

Americas Cyclodextrin Consortium

Connecting Cyclodextrin Researchers Across the Americas

Newsletter – Issue #3 | May, 2026

Community Update

It's been a big couple of months for the Americas Cyclodextrin Consortium! Our group has officially incorporated as a nonprofit, created a website, and selected a venue for the Americas Cyclodextrin Conference 2027. We will discuss this in more detail during our next virtual meeting in June:

Our next virtual meeting will take place on June 25, 2026 at 10am PST.

Direct Link to Meeting: [Join Zoom Meeting](#)

[Add to Calendar](#)

Check out our new website:

americascyclodextrinconsortium.com



Americas Cyclodextrin Consortium
Connecting Cyclodextrin Researchers Across the Americas

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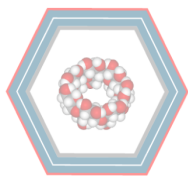
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Advancing Cyclodextrin Research

**Connecting the
Americas for
Cyclodextrin
Innovation**



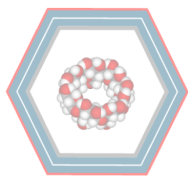


Member poll

Here are a few key takeaways from our last member poll:

- We received responses from a strong mix of academia, industry, postdocs, and students across the Americas and internationally.
- The most represented expertise areas were:
 - Drug delivery
 - Therapeutics
 - Materials
 - Fundamental cyclodextrin chemistry
- The organization priorities that received the strongest support were:
 - Scientific networking
 - Collaboration throughout the Americas
 - Industry engagement
- Enthusiasm for the planned April 2027 conference was very high:
 - Most respondents said they would likely or definitely attend
 - Many organizations estimated sending 2–5 attendees, with some potentially sending more
- A registration cost around ~\$300–500/person appeared to feel realistic for many attendees, though students generally preferred lower-cost options.
- Interest in participation formats was broad, including:
 - Talks
 - Panels
 - Posters
 - Moderation
- Sponsorship interest was stronger than expected:
 - Several industry participants indicated potential sponsorship interest ranging from small to major support

Overall, the poll suggests that we already have strong momentum as a community platform, with particularly high enthusiasm around networking, scientific collaboration, and building an industry-academic bridge in the cyclodextrin space.



The Inaugural Americas Cyclodextrin Conference Will Take Place in Tucson, Arizona, April 12-14, 2027!

Did you know? All but one species of cacti are native to the Americas - their range spans from the tip of South America all the way to Canada. These unusual plants thrive across a remarkably diverse range of circumstances, much like cyclodextrin science.

The Americas Cyclodextrin Conference aims to reflect this same breadth and adaptability, bringing together researchers, industry leaders, and students working with cyclodextrins across disciplines and applications. From drug delivery and materials science to environmental and industrial innovations, this meeting is designed to connect ideas that don't always share the same room.

Join us April 12-14, 2027 at the [Lodge on the Desert](#) in Tucson, Arizona for our inaugural conference as we gather to share ideas, spark collaborations, and grow a stronger, more connected cyclodextrin community.

Come for the cyclodextrins, stay for the cacti.

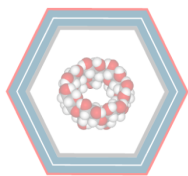
Early Bird registration will open soon on the website (americascyclodextrinconsortium.com) - stay tuned!



Lodge on the Desert entryway



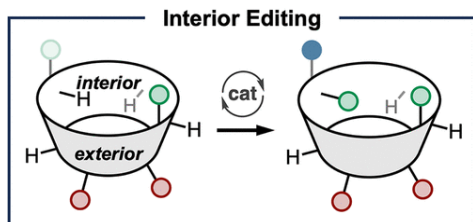
Saguaro Cactus



Research Highlights & Company Milestones

There are countless new CD papers and projects out there. This issue highlights just a slice of the breadth of CD research published in the Americas in the last few months. **If you think we've missed something important, let us know and we'll be sure to include it in the next edition.**

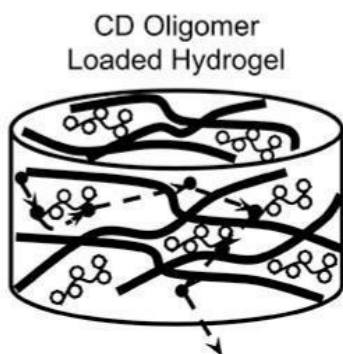
Journal of the American Chemical Society - [Interior Editing via Dynamic Molecular Recognition](#)



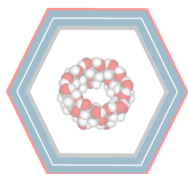
■ Desymmetrized Cavity ■ Internal Recognition Site

A collaboration between UCLA and the University of Hong Kong describes a method of using Quinuclidine as a catalyst to selectively modify the interior cavity of α -cyclodextrin. Quinuclidine can temporarily bind inside of the cavity and, when oxidized, selectively flips one hydroxyl group to the inside of the cavity. The modified α -cyclodextrin showed improved ability to separate chiral compounds in gas chromatography compared to natural α -cyclodextrin. This chemical editing method demonstrates a new strategy for enabling more precise molecular recognition.

