Accounts of Chemical Research	**MOOK**	Quang Luu-Nguyen
ACS Central Science	**MOOK**	Colin McKinlay
ACS Chemical Biology	**MOOK**	Clayton Hardman
ACS Nano	23	Nancy Benner
Advanced Drug Delivery Reviews	N/A	N/A
Angewandte Chemie International Edition	N/A	N/A
Bioconjugate Chemistry	N/A	N/A
Biomacromolecules	23	Nancy Benner
Bioorganic and Medicinal Chemistry	N/A	N/A
Bioorganic and Medicinal Chemistry Letters	23	Katie Near
Chemical Communications	25	Katie Near
Chemical & Engineering News	**MOOK**	Colin McKinlay
Chemical Reviews	25	Jefferson Tyler
Chemical Science	26	Jack Sloane
Chemistry, A European Journal	**MOOK**	Clayton Hardman
European Journal of Organic Chemistry	27	Jack Sloane
Journal of the American Chemical Society	28	Melanie Huttner (odd)
		Akira Shimizu (even)
JAMA	31	Stephen Ho
Journal of Medicinal Chemistry	**MOOK**	Matt Stevens
Journal of Organic Chemistry	**MOOK**	Matt Jeffreys
Molecular Pharmaceutics	N/A	Xiaoyu Zang (Janice)
Natural Product Reports	32	Nancy Benner
Nature	32	Stephen Ho
Nature Chemistry	33	Stephen Ho
Nature Chemical Biology	33	Xiaoyu Zang (Janice)
New England Journal of Medicine	33	Stephen Ho
The New York Times	N/A	N/A
The Onion	N/A	N/A
Organic Letters	**MOOK**	Quang Luu-Nguyen
Organometallics	**MOOK**	Ryan Quiroz
PNAS	**MOOK**	Colin McKinlay
Science	34	Xiaoyu Zang (Janice)
Science Translational Medicine	N/A	Jefferson Tyler
Synlett	N/A	N/A
Synthesis	N/A	N/A
Tetrahedron	**MOOK**	Ryan Quiroz
Tetrahedron Letters	**MOOK**	Matt Stevens

Next Due Date: Wednesday, March 15, 2017

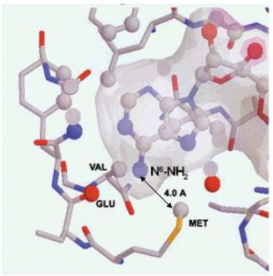
Identify articles to abstract in the journals you have been assigned. Try to pick things that the group (or specific subgroups) would like to read or should be aware of. This does not need to be limited to chemistry! If you encounter interesting pieces of media elsewhere (The Economist being a recent example) don't hesitate to let the group know. If you are splitting a journal with another group member, talk with him/her to be sure you are not reviewing redundantly. If you are not able to cover your journal for some reason, get someone to cover it for you—as if it were your group job.

Create an Abstract

Abstract submissions are usually prepared using ChemDraw. The editors of the *Lit Review* strongly encourage the copying of graphical material from PDF files and wish to point out the following. Graphics stored in PDF files are typically of postscript or >300 dpi quality. When an image is copied into a ChemDraw document, a screen snapshot is taken, and the image is captured at the present screen resolution. If the PDF file is being viewed zoomed-in, this typically results in the transfer of a high quality image. If the PDF is being viewed zoomed-out, a low quality image typically results. Text can be copied from a PDF file and pasted as text using the text select or column select tool. Once pasted, this text behaves as if it were input from the keyboard.

Include a brief textual summary of the article; an example of a completed abstract is shown below. The list of topics and subgroups on the right is useful to highlight which subgroups should pay attention to your abstract and roughly what kind of chemistry the article contains.

Please email the files to knear@stanford.edu. Late abstracts will be included in the Lit Review for the following month**. PCs please send .cdx and macs please send .pdf files.**

<table>
<tr><td colspan="2">Citation: Abeyweera, T.P.; Rotenberg, S.A. Biochemistry 2007, 46, 2364-2370</td></tr>
<tr><td>Design and Characterization of a Traceable Protein Kinase C-alpha
Protein kinase CR (PKCR) is a critical component of pathways that govern cancer-related phenotypes such as invasion and proliferation. Proteins that serve as immediate substrates for PKCR offer potential targets for anticancer drug design. To identify specific substrates, a mutant of PKCR (M417A) was constructed at the ATP binding site such that it could bind a sterically large ATP analogue derivatized through the N6 amino group of adenosine (1c-32Pl-N6-phenyl-ATP). Because this analogue could be utilized by the mutant kinase but not by wild-type PKCR (or presumably other protein kinase) to phosphorylate peptide or protein substrates, 32P-labeled products were the direct result of the mutant PKCR.
  </td><td>bioorganic
asymmetric
methods
synthesis
mechanism
review
other

OM
Bryo
Apop
Hybrid
Gnid/ Kirk
Laulimalide
Drug Deliv.</td></tr>
</table>

<table>
<tr><td colspan="2">Citation: Dictionary.com (search term = "mook")</td></tr>
<tr><td>For those of you who always wanted to know what it meant....
mook Pronunciation Key (mk) n. Slang
An insignificant or contemptible person.</td><td>methods
synthesis</td></tr>
</table>

DON'T BE A MOOK!

