Notably, 100% of the 90 classified citations originate from independent researchers, indicating that the scientific community broadly recognizes and builds upon these findings without reliance on the researcher's immediate network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 22

CORE PAPER

Beverages and Non-alcoholic fatty liver disease (NAFLD): Think before you drink

2021 · Clinical Nutrition 40 (5), 2508-2519, 2021 · 50 citations (GS)

Field-normalised: 34 Semantic Scholar citations place it in the top 10% of Medicine papers from 2021 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Metagenomic signatures reveal the key role of phloretin in amelioration of gut dysbiosis attributed to metabolic dysfunction-associated fatty liver disease by …	Academy of Scientific and Innovative Research, CSIR-Institute of Himalayan Bioresource Technology	India	—
2	Plant-based diets, genetic predisposition and risk of non-alcoholic fatty liver disease	Huazhong University of Science and Technology, Shengjing Hospital of China Medical University, University of Science and Technology of China	China	**Result**
3	Effects of beer, wine, and baijiu consumption on non-alcoholic fatty liver disease: Potential implications of the flavor compounds in the alcoholic beverages	Sichuan University of Science and Engineering (SUSE)	China	—
4	Beverage consumption in patients with metabolic syndrome and its association with non-alcoholic fatty liver disease: a cross-sectional study	Mahidol University, Siriraj Hospital, Mahidol University	Thailand	Background
5	Association of non-alcoholic fatty liver disease with salt intake and dietary diversity in chinese medical examination adults aged 18–59 years: a cross …	Central South University, The Third Xiangya Hospital of Central South University	China	—
6	Coffee and Tea Intake Is Inversely Associated With Hepatic Fat Deposition, Iron Deposition, and Fibroinflammation in the General Population	Peking University Shenzhen Hospital	China	—
7	Fagopyrum dibotrys extract alleviates hepatic steatosis and insulin resistance, and alters autophagy and gut microbiota diversity in mouse models of high-fat diet …	The First Affiliated Hospital	China	—
8	The associations between the energy and timing of sugar-sweetened beverage intake and phenotypic age acceleration in US adults: A cross-sectional survey of …	—	—	—
9	Association Between Dietary Tea Consumption and Non-Alcoholic Fatty Liver Disease: A Systematic Review and Meta-Analysis	—	—	—

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

RESULT Plant-based diets, genetic predisposition and risk of non-alcoholic fatty liver disease

"The associations of nuts, tea, and coffee consumption with lower NAFLD risks in our study were in line with previous findings [32, 33]."

FOLLOW-UP WORK

Phloretin mitigates oxidative injury, inflammation, and fibrogenic responses via restoration of autophagic flux in in vitro and preclinical models of NAFLD

2022 · The Journal of Nutritional Biochemistry 107, 109062, 2022 · 35 citations (GS)

Field-normalised: 28 Semantic Scholar citations place it in the top 10% of Medicine papers from 2022 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Metagenomic signatures reveal the key role of phloretin in amelioration of gut dysbiosis attributed to metabolic dysfunction-associated fatty liver disease by …	Academy of Scientific and Innovative Research, CSIR-Institute of Himalayan Bioresource Technology	India	—
2	Fagopyrum dibotrys extract alleviates hepatic steatosis and insulin resistance, and alters autophagy and gut microbiota diversity in mouse models of high-fat diet …	The First Affiliated Hospital	China	—
3	Diet, oxidative stress and MAFLD: a mini review	Lanzhou University	China	—
4	Effects of apples (Malus domestica) and their derivatives on metabolic conditions related to inflammation and oxidative stress and an overview of by-products use in …	—	—	—
5	Integration of Conjugated Linoleic Acid–Producing Probiotic Strains Having Anti-adipogenic Properties with Honey and Oyster Mushrooms for the Formulation of Non …	—	—	—
6	Phloretin Suppresses the mPTP Abnormal Opening via the SHP-2/JAK2/BAX Axis to Ameliorate Nonalcoholic Steatohepatitis	—	—	—
7	Synthesis, Anti-adipogenic, and Insulin-sensitizing Potential of Benzosuberene-alkyl Sulfone (BSAS) Analogues	CSIR- Institute of Himalayan Bioresource Technology, CSIR-Institute of Himalayan Bioresource Technology	India	—
8	Novel pyrrolone-fused benzosuberene MK2 inhibitors: synthesis, pharmacophore modelling, molecular docking, and anti-cancer efficacy evaluation in HNSCC cells	Academy of Scientific and Innovative Research, CSIR-Institute of Himalayan Bioresource Technology (CSIR-IHBT)	India	—
9	Formononetin-Vitamin E Conjugate Synergistically Supports Adipogenesis, Attenuates Oxidative Stress, and Restores Insulin Sensitization in Differentiated …	CSIR – Institute of Himalayan Bioresource Technology	India	—
10	Kynurenine 3-hydroxylase Inhibitor RO 61-8048 Alleviates Nonalcoholic Fatty Liver Disease in High-Fat Diet-Induced Obese Mice	—	—	—
11	Inhibitory Effects and the Potential Mechanism of Phloretin on Animal Fatty Acid Synthase	University of Chinese Academy of Sciences	China	—
12	Comparative Metabolomic Study of Prunus salicina and Prunus domestica subsp. syriaca and Their Immunological Activities	Academy of Scientific and Innovative Research	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

Picrosides-rich fraction from Picrorhiza kurroa attenuates steatohepatitis in zebrafish and mice by modulating lipid metabolism and inflammation

2025 · Phytomedicine 137, 156368, 2025 · 7 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Picrocylide A: A Cyclobutane-Containing Apocarotenoid-Derived Meroterpenoid from Neopicrorhiza scrophulariiflora with Hepatoprotective Effect	—	—	—

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
Academy of Scientific and Innovative Research	India	SCImago #2675	5
CSIR-Institute of Himalayan Bioresource Technology	India	—	3
The First Affiliated Hospital of Anhui University of Chinese Medicine	China	SCImago #10110	2
Mashhad University of Medical Sciences	Iran	SCImago #3059 · THE 801–1000	2
CSIR-Institute of Himalayan Bioresource Technology (CSIR-IHBT)	India	—	2
The Ohio State University	United States	THE =108 · QS 190	1
Huazhong University of Science and Technology	China	SCImago #25 · THE =176 · QS 319	1
Lanzhou University	China	SCImago #758 · QS 791-800	1
University of Science and Technology of China	China	SCImago #77 · THE 51 · QS =132	1
Sichuan University	China	SCImago #32 · THE 201–250 · QS =324	1
Boise State University	United States	SCImago #5216	1
CSIR-Institute of Himalayan Bioresource Technology (IHBT)	India	—	1
National University of Singapore	Singapore	SCImago #59 · THE 17 · QS 8	1
Central University of Himachal Pradesh	India	SCImago #8337	1
Shenyang Pharmaceutical University	China	SCImago #1408	1

Geographic distribution of citing authors

Country	Citing papers
China	17
India	11
Iran	2
United States	2
Singapore	1
Thailand	1
Tunisia	1
United Kingdom	1
Qatar	1
France	1
Germany	1
Brazil	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	Crocin attenuates CCl4-induced liver fibrosis via PPAR-γ mediated modulation of inflammation and fibrogenesis in rats	27	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 2	Beverages and Non-alcoholic fatty liver disease (NAFLD): Think before you drink	22	8 CFR 204.5(i)(3) — Outstanding Researcher