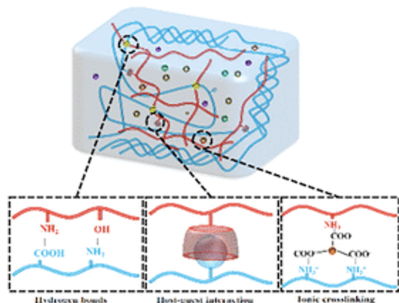
Journal of Control Release - [Doxycycline release from cyclodextrin oligomer-containing collagen gels](#)



Researchers at Case Western Reserve University incorporated γ -cyclodextrin oligomers into native collagen gels during fibril formation and studied loading/release of the antibiotic Doxycycline. The cyclodextrin-containing gels dramatically improved performance: they increased the releasable amount of doxycycline by 220% while slowing release roughly fivefold. Mathematical modeling showed that this effect came specifically from affinity-based interactions between doxycycline and the cyclodextrin oligomers rather than from the collagen matrix itself. The authors specifically discuss applications for chronic peri-implantitis in dental implants, where sustained local antibiotic delivery could reduce dosing frequency and systemic side effects.

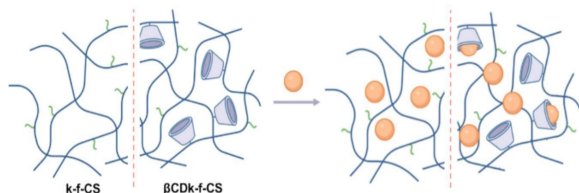


ACS Applied Materials & Interfaces - [Physically Cross-Linked Biopolymer-Based Strong and Stretchable Organohydrogel with Self-Healing and Biocompatibility for Environmentally Tolerant Strain Sensors](#)

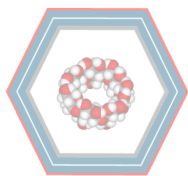


Researchers at the University of Alberta developed a strong, stretchable, self-healing organohydrogel using biopolymers and cyclodextrin for use in wearable strain sensors and flexible electronics. The material combined gelatin with β -cyclodextrin-grafted chitosan to create a physically cross-linked network stabilized through hydrogen bonding, ionic interactions, and host–guest interactions. The optimized hydrogel showed excellent mechanical properties, including over 400% stretchability, good tensile strength, and the ability to recover ~85% of its mechanical performance after self-healing. As a wearable sensor, the material could accurately detect facial expressions, breathing, and joint movement with high sensitivity and stable signal output. It was also biodegradable and biocompatible.

International Journal of Biological Macromolecules - [Synthesis of functionalized chitosan hydrogels for pH-responsive drug delivery](#)



Traditional chitosan hydrogels are highly biocompatible but too hydrophilic to effectively load and sustain release of hydrophobic drugs. In a collaboration between the Universidad Nacional de Córdoba in Argentina and KU Leuven in Belgium, researchers modified chitosan with both hydrophobic alkyl groups and β -cyclodextrin using reductive amination, generating a series of dual-functionalized hydrogels and porous sponge materials. The modified hydrogels showed high drug-loading capacity along with pH-responsive release behavior: Rifampicin release was reduced in acidic conditions but became prolonged under physiological conditions, enabling more sustained delivery. The materials also demonstrated good hemocompatibility and antibacterial activity, while the porous sponge format improved handling and practical usability.

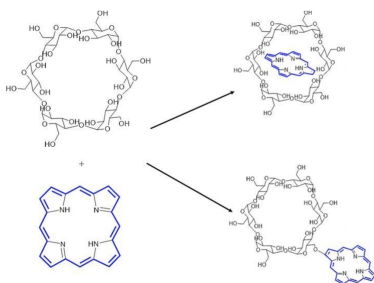


Foods - [Nanosuspensions Loaded with Acetogenins: Physical Stability During In Vitro Digestion, Genotoxicity and Cytotoxicity](#)

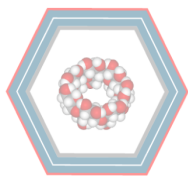


Researchers in Mexico compared two food-grade nanosuspension formulations for oral delivery of acetogenins (ACGs), a potent but poorly soluble class of bioactives. Both nanosuspensions initially formed stable nanoparticles smaller than 130 nm. However, under simulated gastrointestinal conditions, the two systems behaved very differently. The PEG-based formulation remained relatively stable through digestion and released ACGs gradually, while the β -cyclodextrin formulation destabilized significantly in the intestinal phase and released the drug much more rapidly. Because of this rapid release, the β -cyclodextrin nanosuspensions showed substantially higher in vitro bioaccessibility and predicted bioavailability, reaching up to ~95% recovery after digestion compared to ~55% for the PEG system. Both formulations appeared safe in mice.

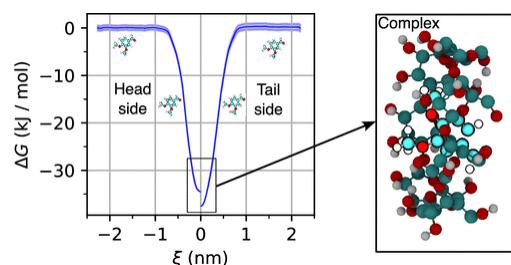
International Journal of Pharmaceutics - [Combined cyclodextrins and porphyrinoid derivatives in drug delivery systems: Developments and perspectives](#)



Porphyrins are powerful photosensitive molecules with useful photophysical and redox properties, making them attractive for therapeutic use. However, they often suffer from poor water solubility and aggregation, which can reduce performance. The review from researchers in Brazil highlights how cyclodextrin complexation helps overcome these limitations by improving solubility, stabilizing the molecules, reducing aggregation, and enabling more selective or stimuli-responsive delivery. The authors discuss how cyclodextrin–porphyrin systems can enhance singlet oxygen generation, improve biological targeting, and support multifunctional therapeutic platforms that combine imaging, therapy, and controlled activation. It also highlights remaining challenges such as pharmacokinetics, biocompatibility, scalable synthesis, and translation toward clinical use.



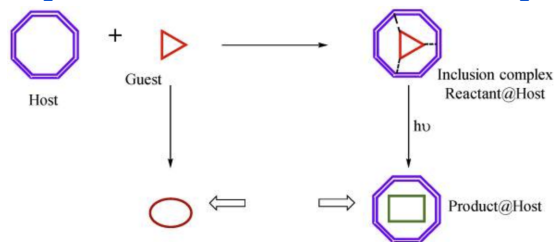
Journal of Chemical Information and Modeling - [Thermodynamic and Molecular Modeling Study of the Veratric Aldehyde/ \$\beta\$ -Cyclodextrin Inclusion Complex and Its Inhibitory Effect on Polyphenoloxidase](#)



This study from Argentina used both computational modeling and experimental characterization to demonstrate that β -cyclodextrin complexation can improve both the solubility and functional bioactivity of veratric aldehyde. Encapsulation inside β -cyclodextrin improved the aqueous solubility of veratric

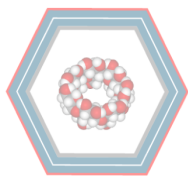
aldehyde and enhanced its ability to inhibit polyphenol oxidase (PPO), the enzyme responsible for enzymatic browning in foods. This suggests potential applications as a food additive to reduce enzymatic browning and improve food preservation.

Molecules - [Cavitand-Mediated Photodimerization of Chalcones: The Effect of Supramolecular Influences and Temperature on Reaction Selectivity](#)



Researchers at the University of Nebraska at Kearney describe how γ -cyclodextrin can function as a nanoconfined reaction vessel that controls molecular orientation and selectively directs photochemical cycloaddition reactions, enabling efficient and highly selective synthesis

of cyclobutane derivatives. Using the large cavity of γ -cyclodextrin, the researchers encapsulated two chalcone molecules simultaneously, allowing the cyclodextrin cavity to direct how the molecules align before irradiation. This “cavitand-mediated photodimerization” (CMP) approach dramatically changed the reaction outcome. Chalcones that were either nonreactive in the solid state or mainly underwent photoisomerization in solution instead produced cyclobutane dimers in high yields (>70%) inside the γ -cyclodextrin cavity.



Cyclarity Therapeutics Inc., a clinical stage biopharmaceutical company engineering cyclodextrin molecules into therapeutics, has just unveiled data from a [clinical trial](#) of its lead candidate, UDP-003. The trial demonstrated safe excretion of 7KC, a core driver of plaque associated with heart disease. Cyclarity expects to initiate a Phase 2 trial later in 2026, designed to demonstrate plaque regression as a primary endpoint. Full press release [here](#).



CycloPure recently landed an investment from Kurita Water Industries Ltd. (Tokyo). Kurita obtained exclusive sales rights from Cyclopure for its cyclodextrin-based PFAS adsorbent, DEXSORB®, for industrial and certain municipal water applications in the United States. Through this investment, Kurita will accelerate the expansion of the Kurita Group's PFAS business utilizing DEXSORB®, starting in the United States. Full press release [here](#).



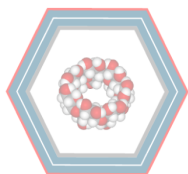
Ligand Pharmaceuticals announced plans to acquire XOMA Royalty for ~\$739 million in cash. The deal significantly expands Ligand's royalty portfolio, adding over 120 assets including marketed drugs and late-stage programs, while boosting projected revenue and earnings growth. Full press release [here](#). Ligand's cyclodextrin excipient Captisol® was also granted another approval with Avyxa's Vyckura®, marking the 18th approved product formulated with Captisol®.



Special Notes:

The Beilstein Journal of Organic Chemistry has launched a new thematic issue titled "Novel macrocycles: from synthesis to supramolecular function." The issue welcomes work on macrocyclic systems such as cyclodextrins, cucurbiturils, calixarenes, and cyclic peptides. The editorial team includes Pablo Ballester, Konrad Tiefenbacher, Carmine Gaeta, Carmen Talotta, Margherita De Rosa, and Paolo Della Sala. Find the issue [here](#).

JoVE has launched a video-based Methods Collection for cyclodextrin chemistry, focused on improving reproducibility and technique sharing across synthesis, host-guest analysis, and CD-enabled applications. Guest editor: István Puskás. More information available [here](#).



Pharmaceutics has opened a Special Issue entitled "New Insights into Cyclodextrin-Based Drug Delivery Systems". The submission deadline is 30 September 2026.

Special Issue
New Insights into Cyclodextrin-Based Drug Delivery Systems

Guest Editors
Dr. Ágnes Ruzsnyák
Dr. Ferenc Fenyvesi

Deadline
30 September 2026

 *pharmaceutics*

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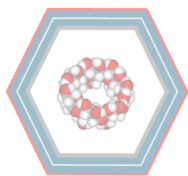
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Our next virtual meeting will take place on June 25, 2026 at 10am PST. We will discuss recent CD research / milestones as well as the Americas Cyclodextrin Conference.

Direct Link to Meeting: [Join Zoom Meeting](#)

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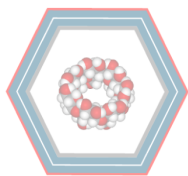
Cyclodextrin Event Watcher

Upcoming:

- International Symposium on Macrocyclic and Supramolecular Chemistry ([ISMSC2026](#))
 - July 5-10, 2026
 - Bordeaux, France
- 22nd International Cyclodextrin Symposium ([ICS-22](#)) in India
 - October 22-26, 2026
 - Moga Punjab, India
 - Theme: Transforming Cyclodextrin Research with Emerging AI-Enabled Technologies, Modeling and QbD: Bridging Innovation & Collaboration for Next-Gen Healthcare Scientific Excellence
- **Inaugural Americas Cyclodextrin Conference**
 - **April 12-14, 2027**
 - **Lodge on the Desert, Tucson, Arizona**

Past - Just Missed It!

- 6th [Chemistry World Conference](#)
 - June 18-20, 2026
 - Barcelona, Spain
 - 17th Global Drug Delivery and Formulation ([DDF](#)) Summit
 - May 18-20, 2026
 - Berlin, Germany
 - 3rd UNAM–Groningen University [Symposium and School on Nanomedicine and Nano-Biointerfaces](#)
 - April 6–10, 2026
 - Mexico City, Mexico
 - The Universidad Nacional Autónoma de México (UNAM)
 - 19th Edition of the International Conference and Expo on [Pharmaceutics and Novel Drug Delivery Systems](#)
 - March 26-27, 2026
 - Rome, Italy
 - 2nd World Summit and Expo on Nanoscience and Nanotechnology ([NANOSUMMIT2026](#))
 - March 11-13, 2026
 - Lisbon, Portugal
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Additional Resources

Need **more** cyclodextrin content? We got you!

- [Cyclodextrin News](#)
 - [Cyclodextrin Tales](#)
 - [The Society of Cyclodextrins, Japan](#)
 - [Cyclodextrin Masterclass](#)
 - [CycloLab Newsletter](#)
 - Italian Society of Cyclodextrin Chemistry and Technology ([CD.TE.C](#))
 - Carbohydrate Chronicles Podcast
- available on [Spotify](#) or [YouTube](#)
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Get Involved

We are always looking for your feedback. Would you like your company or lab featured in a future spotlight? Do you have new research, questions, milestones, or surprising CD applications to share? Do you want to offer resources or opportunities (guest speakers, collaborative projects, internships, etc.) to the group?

What can **you** bring to the Americas Cyclodextrin Consortium? We would love to hear from you. Contact the ACDC team via [email](#) or [LinkedIn](#)!