Lit Review MOOKS include those who:

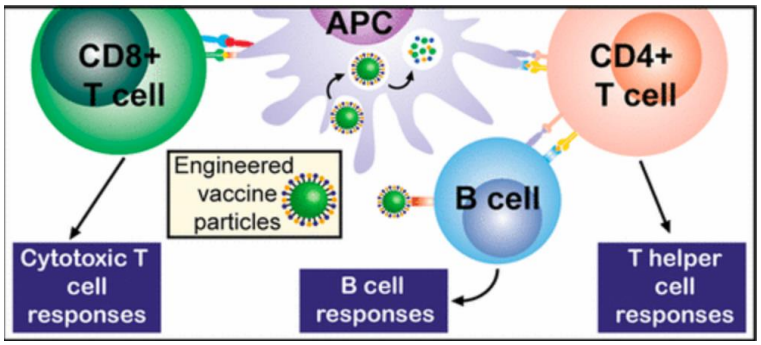
- fail to submit their abstracts in a timely fashion (or at all), or
- claim there was nothing to abstract in *JACS*, *JOC*, *Org. Lett.*, etc.

Penalties for being a Lit Review MOOK:

- You will get last choice when it's time to pick new journals.

Citation: Benner, Gause, K. T. et al. *ACS Nano,* **2017**, *11 (1)* 54-68.

Immunological Principles Guiding the Rational Design of Particles for Vaccine Delivery

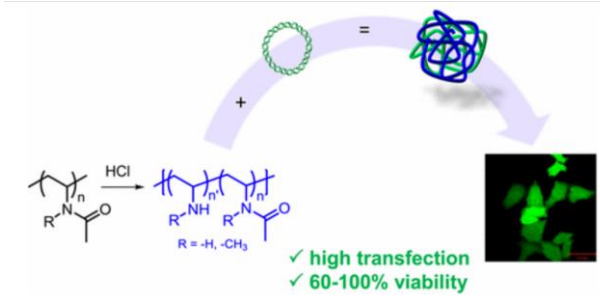


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Drean, M. et al.. *Biomacromolecules* **2017**, 18(2), 440-451.

Use of Primary and Secondary Polyvinylamines for Efficient Gene Transfection

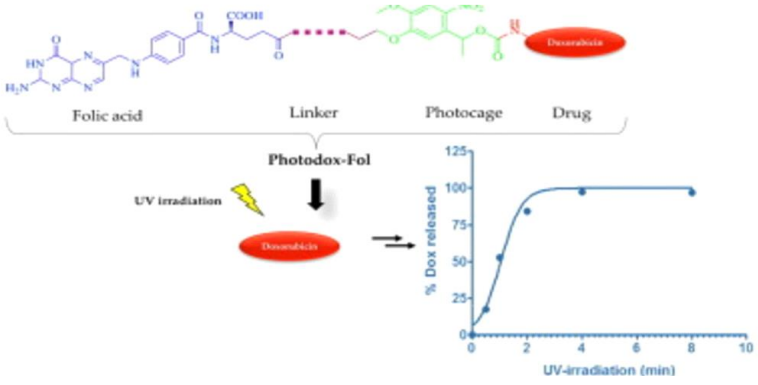


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Dcona, M. M. *et al. Bioorg. Med. Chem. Lett.* **2017**, *27*, 466.

Light induced drug release from a folic acid-drug conjugate



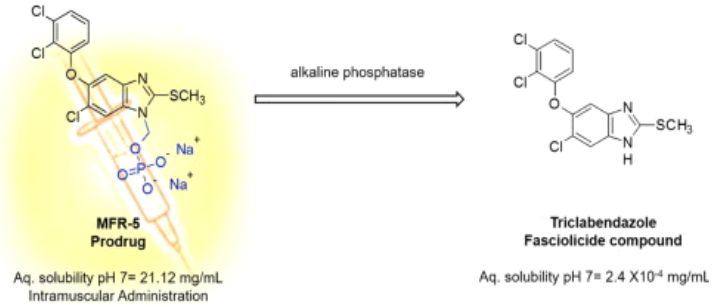
The authors synthesized a small-molecule conjugate that couples folic acid to doxorubicin via a photocleavable linker. Using HPLC they show that the doxorubicin can be released with light rapidly and with high efficiency.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDOs
Hybrid
Drug Deliv.
Prostratin

Citation: Flores-Ramos, M. *et al*. *Bioorg. Med. Chem. Lett.* **2017**, *27*, 616.

Novel triclabendazole prodrug: A highly water soluble alternative for the treatment of fasciolosis



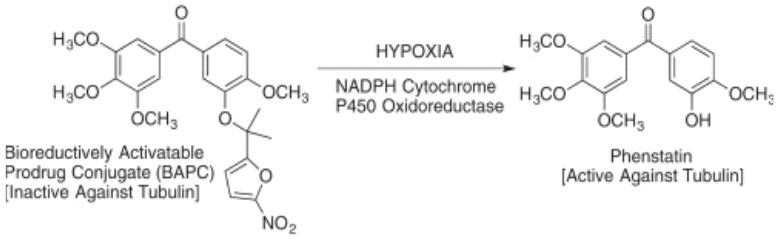
The prodrug showed an 88,000-fold increase in aqueous solubility in comparison to its precursor compound. The prodrug was evaluated in vivo against Fasciola hepatica, demonstrating high fasciolicidal activity

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDOs
Hybrid
Drug Deliv.
Prostratin

Citation: Winn, B. A.; *et al. Bioorg. Med. Chem. Lett.* **2017**, *27*, 636.

