

Elias Picazo

University of Southern California
Department of Chemistry
Loker Hydrocarbon Research Institute
837 Bloom Walk, Los Angeles, CA 90089-1661

Education

Harvard University, Cambridge, MA

- Postdoctoral Researcher, Organic Chemistry, December 2021
- NIH K99/R00 Fellowship

University of California, Los Angeles, CA

- Ph.D., Organic Chemistry, June 2018
- NIH F31 Graduate Fellowship
- UCLA Eugene V. Cota-Robles Research Fellowship

University of California, Santa Barbara, CA

- Bachelor of Science, Chemistry with a Minor in Mathematics, June 2013
- University of CA Leadership Excellence through Advanced Degrees (UCLEADS) Fellowship

Professional and Academic Experience

Assistant Professor: University of Southern California (2022)

- Focused on transition metal catalysis, enantioselective catalysis, and synthesis.

Postdoctoral Researcher: Harvard University, under the direction of Prof. Eric Jacobsen

- Completed a three-step synthesis of pretomanid highlighting an enantioselective, hydrogen-bond-donor-mediated oxetane opening
- Targeted a hydrogen-bond-donor-catalyzed reductive, amide–Strecker reaction
- Targeted a selective, hydrogen-bond-donor-mediated synthesis of 2-deoxy- β -glycosides

Graduate Research Assistant: University of California, Los Angeles, under the direction of Prof. Neil Garg

- Completed the enantioselective total syntheses of akuammiline alkaloids aspidophylline A, 2(*S*)-cathafoline, and strictamine
- Executed the asymmetric total syntheses of complex akuammiline alkaloids, akuammiline, pseudo-akuammigine, and 10-demethoxyvincorine
- Synthesized unnatural derivatives of the natural products listed above for biological evaluation
- Utilized DFT calculations to make reliable predictions of substituted aryne trappings using the distortion/interaction model
- Developed a method for the synthesis of enantioenriched ketones bearing quaternary stereocenters using arynes and related reactive intermediates

Undergraduate Research Assistant: University of California, San Diego, CA

- June 2013 to September 2013 under the direction of Prof. Carlos Guerrero
- Investigated a route toward the total synthesis of daphniglaucin C

Undergraduate Research Assistant: University of California, Santa Barbara, CA

- January 2012 to June 2013 under the direction of Prof. Armen Zakarian
- Developed a diastereoselective α -trifluoromethylation of acylated chiral oxazolidinones

Honors, Awards, and Fellowships

- NIH K99/R00 Fellowship, 2020
- Pfizer-UCLA Dissertation Award, 2018
- Satyan and Vimala Majeti Fellowship, 2018
- UCLA Research Showcase Fellowship, 2017
- Christopher S. Foote Fellowship, 2016
- NIH F31 Graduate Fellowship, 2015–2018
- UCLA Eugene V. Cota-Robles Fellowship, 2013–2017
- UCLA NSF AGEP Competitive Edge Fellowship, 2013
- UCSB CAMP Graduate Application Scholarship, 2013
- Pfizer AIR Fellowship, 2012–2013
- UCSB UCLEADs Fellowship, 2012–2013
- UCSB Chancellor's Scholar, 2009–2013
- UCSB Dean's Honor, 2009–2013

Publications

9. Ohashi, M. et al. An Enzymatic Alder-Ene Reaction. *Nature* **2020**, *586*, 64–69.
8. Strassfeld, D. A.; Wickens, Z. K.; Picazo, E.; Jacobsen, E. N. Highly Enantioselective, Hydrogen-Bond-Donor Catalyzed Additions to Oxetanes. *J. Am. Chem. Soc.* **2020**, *142*, 9175–9180.
7. Kearney, S. E. et al. Canvass: A Crowd-Sourced, Natural-Product Screening Library for Exploring Biological Space. *ACS Cent. Sci.* **2018**, *4*, 1727–1741.
6. Picazo, E.[†]; Anthony, S. M.[†]; Giroud, M.; Simon, A.; Miller, M. A.; Houk, K. N.; Garg, N. K. Arynes and Cyclic Alkynes as Synthetic Building Blocks for Stereodefined Quaternary Centers. *J. Am. Chem. Soc.* **2018**, *140*, 7605–7610.
5. Picazo, E.[†]; Morrill, L. A.[†]; Susick, R. B.; Moreno, J.; Smith, J. M.; Garg, N. K. Enantioselective Total Syntheses of Methanoquinolizidine-Containing Akuammiline Alkaloids and Related Studies. *J. Am. Chem. Soc.* **2018**, *140*, 6483–6492.
4. Simmons, B. J.; Hoffmann, M.; Champagne, P. A.; Picazo, E.; Yamakawa, K.; Morrill, L. A.; Houk, K. N.; Garg, N. K. Understanding and Interrupting the Fischer Azaindolization Reaction. *J. Am. Chem. Soc.* **2017**, *139*, 14833–14836.
3. Susick, R. B.[†]; Morrill, L. A.[†]; Picazo, E.[†]; Garg, N. K. Pardon the Interruption: A Modification of Fischer's Venerable Reaction for the Synthesis of Heterocycles and Natural Products. *Synlett* **2017**, *28*, 1–11.
2. Moreno, J.[†]; Picazo, E.[†]; Morrill, L. A.; Smith, J. M.; Garg, N. K. Enantioselective Total Syntheses of Akuammiline Alkaloids (+)-Strictamine, (–)-2(*S*)-Cathafoline, and (–)-Aspidophylline A. *J. Am. Chem. Soc.* **2016**, *138*, 1162–1165.
1. Picazo, E.; Houk, K. N.; Garg, N. K. Computational Predictions of Substituted Benzyne and Indolyne Regioselectivities. *Tetrahedron Lett.* **2015**, *56*, 3511–3514.