Bioreductively activatable prodrug conjugates of phenstatin designed to target tumor hypoxia

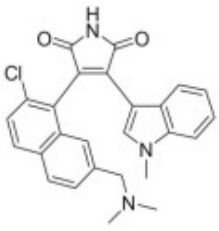


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDOs
Hybrid
Drug Deliv.
Prostratin

Citation: van Eis, M. J.; *et al. Bioorg. Med. Chem. Lett.* **2017**, *27*, 781.

Indolyl-naphthyl-maleimides as potent and selective inhibitors of protein kinase C-α/β



The indolyl-naphthyl maleimide 7 is a potent inhibitor of the classical PKC isotypes a,ß and shows excellent selectivity over the novel PKC isotypes δ, ε, η, θ and other kinases belonging to the AGC family. The SAR around 7 as well as the physico-chemical characteristics of selected derivatives and their activity in T and B cell activation and proliferation assays are discussed.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDOs
Hybrid
Drug Deliv.
Prostratin

Citation: Wu, Y., *et al. Chem Commun.* **2017**, *53,* 952.

Palladium-catalysed mono-α-alkenylation of ketones with alkenyl tosylates

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDOs
Hybrid
Drug Deliv.
Prostratin

Citation: Bio, M. *et al. Chem. Commun.* **2017**, *53,* 1884.

Efficient activation of a visible light-activatable CA4 prodrug through intermolecular photo-unclick chemistry in mitochondria

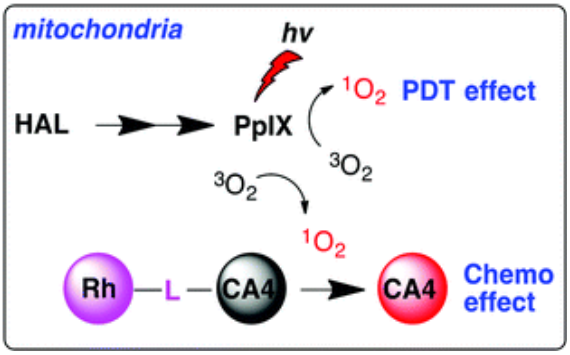


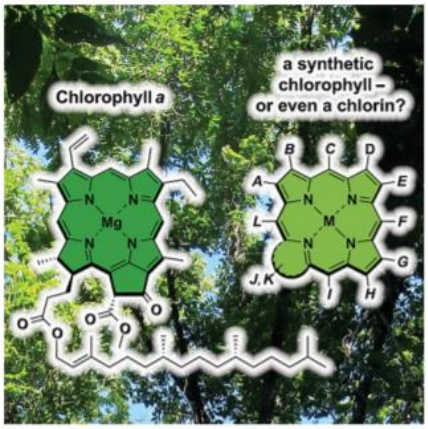
Photo-unclick chemistry mediates visible and near IR-controlled drug release via a singlet oxygen (SO)-cleavable linker. The authors demonstrate a new strategy to activate prodrugs with photo-unclick chemistry in an intermolecular fashion using an SO-cleavable CA4 prodrug and a mitochondria-specific photosensitizer, protoporphyrin IX, formed from prodrug hexyl-5-aminolevulinate.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDOs
Hybrid
Drug Deliv.
Prostratin

Citation: Taniguchi, M. and Lindsey, J. S. *Chem. Rev.*, **2017**, *117*, 344-535

Synthetic Chlorins, Possible Surrogates for Chlorophylls, Prepared by Derivitization of Porphyrins



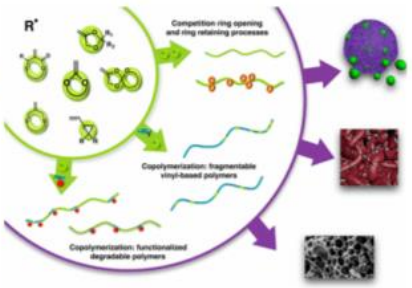
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Tardy, A et. al. *Chem. Rev.*, **2017**, *117*, 1319-1406

Radical Ring-Opening Polymerization: Scope, Limitations, and Application to (Bio)Degradable Materials

Cyclic monomers bearing either vinyl or exomethylene groups have the ability to be polymerized through a radical pathway via a ring-opening mechanism (addition–fragmentation process), leading to the introduction of functionalities in the polymer backbone. Radical ring-opening polymerization (rROP) combines the advantages of both ring-opening polymerization and radical polymerization, that is the preparation of polymers bearing heteroatoms in the backbone but with the ease and robustness of a radical process. This current review presents a comprehensive description of rROP...

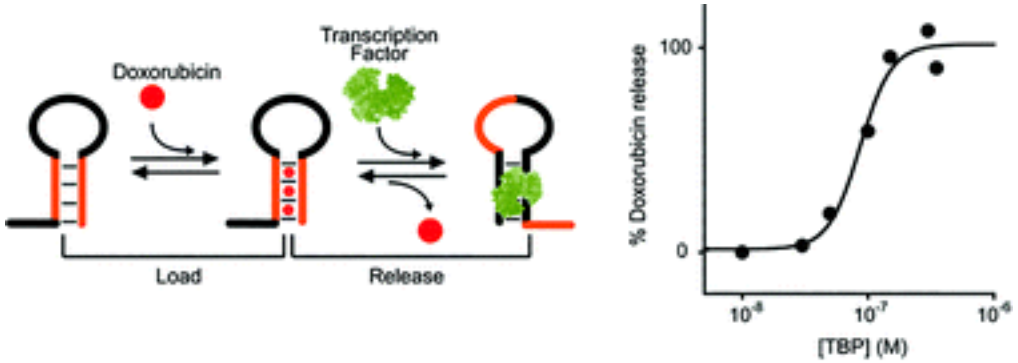


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Rossetti, M..; et al. *Chem. Sci.* **2017**, 8, 914

Allosteric DNA nanoswitches for controlled release of a molecular cargo triggered by biological inputs

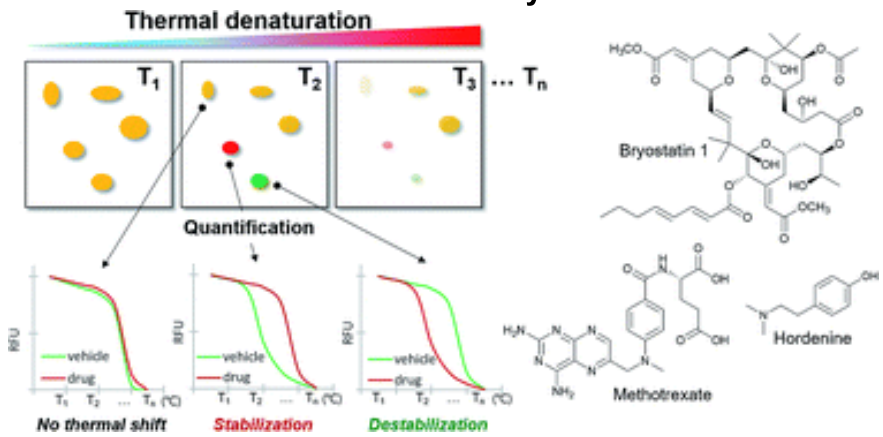


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Park, H.; et al. *Chem. Sci.* **2017**, 8, 1127

Label-free target identification using in-gel fluorescence difference *via* thermal stability shift

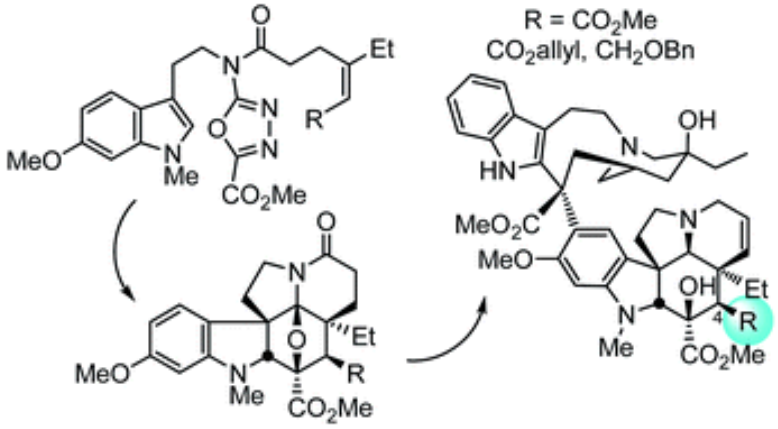


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Yang, S.; et al. *Chem. Sci.* **2017**, 8, 1560

Total synthesis of a kery series of vinblastines modified at C4 the define the importance and surprising trends in activity

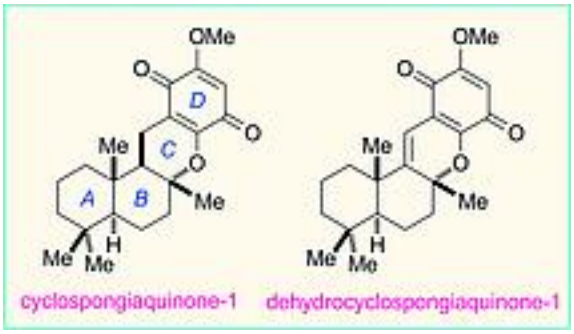


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Takeda, Y. et al. *Eur. J. Org. Chem.* **2017**, 4, 901

Total Synthesis of Marine Sequiterpene Quinones (+)-Cyclospongiaquinone-1 and (-)-Dehydrocyclospongiaquinone -1 with a Tetracyclic Benzo[*a*]xanthene Skeleton

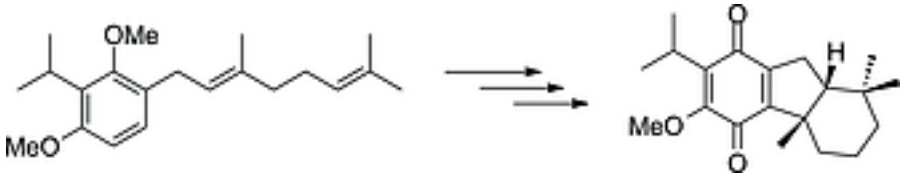


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Graham, M. et al. *Eur. J. Org. Chem.* **2017**, 4, 908