Presentations

Graduate Studies

7. **Enantioselective Total Syntheses of Methanoquinolizidine Alkaloids (Oral).** Elias Picazo, Jesus Moreno, Lucas A. Morrill, Robert B. Susick, Joel M. Smith, and Neil K. Garg, *UCLA Graduate Symposium*, Los Angeles, CA, May 2018.
6. **Enantioselective Total Synthesis of Akuammiline Alkaloids (+)-Strictamine, (-)-2(S)-Cathafoline, and (-)-Aspidophylline A (Oral).** Elias Picazo, Jesus Moreno, Lucas A. Morrill, Joel M. Smith, and Neil K. Garg, *253rd ACS National Meeting*, San Francisco, CA, April 2017.
5. **Enantioselective Total Synthesis of Akuammiline Alkaloids (+)-Strictamine, (-)-2(S)-Cathafoline, and (-)-Aspidophylline A (Poster).** Elias Picazo, Jesus Moreno, Lucas A. Morrill, Joel M. Smith, and Neil K. Garg, *253rd ACS National Meeting – UCLA Research Showcase*, San Francisco, CA, April 2017.
4. **Total Synthesis of Akuammiline Alkaloids (Oral).** Elias Picazo, Jesus Moreno, Lucas A. Morrill, Joel M. Smith, and Neil K. Garg, *University of California Symposium for Chemical Sciences*, Lake Arrowhead, CA, March 2016.
3. **Exploiting Arynes for the Synthesis of Enantioenriched Ketones Bearing Quaternary Stereocenters (Poster).** Elias Picazo, Margeaux A. Miller, Sarah M. Anthony, and Neil K. Garg, *30th Annual UCLA Glenn T. Seaborg Symposium*, Los Angeles, CA, November 2016.
2. **Total Synthesis of (+)-Strictamine, (-)-2(S)-Cathafoline, and (-)-Aspidophylline A (Poster).** Elias Picazo, Jesus Moreno, Lucas A. Morrill, Joel M. Smith, and Neil K. Garg, *29th Annual UCLA Glenn T. Seaborg Symposium*, Los Angeles, CA, October 2015. Best-poster award received.
1. **Total Synthesis of Picrinine and a Unified Approach to Various Akuammilines (Poster).** Joel M. Smith, Jesus Moreno, Elias Picazo, Lucas A. Morrill, and Neil K. Garg, *28th Annual UCLA Glenn T. Seaborg Symposium*, Los Angeles, CA, November 2014.

Undergraduate Studies

6. **Progress Toward the Total Synthesis of Daphniglaucin C (Oral).** Elias Picazo, Keith Reber, and Carlos Guerrero, *UCSD Stars Conference (UCSD)*, La Jolla, CA, September 2013.
5. **A Method for Diastereoselective Trifluoromethylations (Oral).** Elias Picazo, Aaron T. Herrmann, and Armen Zakarian, *Pfizer Fellow Conference*, La Jolla, CA, June 2013.
4. **A Method for Diastereoselective Trifluoromethylations (Poster).** Elias Picazo, Aaron T. Herrmann, and Armen Zakarian, *UCSB URCA*, Santa Barbara, CA, May 2013.
3. **A Method for Diastereoselective Trifluoromethylations (Poster).** Elias Picazo, Aaron T. Herrmann, and Armen Zakarian, *UCLEADs Symposium*, Santa Cruz, CA, April 2013. Best-poster award received.
2. **A Method for Diastereoselective Trifluoromethylations (Oral).** Elias Picazo, Aaron T. Herrmann, and Armen Zakarian, *SCCUR*, Channel Islands, CA, November 2012.
1. **A Method for Diastereoselective Trifluoromethylations (Poster).** Elias Picazo, Aaron T. Herrmann, and Armen Zakarian, *SACNAS*, Seattle, WA, October 2012.

Other Scholarly Activities

- Served as the Garg Laboratory Safety Coordinator, 2014–2018
- Organized and led group literature club meetings, 2016–2018
- Participated in UCLA's welcoming of prospective students, 2014–2018

Outreach Activities

UCLA Organization for Cultural Diversity in Chemistry and Science (OCDC/OCDS)

- Served as Recruitment and Social Chair of OCDS (2015–2016)
- Performed lab tours, served on Q&A panels, and exchanged emails with students, with an emphasis on underrepresented groups, interested in pursuing higher education in science (2013–2016)

Demonstrations and Science Fairs

- Performed scientific demonstrations to pique children's interest in science at UCLA's Exploring your Universe (2013) and Warner Avenue Elementary School (2014–2017)
- Served as a judge for the California State Science Fair for both Junior and Senior divisions in chemistry or biochemistry (2016–2018)

Shafter High School and Shafter Learning Center, SLC (2011–Ongoing)

- Circulated my experience as an aspiring chemist on social media, the town library, and public transportation to promote higher education to students belonging to underrepresented groups
- Met with first-generation, college-bound AP students in various formats. Participated in the inaugural SLC AP Preparedness Breakfast as the keynote speaker (2019)