Cationic Polyene Cyclization for Taiwaniaquinoid Construction

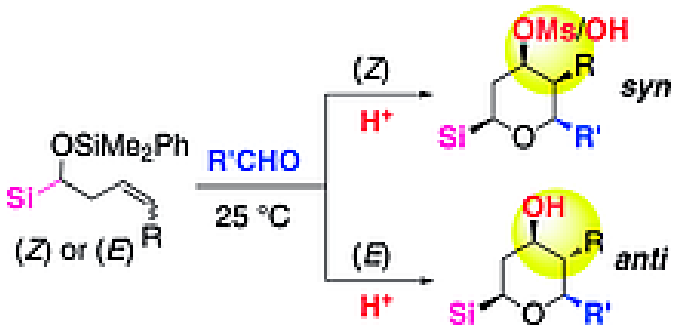


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Gandhamsetty, N. et al. *Eur. J. Org. Chem.* **2017**, 4, 933

Diastereoselective Construction of α-Silyltetrahydropyranols through Silyl-Oxa-Prins Cyclization

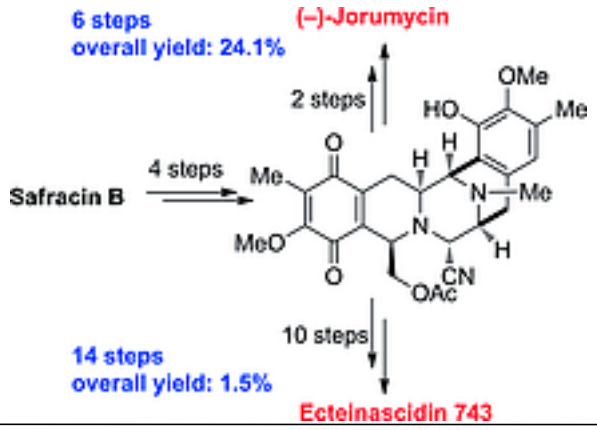


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Xu, S. et al. *Eur. J. Org. Chem.* **2017**, 5, 975

A Concise and Practical Semisynthesis of Ecteinascidin 743 and (-)-Jorumycin

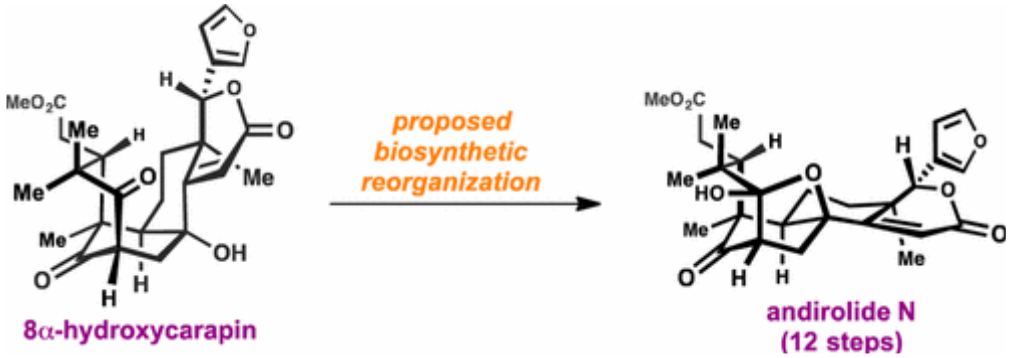


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Alexander W. Schuppe and Timothy R. Newhouse
Journal of the American Chemical Society 2017 139 (2), 631-634

Assembly of the Limonoid Architecture by a Divergent Approach: Total Synthesis of (±)-Andirolide N via (±)-8a-Hydroxycarapin

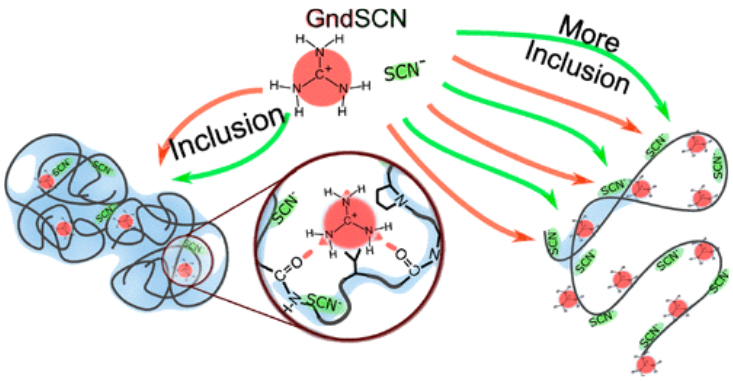


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.

Citation: Jan Heyda, Halil I. Okur, Jana Hladílková, Kelvin B. Rembert, William Hunn, Tinglu Yang, Joachim Dzubiella, Pavel Jungwirth, and Paul S. Cremer JACS 2017 139 (2), 863-870

Guanidinium can both Cause and Prevent the Hydrophobic Collapse of Biomacromolecules

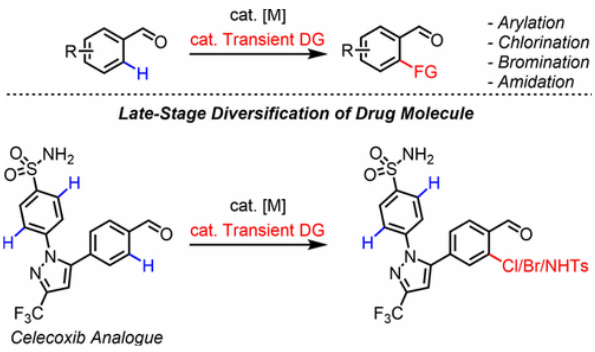


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Xi-Hai Liu, Hojoon Park, Jun-Hao Hu, Yan Hu, Qun-Liang Zhang, Bao-Long Wang, Bing Sun, Kap-Sun Yeung, Fang-Lin Zhang, and Jin-Quan Yu JACS 2017 139 (2), 888-896

Diverse ortho-C(sp2)–H Functionalization of Benzaldehydes Using Transient Directing Groups

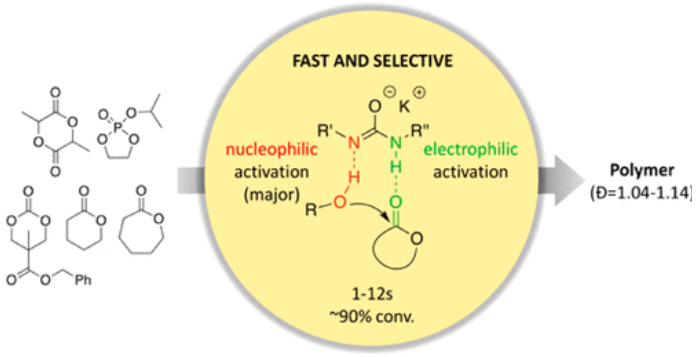


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
#C-H activation

Citation: Binhong Lin and Robert M. Waymouth
Journal of the American Chemical Society 2017 139 (4), 1645-1652

Urea Anions: Simple, Fast, and Selective Catalysts for Ring-Opening Polymerizations

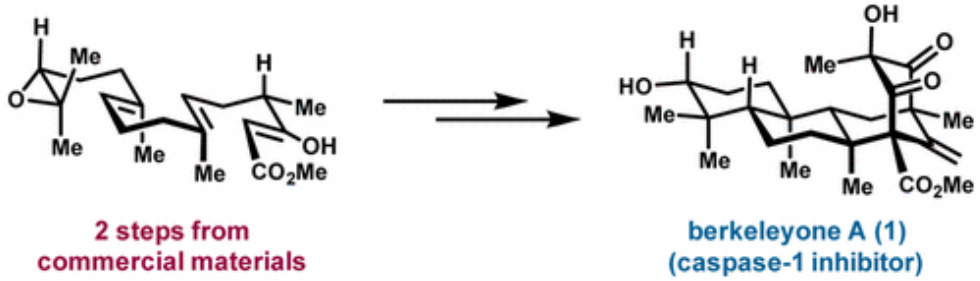


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
Hybrid
Drug Deliv.
Prostratin

Citation: *JACS,* **2016,** *139,* 1790.

Total Synthesis of Berkeleyone A

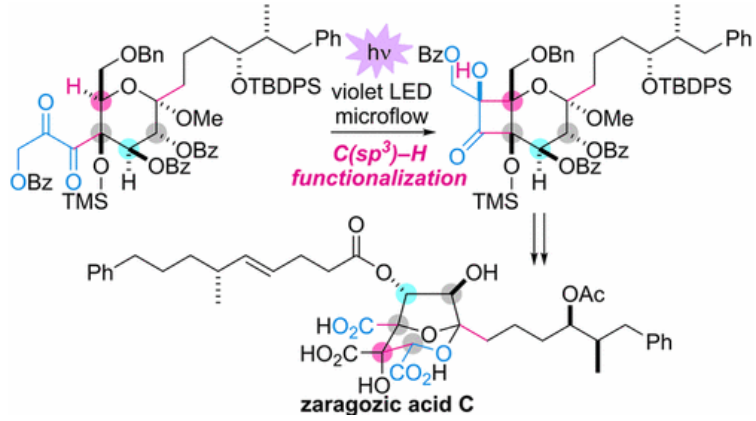


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: *JACS,* **2017,** *139,* 1814.

Total Synthesis of Zaragozic Acid C: Implementation of Photochemical C(so3)-H Acylation



bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: *JACS,* **2017,** *139,* 2102.

Conformational Dynamics in Penicillin-Binding Protein 2a of Methicillin-Resistant *Staphylococcus aureus,* Allosteric Communication Network and Enablement of Catalysis

Burns paper

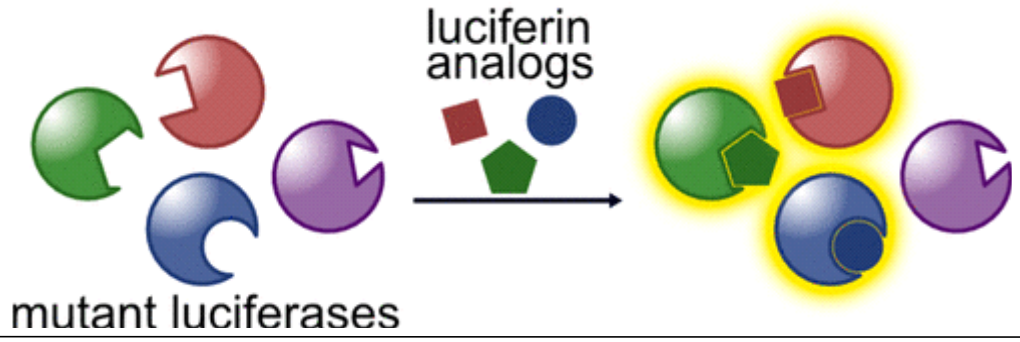
The Gram-positive pathogen *Staphylococcus aureus* uses one primary resistance mechanism. An enzyme, called penicillin-binding protein 2a (PBP2a), is brought into this biosynthetic pathway to complete the cross-linking. PBP2a effectively discriminates against the beta-lactam antibiotics as potential inhibitors, and in favor of the peptidoglycan substrate. The basis for this discrimination is an allosteric site, distal from the active site, that when properly occupied concomitantly opens the gatekeeper residues within the active site, that when properly occupied concomitantly opens the gatekeeper residues within the active site and realigns the conformation of key residues to permit catalysis.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Krysten A. Jones, William B. Porterfield, Colin M. Rathbun, David C. McCutcheon, Miranda A. Paley, and Jennifer A. Prescher JACS 2017 139 (6), 2351-2358

Orthogonal Luciferase–Luciferin Pairs for Bioluminescence Imaging



bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Drug Deliv.
Prostratin

Citation: ***JAMA.*** **2017;317(4):350. doi:10.1001/jama.2016.20743**

Large HIV Vaccine Trial Launches in South Africa

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: ***JAMA.*** **2017;317(5):465. doi:10.1001/jama.2016.20535**

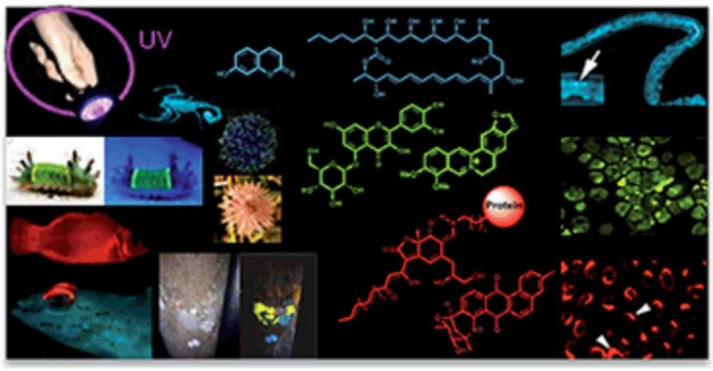
Scientists Discover Off Switch for Genome Editing Technique

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Duval, R. et al. *Nat. Prod. Rep.*, **2017**, 34, 161-193

Fluorescent natural products as probes and tracers in biology



bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: ***Nature*** **542, 20–22 (02 February 2017) doi:10.1038/542020a**

What it would take to reach the stars

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: ***Nature*** **542, 80–85 (02 February 2017) doi:10.1038/nature21043**

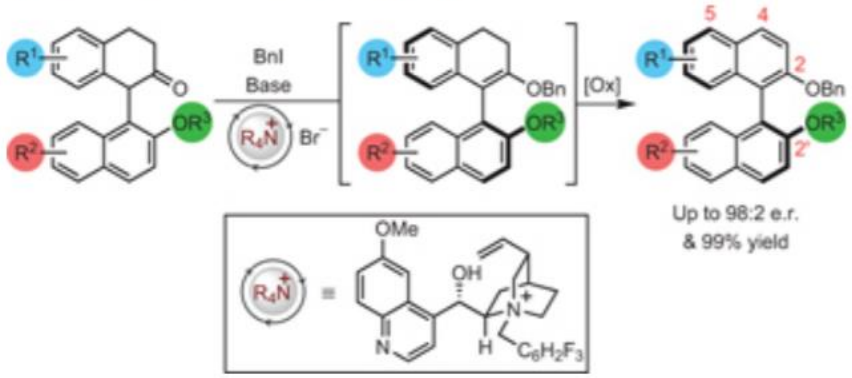
Molybdenum chloride catalysts for *Z*-selective olefin metathesis reactions

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: ***Nature Chemistry* (2017) doi:10.1038/nchem.2710**

Catalytic enantioselective synthesis of atropisomeric biaryls by a cation-directed *O*-alkylation

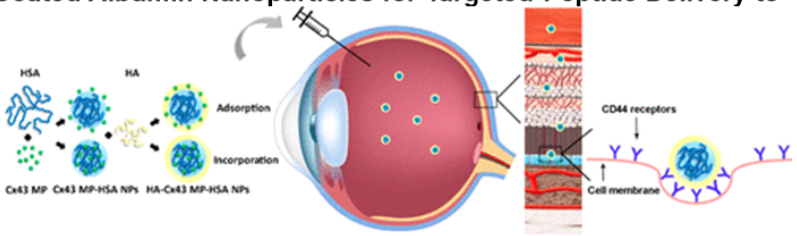


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Rupenthal, et *al. Nat. Chem. Bio.* **2016,** *14,*553

Hyaluronic Acid Coated Albumin Nanoparticles for Targeted Peptide Delivery to the Retina



The present study aimed to prolong the bioactivity of Cx43 MP and achieve targeted delivery to the retina by loading the peptide into hyaluronic acid (HA) coated human serum albumin nanoparticles (HSA NPs). Two different loading methods, adsorption and incorporation, were used with the peptide released slowly over a period of up to four months. Compared to uncoated particles, HA coated HSA NPs exhibited enhanced in vitro cellular uptake and ex vivo retinal penetration via HA-CD44 receptor mediated interactions. Furthermore, cell viability and Cx43 MP functionality assays showed that NPs protected Cx43 MP from degradation, sustained its release, and thus prolonged its bioactivity without reducing cell viability at concentrations used for Cx43 hemichannel blocking. Therefore, HA coated HSA NPs could have great potential for sustained and targeted delivery of Cx43 MP to treat various retinal inflammatory conditions.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: **N Engl J Med 2017; 376:469-474**

Drug-Development Challeges for Small Biopharmaceutical Companies

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: **N Engl J Med 2017; 376:491-493**

The Antigenicity of the Tumor Cell — Context Matters

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: **N Engl J Med 2017; 376:501-502**

Multidrug-Resistant HIV-1 Infection despite Preexposure Prophylaxis

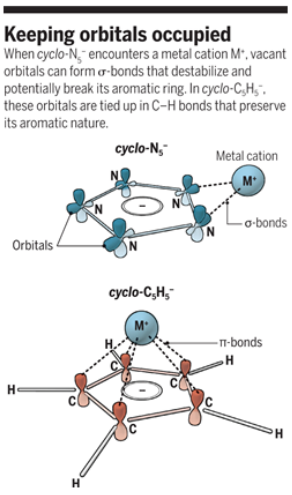
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Zhang, *et al.* *Science.* **2017, *355*,** 374.

Polynitrogen chemistry enters the ring

Polynitrogens have the potential for ultrahigh-performing explosives or propellants because singly or doubly bonded polynitrogens can decompose to triply bonded dinitrogen (N2) with an extraordinarily large energy release. The large energy content and relatively low activation energy toward decomposition makes the synthesis of a stable polynitrogen allotrope an extraordinary challenge. Many elements exist in different forms (allotropes)¡ªfor example, carbon can exist as graphite, diamond, buckyballs, or graphene. However, no stable neutral allotropes are known for nitrogen, and only two stable homonuclear polynitrogen ions had been isolated until now, namely, the N3- anion (1) and the N5+ cation (2). Zhang et al. report the synthesis and characterization of the first stable salt of the cyclo-N5- anion, only the third stable homonuclear polynitrogen ion ever isolated.



bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Yokose, *et al. Science.* **2017,** 355, 398-403.

Overlapping memory trace indispensable for linking, but not recalling, individual memories

Memories are not stored in isolation from other memories but are integrated into associative networks. However, the mechanisms underlying memory association remain elusive. Using two amygdala-dependent behavioral paradigms¡[a]conditioned taste aversion (CTA) and auditory-cued fear conditioning (AFC)¡[a]in mice, we found that presenting the conditioned stimulus used for the CTA task triggered the conditioned response of the AFC task after natural coreactivation of the memories. This was accompanied through an increase in the overlapping neuronal ensemble in the basolateral amygdala. Silencing of the overlapping ensemble suppressed CTA retrieval-induced freezing. However, retrieval of the original CTA or AFC memory was not affected. A small population of coshared neurons thus mediates the link between memories. They are not necessary for recalling individual memories.

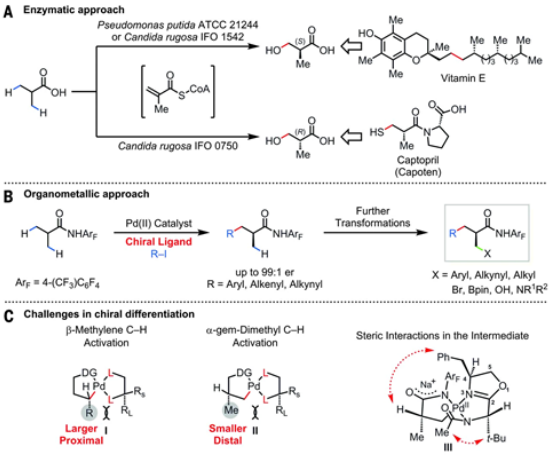
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Wu, *et al. Science.* **2017,** *355,* 499-503.

Formation of alpha-chiral centers by asymmetric beta-C(sp3)¨CH arylation, alkenylation, and alkynylation

Wu et al. produced an amide-directed palladium catalyst that, armed with oxazoline-derived chiral ligands, could reliably attack just one methyl member of isopropyl groups. The reaction successfully replaced C-H bonds with C-C bonds in a wide variety of aryl and vinyl coupling partners.



bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Virginia, M. *Science.* **2017,** *355,* 588

World's most endangered marine mammal down to 30

Only 30 vaquitas, a small porpoise in Mexico's Gulf of California, remain. A just-released report shows that the cetacean's numbers dropped by almost half from 2015 to 2016 because of gillnets. Scientists expect the vaquita to be extinct in a few years' time, unless they intervene. If that happens, the vaquita will become the second marine mammal species to go extinct in this century. To save the porpoise, a recovery team plans to capture some of the remaining animals in October for captive breeding. U.S. Navy bottlenose dolphins may help locate the shy vaquitas, which will be cared for in sea pens in the gulf.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin