Accounts of Chemical Research	N/A	Jack Sloane
ACS Central Science	**MOOK**	Colin McKinlay
ACS Chemical Biology	**MOOK**	Gabriella Fernandes Cunha
ACS Nano	107	Nancy Benner
Advanced Drug Delivery Reviews	107	Melanie Huttner
Angewandte Chemie International Edition	108	Samanta Capolicchio
Bioconjugate Chemistry	110	Nancy Benner
Biomacromolecules	**MOOK**	Colin McKinlay
Bioorganic and Medicinal Chemistry	111	Xiaoyu Zang (Janice)
Bioorganic and Medicinal Chemistry Letters	**MOOK**	Matt Stevens
Chemical Communications	112	Katie Near
Chemical & Engineering News	112	Melanie Huttner
Chemical Reviews	**MOOK**	Ryan Quiroz
Chemical Science	**MOOK**	Colin McKinlay
Chemistry, A European Journal	114	Jack Sloane
European Journal of Organic Chemistry	**MOOK**	Gabriella Fernandes Cunha
Journal of the American Chemical Society	**MOOK**	Steven Ryckbosch (odd)
		Akira Shimizu (even)
JAMA	117	Stephen Ho
Journal of Medicinal Chemistry	117	Clayton Hardman
Journal of Organic Chemistry	119	Matt Jeffreys
Molecular Pharmaceutics	120	Melanie Huttner
Natural Product Reports	121	Nancy Benner
Nature	121	Jessica Vargas
Nature Chemistry	122	Matt Jeffreys
Nature Chemical Biology	N/A	Xiaoyu Zang (Janice)
New England Journal of Medicine	123	Stephen Ho
The New York Times	124	Melanie Huttner
The Onion	**MOOK**	Steven Ryckbosch
Organic Letters	124	Stephen Ho
Organometallics	**MOOK**	Ryan Quiroz
PNAS	N/A	Jessica Vargas
Science	125	Matt Stevens
Science Translational Medicine	126	Xiaoyu Zang (Janice)
Synlett	126	Quang Luu-Nguyen
Synthesis	127	Quang Luu-Nguyen
Tetrahedron	127	Clayton Hardman
Tetrahedron Letters	128	Katie Near

Next Due Date: Monday, May 16, 2016

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.

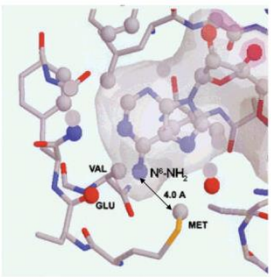
Include a brief textual summary of the article; an example of a completed abstract is shown below. The list of topics and subgroups on the right is useful to highlight which subgroups should pay attention to your abstract and roughly what kind of chemistry the article contains.

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.**

Citation: Abeyweera, T.P.; Rotenberg, S.A. *Biochemistry* **2007**, *46*, 2364-2370

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 (Iε-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.



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Citation: Dictionary.com (search term = "mook")

For those of you who always wanted to know what it meant....
mook **Pronunciation Key** (mk) *n. Slang*
An insignificant or contemptible person.

methods
synthesis

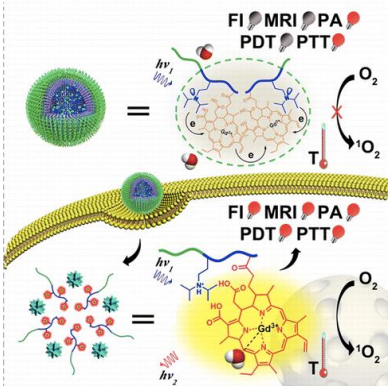
DON'T BE A MOOK!

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: Wang, T. et. al, *ACS Nano,* **2016**, 10 (13) 3496-3508

Intracellularly Acid-Switchable Multifunctional Micelles for Combinational Photo/Chemotherapy of the Drug-Resistant Tumor



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synthesis
mechanism
review
other

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DDO
Hybrid
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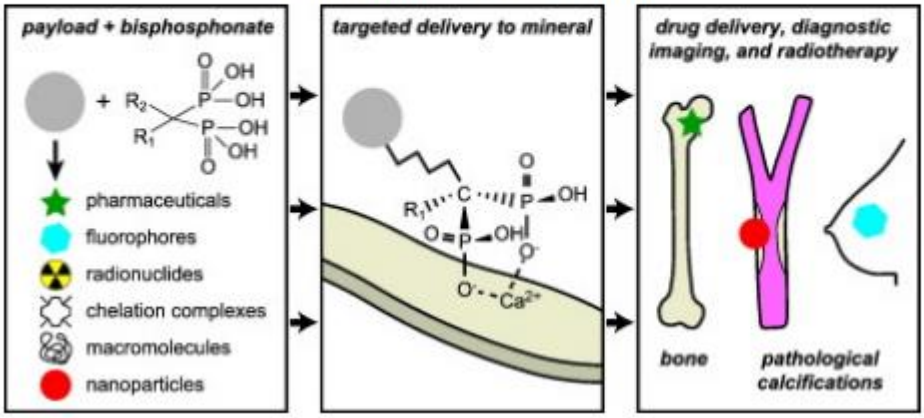
Prostratin

Citation: Cole, L.E.; *et al. Adv. Drug Deliv. Rev.* **2016,** *99,* 12.

Targeted delivery to bone and mineral deposits using bisphosphonate ligands



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synthesis
mechanism
review
other

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Prostratin

Citation: Suk, J.S.; *et al. Adv. Drug Deliv. Rev.* **2016,** *99,* 28.

PEGylation as a strategy for improving nanoparticle-based drug and gene delivery

Here the authors discuss the history of the development of PEGylated nanoparticle formulations for systemic administration, including how factors such as PEG molecular weight, PET surface density, nanoparticle core properties, and repeated administration impact circulation time. They also describe how PEG coatings on nanoparticles have been utilized for overcoming various biological barriers to efficient drug and gene delivery associated with other modes of administration and methods for PEGylating NPs and characterizing PEG surface density.

bioorganic
methods
synthesis
mechanism
review
other

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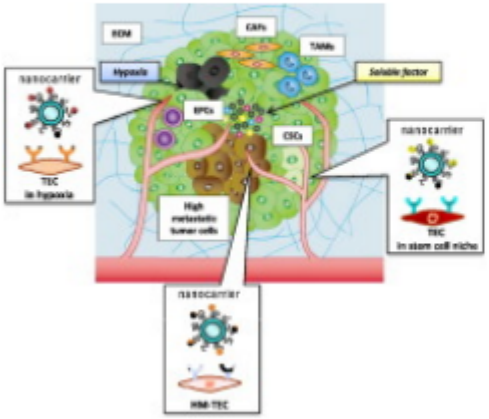
Citation: Hida, K.; *et al. Adv. Drug Deliv. Rev.* **2016**, *99*, 140.

Heterogeneity of tumor endothelial cells and drug delivery



The authors have investigated differences between tumor endothelial cells (TECs) with differing malignancy. They discuss how TECs in tumor vasculature are heterogeneous and offer new perspectives on drug delivery systems that can target tumor blood vessels using personalized medicine.

bioorganic
methods
synthesis
mechanism
review
other

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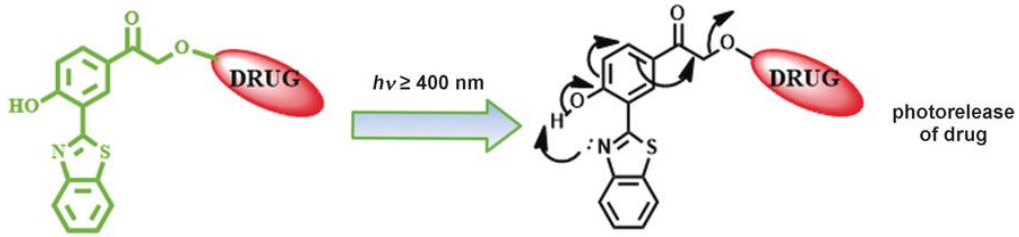
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Barman, S. et al. *Angew. Chem Int. Ed.* **2016**, *55*, 4194–4198

A p-Hydroxyphenacyl–Benzothiazole–Chlorambucil Conjugate as a Real-Time-Monitoring Drug-Delivery System Assisted by Excited-State Intramolecular Proton Transfer



Let it go… The two major limitations for theranostics of the p-hydroxyphenacyl (pHP) phototrigger were overcome by incorporating a benzothiazole appendage to enable rapid excited-state intramolecular proton transfer (ESIPT; see picture). The ESIPT effect had two key advantages: It assisted the deprotonation of pHP group for faster release of the anticancer drug chlorambucil and led to a fluorescence color change upon photorelease.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
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Drug Deliv.
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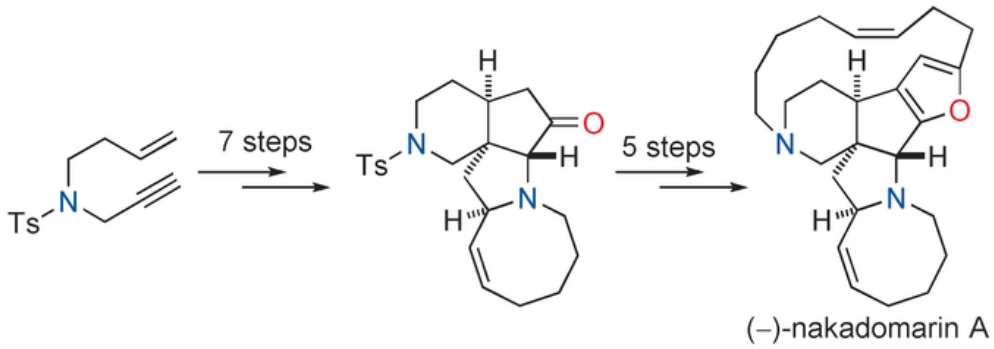
Citation: Clark, S. et al. *Angew. Chem Int. Ed.* **2016**, *55*, 4332-4335.

Total Synthesis of (-)-Nakadomarin A



bioorganic
methods
synthesis
mechanism
review
other

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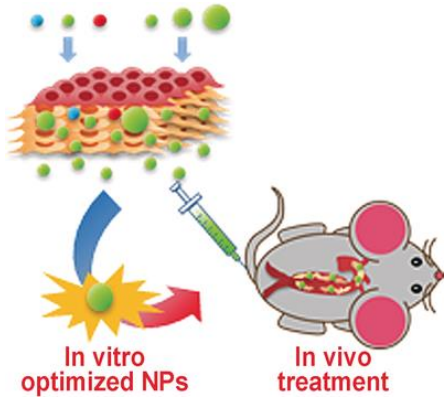
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Chetprayoon, P. et al. *Angew. Chem Int. Ed.* **2016**, *55*, 4461-4466.

Use of Three-Dimensional Arterial Models To Predict the In Vivo Behavior of Nanoparticles for Drug Delivery



Throw away the crystal ball: Three-dimensional human-artery models allowed in vitro prediction of the in vivo behavior of drug-delivery nanoparticles. In vivo experiments with atherosclerotic mice suggested strong biological characteristics and potential treatment effects of nanoparticles optimized in vitro (see picture). This approach is a promising alternative to animal experiments for the optimization of nanomaterials.

bioorganic
methods
synthesis
mechanism
review
other

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Drug Deliv.
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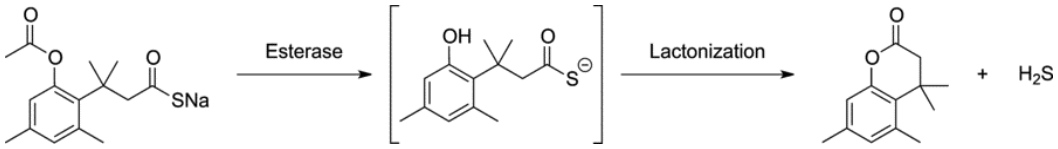
Citation: Zheng, Y. et al. *Angew. Chem Int. Ed.* **2016**, *55*, 4514-4518.

Esterase-Sensitive Prodrugs with Tunable Release Rates and Direct Generation of Hydrogen Sulfide



Tunable H_2S supply: Prodrugs that release hydrogen sulfide upon esterase-mediated cleavage of an ester group followed by lactonization are described (see example). By modifying the ester group and thus its susceptibility to esterase H_2S release rates can be tuned. The anti-inflammatory effects of one candidate were examined by studying its ability to inhibit TNF-α production in RAW 264.7 cells.

bioorganic
methods
synthesis
mechanism
review
other

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Drug Deliv.
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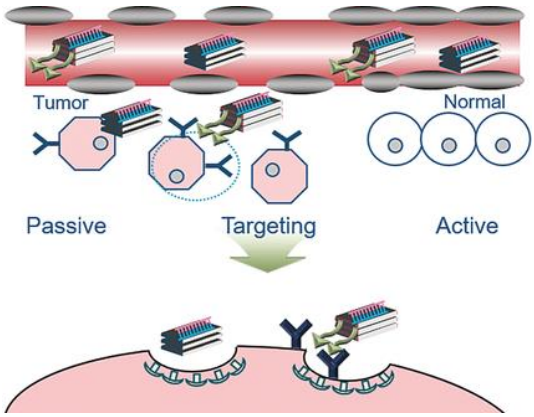
Citation: Park, D. H. et al. *Angew. Chem Int. Ed.* **2016**, *55*, 4582-4586.

Biodegradable Inorganic Nanovector: Passive versus Active Tumor Targeting in siRNA Transportation



Cancer therapy: An inorganic layered double hydroxide (LDH) nanovector with a folic acid (FA) conjugated surface showed siRNA-based cancer therapeutic efficacy in vivo through receptor-mediated active targeting (see picture). A 1.2-fold higher accumulation of the drug was achieved in tumor tissue, resulting in 3.0-fold higher suppression of tumor volume.

bioorganic
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synthesis
mechanism
review
other

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Drug Deliv.
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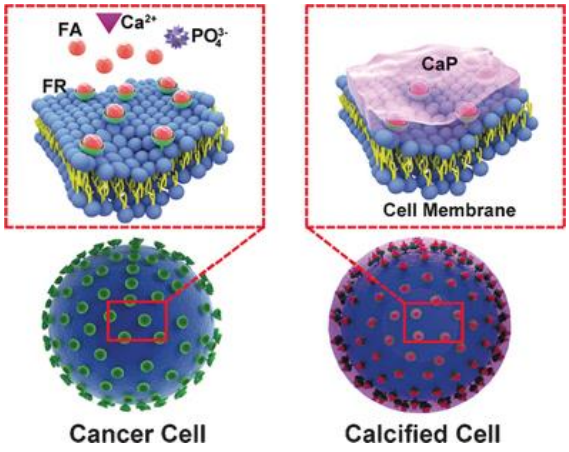
Citation: Zhao, R. et al. *Angew. Chem Int. Ed.* **2016**, *55*, 5225-5229.

A Drug-Free Tumor Therapy Strategy: Cancer-Cell-Targeting Calcification



Anticancer mineralization: Cancer-cell-targeting calcification can convert tumors into calcified tissues by using folic acid (FA), calcium, and the folate receptor (FR) resulting in cancer cell growth and metastatic inhibition without any drugs. These results suggest cancer cells can be selectively targeted using biomineralization methods.

bioorganic
methods
synthesis
mechanism
review
other

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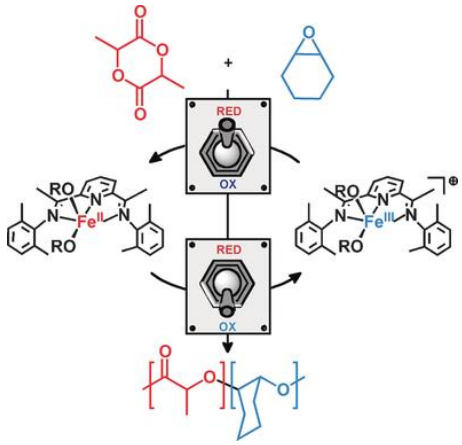
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Biernesser, A. B. et al. *Angew. Chem Int. Ed.* **2016**, *55*, 5251-5254.

Block Copolymerization of Lactide and an Epoxide Facilitated by a Redox Switchable Iron-Based Catalyst



The redox-controlled block copolymerization of cyclohexene oxide and lactide capitalizes on the ability for a bis(imino)pyridine iron bisalkoxide complex to polymerize lactide in the iron(II) oxidation state and epoxide in the iron(III) state, but not vice versa. Diblock copolymers were synthesized with both monomers present starting with either the iron(II) or iron(III) catalyst and using an in situ redox switch.

bioorganic
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synthesis
mechanism
review
other

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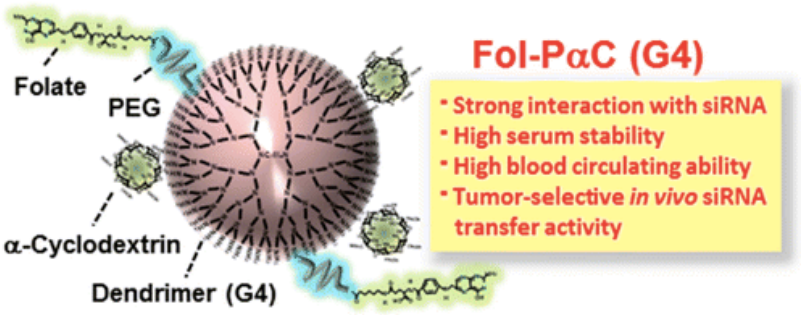
Citation: Ohyama, A. et al. *Bioconjugate chemistry* **2016**, 521-532.

In Vitro and In Vivo Targeting siRNA Delivery using Folate-PEG appended Dendrimer



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synthesis
mechanism
review
other

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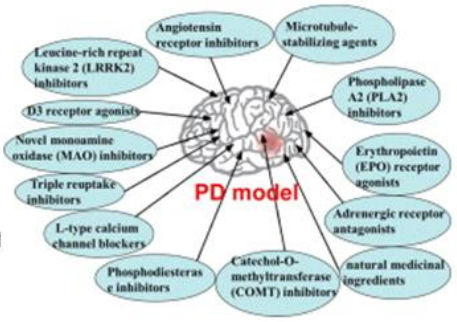
Citation: Zhang, *et al. Bioorg. Med. Chem.* **2016,** *24*, 1419-1430.

Emerging targets and new small molecule therapies in Parkinson's disease treatmens



In recent years, research on the pathogenesis of PD and its clinical manifestations has led to the discovery of an increasing number of novel targets in PD, including several small molecule targeted compounds. In this paper, we analyze and summarize the most recently published PD literature and review several recently discovered novel targets in PD and their small molecule targeted pharmacologically active agents based on their mechanisms of action and pharmacodynamic profiles.

bioorganic
methods
synthesis
mechanism
review
other

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Drug Deliv.
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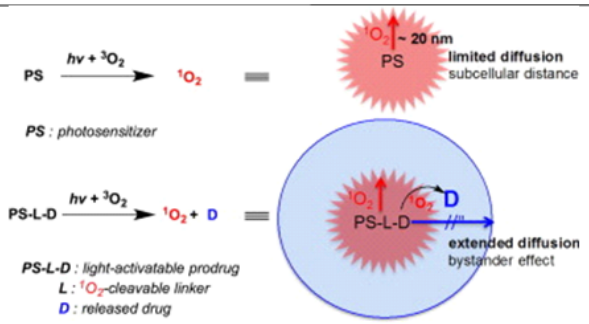
Citation: Rajaputra, *et al. Bioorg. Med. Chem* **2016,** *24*, 1540-1549.

Anticancer drug released from near IR-activated prodrug overcomes spatiotemporal limits of singlet oxygen



Here, we present clear evidence supporting our hypothesis that the superior activity of the prodrug Pc-(L-CA4)2 over Pc-(NCL-CA4)2 is due to the released anticancer drug CA4, overcoming the spatial and temporal limits of 1O2, a major toxic species of PDT. We used HPLC to quantify the CA4 released from the prodrug in the complete medium after in vitro illumination. We then acquired images of live cells after partial illumination of the prodrug-treated wells to examine the broader cell kill achieved with Pc-(L-CA4)2. To demonstrate the sustained cytotoxic effect of the released CA4, we determined the cell survival 30 min or 3 days after treatment, with or without replacing the culture medium. After treatment, we collected fluorescence images of the cells to observe the tubulin staining patterns. Finally, we generated histological images of the tumors to observe the time-dependent pattern of damage after treatment.

bioorganic
methods
synthesis
mechanism
review
other

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DDO
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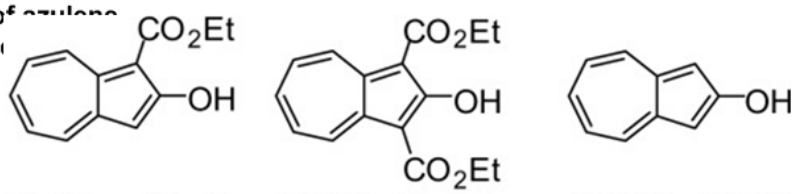
Citation: Peet, *et al. Bioorg. Med. Chem* **2016,** *24*, 1653-1657.

Antiretroviral (HIV-1) activity of azulene derivativ



13: IC_{50}=10 μM **14**: IC_{50}=4 μM **15**: IC_{50}=2 μM

The antiretroviral activity of azulene derivatives was detected for the first time. A series of eighteen diversely substituted azulenes was synthesized and tested in vitro using HIV-1 based virus-like particles (VLPs) and infectious HIV-1 virus in U2OS and TZM-bl cell lines. Among the compounds tested, the 2-hydroxyazulenes demonstrated the most significant activity by inhibiting HIV-1 replication with IC50 of 2¨C10 and 8¨C20 ¦ÌM for the VLPs and the infectious virus, respectively. These results indicate that azulene derivatives may be potentially useful candidates for the development of antiretroviral agents.

bioorganic
methods
synthesis
mechanism
review
other

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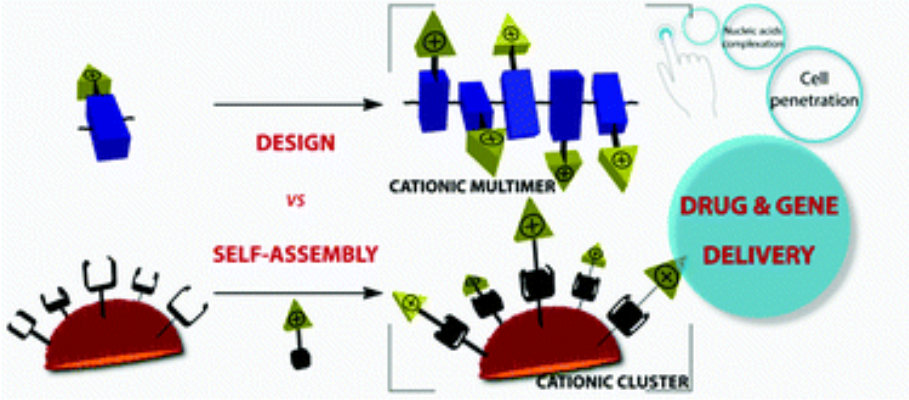
Hybrid
Drug Deliv.
Prostratin

Citation: Bartolami, E. *et al. Chem. Commun.* **2016**, *52,* 4257.

Bioactive clusters promoting cell penetration and nucleic acid complexation for drug and gene delivery applications: from designed to self-assembled and responsive systems



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synthesis
mechanism
review
other

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Drug Deliv.
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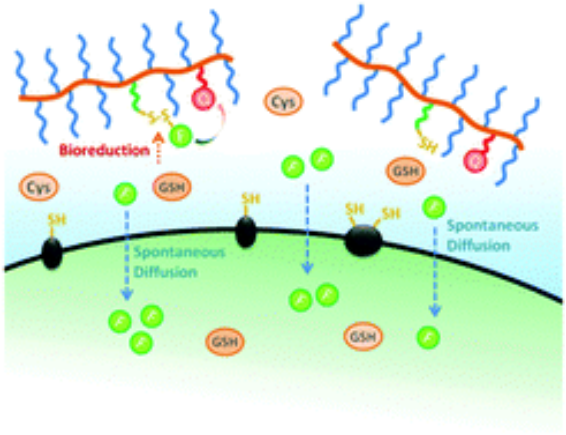
Citation: Ling, Y.; *et al. Chem. Commun.* **2016**, *52,* 4533.

POEGMA-based disulfide-containing fluorescent probes for imitating and tracing noninternalization-based intracellular drug delivery



This study provides a proof-of-concept demonstration of exploiting bioreduction in the extracellular spaces for the intracellular delivery of hydrophobic drugs or probes.

bioorganic
methods
synthesis
mechanism
review
other

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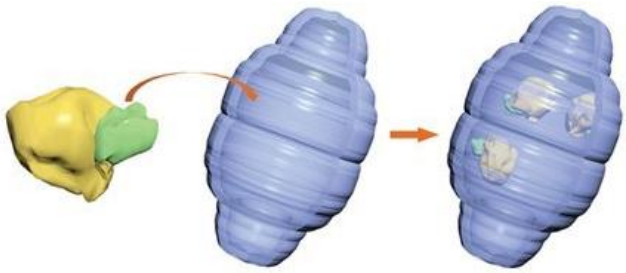
DDOs
Hybrid
Drug Deliv.
Prostratin

Citation: C&EN, March 21, 2016, p. 6.

Caged enzymes for bioremediation

ety national meeting in San Diego, a team led by Shaily Mahendra, an

Manganese peroxidase (yellow) can be packaged in vault particles (blue) with an added domain (green) that helps the enzymes bind within the vaults.



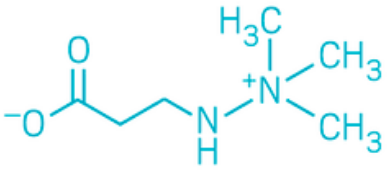
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: C&EN, March 21, 2016, p. 14.

Meldonium

Russian tennis star Maria Sharapova is one of dozens of athletes who have tested positive for meldonium, known by the brand name Mildronate, a drug banned this year by the World Anti-Doping Agency. Meldonium is made by the Latvian pharmaceutical firm Grindex and used in Baltic countries to treat cardiovascular and neurodegenerative disorders. Grindex says the drug prevents cell death by boosting oxygen uptake but does not improve athletic performance and thus should not be banned. It stressed that no adverse reactions to Mildronate use in athletes have been registered.



Meldonium

bioorganic
methods
synthesis
mechanism
review
other

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Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: C&EN, March 21, 2016, p. 24.

Brewing up an analytical services firm

A surge in craft beers gives rise to a niche market for analytical chemistry. An explosion of diversity [in beer selection] has created a niche market for brewing analytical services: chemists and biologists who help brewers figure out exactly what's in their tanks - and how to make it taste better. Major labels such as Budweiser have always had staff scientists doing quality assurance and control (QA/QC), but in-house labs at small to medium-sized operations are becoming more and more common.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: C&EN, March 21, 2016, p. 26.

C&EN talks with Christina Smolke, synthetic biology bioneer

Last year Christina Smolke of Stanford University developed yeast that turns glucose into the opiods thebane and hydrocodone (*Science* 2015). The work could offer a more efficient route to the vital drugs through industrial fermentation.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: C&EN, March 28, 2016, p. 13.

Harvard, Merck sign hefty drug pact

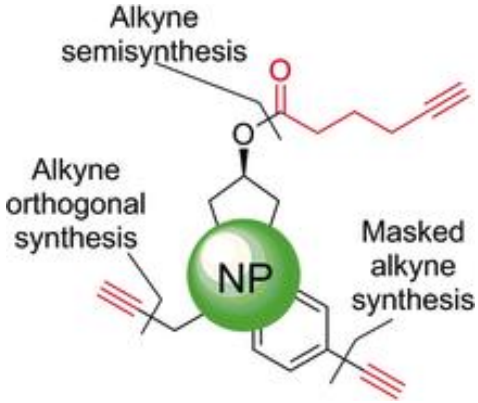
Representing the largest license fee ever for a technology developed at Harvard University, Merck & Co. will pay $20 million up front for prelinical compounds for leukemia develpoed in the labs of chemist Matthew Shair. Merck gains small molecules that block enzymes controlling the transcription of gene expression that goes awry in acute myeloid leukemia (AML). Shair's team recently unraveled how cortistatin A, a natural product isolated from sea sponges, stops AML cells from growing. Shair found that the compound potently and selectively blocks protein kinases that tune the transcription of certain genes. The researchers then designed easier-to-make derivatives of cortistatin A.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Lehmann, J. et al. *Chem. Eur. J.* **2016**, 22, 4666-4678

Making a Long Journey Short: Alkyne Functionalization of Natural Product Scaffolds



bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Du, D. et al. *Chem. Eur. J.* **2016**, 22, 4733-4737

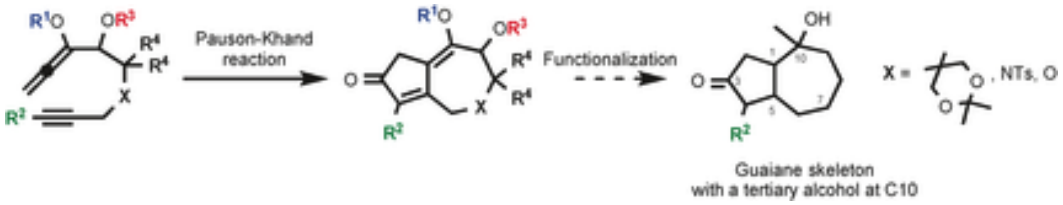
Construction of Spirocyclic Oxindoles through Regio- and Stereoselective [3+2] or [3+2]/[4+2] Cascade Reaction of a,b-Unsaturated Imines with 3-Isothiocyanato Oxindole

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Tap, A. et al. *Chem. Eur. J.* **2016**, 22, 4938-4944

Alkoxyallene-ynes: Selective Preparation of Bicyclo[5.3.0] Ring Systems Including a d-Alkoxy Cyclopentadienone



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review
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Hybrid
Drug Deliv.
Prostratin

Citation: Chen, J. et al. *Chem. Eur. J.* **2016**, 22, 5363-5375

Synthesis of Cyclic Vinylidene Complexes and Azavinylidene Complexes by Formal [4+2] Cyclization Reactions

bioorganic
methods
synthesis
mechanism
review
other

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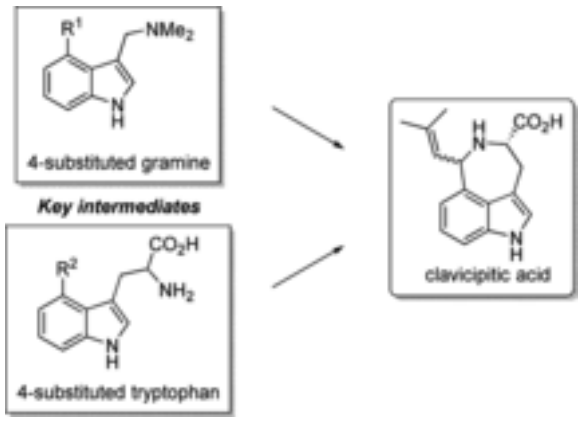
Citation: Ito, M. et al. *Chem. Eur. J.* **2016**, 22, 5468-5477

Strategies for the Total Synthesis of Clavicipitic Acid



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synthesis
mechanism
review
other

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Drug Deliv.
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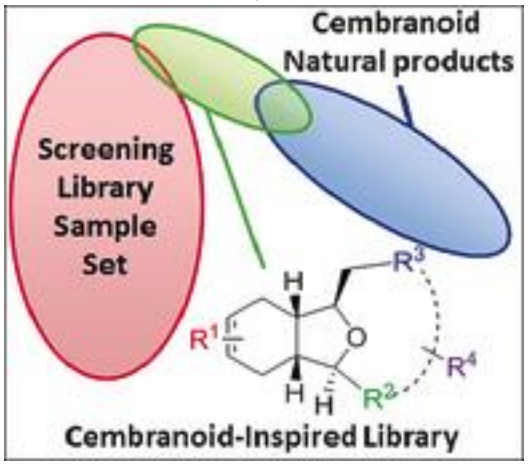
Citation: Welford, A. J. et al. *Chem. Eur. J.* **2016,** 22, 5657-5664

Synthesis and Evaluation of a 2,11-Cembranoid-Inspired Library



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synthesis
mechanism
review
other

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Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Zhou, R. et al. *Chem. Eur. J.* **2016**, 22, 5883-5887

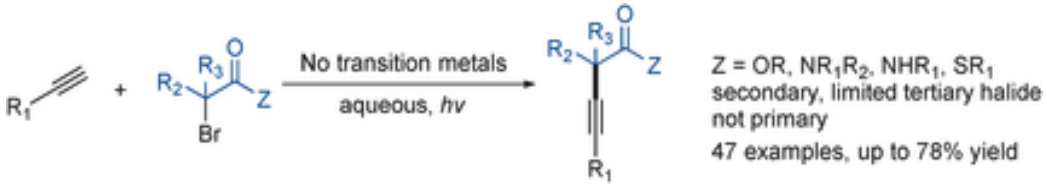
Unusual Formal [1+4] Annulation through Tandem $P(NMe_2)_3$-Mediated Cyclopropanation/Base-Catalyzed Cyclopropane Rearrangement: Facile Syntheses of Cyclopentenimines and Cyclopentenones

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Liu, W. et al. *Chem. Eur. J.* **2016**, 22, 5888-5893

Transition-Metal-Free Coupling of Alkynes with a-Bromo Carbonyl Compounds: An Efficient Approach towards b,g- Alkynoates and Allenoates



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synthesis
mechanism
review
other

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Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: ***JAMA.* 2016;315(12):1217-1218** **Julie A. Jacob**

Protease-Activated Fluorescent Probe Shows Promise as a Cancer Imaging Device

bioorganic
methods
synthesis
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review
other

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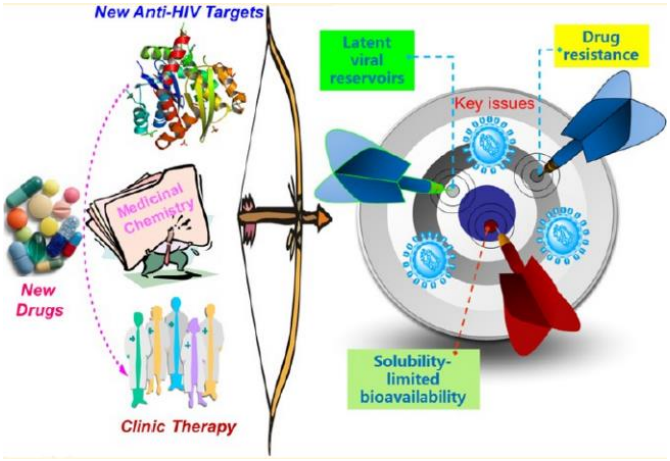
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Zhan, P.; Pannecouque, C.; De Clercq, E.; Liu, X. J. Med. Chem. **2016,** *59*, 2849-2878.

Anti-HIV Drug Discovery And Development: Current Innovations And Future Trends



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review
other

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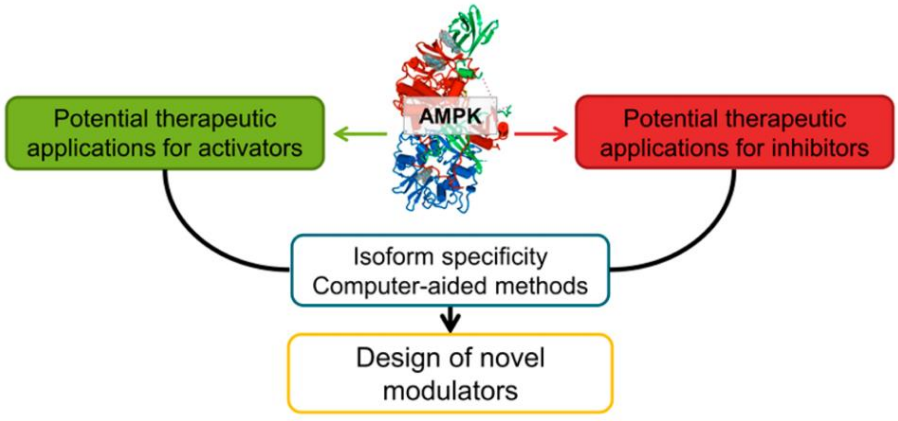
Drug Deliv.
Prostratin

Citation: Miglianico, M.; Nicolaes, G.; Neumann, D.. J. Med. Chem. **2016**, *59*, 2879-2893.

Pharmacological Targeting Of AMP-Activated Protein Kinase And Opportunities For Computer-Aided Drug Design



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Drug Deliv.
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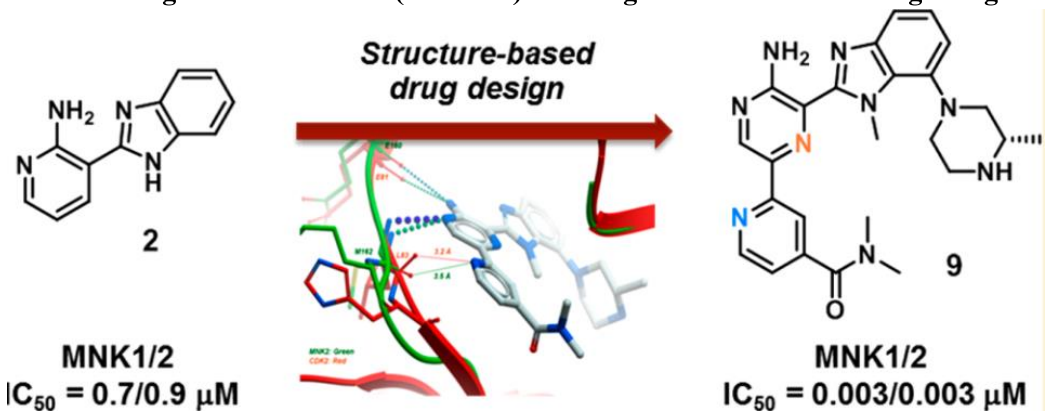
Citation: (4) Han, W.; Ding, Y.; Xu, Y.; Pfister, K.; Zhu, S.; Warne, B.; Doyle, M.; Aikawa, M.; Amiri, P.; Appleton, B. et al. J. Med. Chem. **2016**, *59*, 3034-3045.

Discovery Of A Selective And Potent Inhibitor Of Mitogen-Activated Protein Kinase-Interacting Kinases 1 And 2 (MNK1/2) Utilizing Structure-Based Drug Design



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Drug Deliv.
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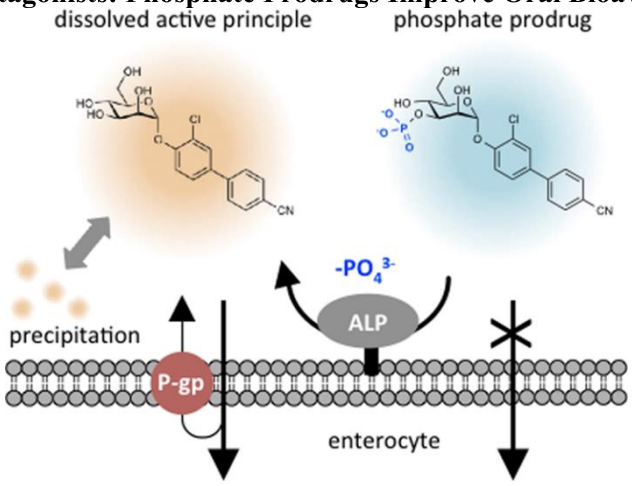
Citation: Kleeb, S.; Jiang, X.; Frei, P.; Sigl, A.; Bezençon, J.; Bamberger, K.; Schwardt, O.; Ernst, B.. J. Med. Chem. **2016**, *59*, 3163-3182.

Fimh Antagonists: Phosphate Prodrugs Improve Oral Bioavailability



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review
other

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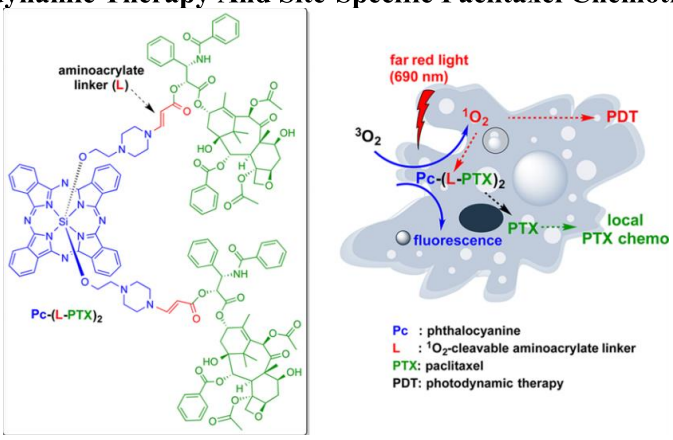
Hybrid
Drug Deliv.
Prostratin

Citation: (6) Thapa, P.; Li, M.; Bio, M.; Rajaputra, P.; Nkepang, G.; Sun, Y.; Woo, S.; You, Y. . J. Med. Chem. **2016**, *59*, 3204-3214.

Far-Red Light-Activatable Prodrug Of Paclitaxel For The Combined Effects Of Photodynamic Therapy And Site-Specific Paclitaxel Chemotherapy



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other

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Drug Deliv.
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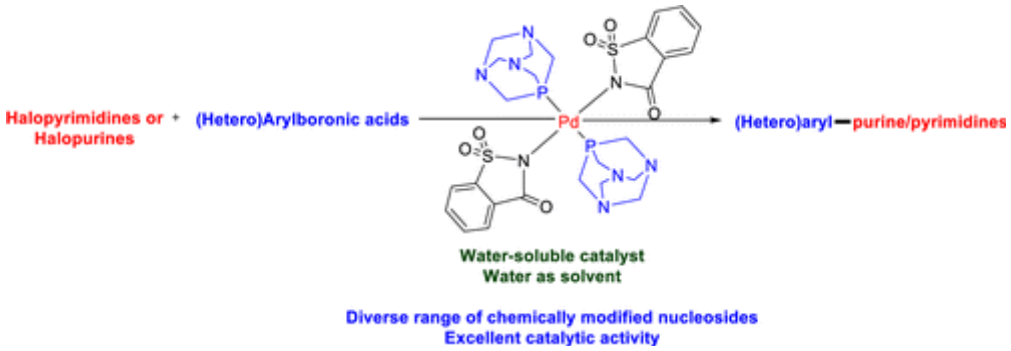
Citation: Gayakhe, V.; *et al. JOC,* **2016,** *81,* 2713-2729.

Water-Soluble Pd–Imidate Complexes: Broadly Applicable Catalysts for the Synthesis of Chemically Modified Nucleosides via Pd-Catalyzed Cross-Coupling



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methods
synthesis
mechanism
review
other

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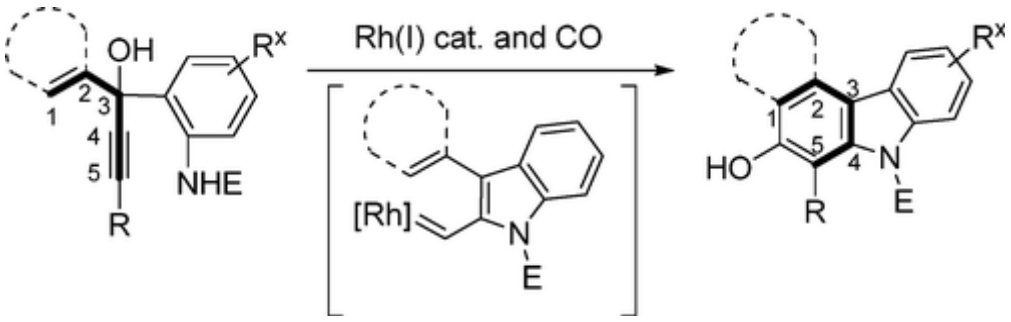
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Song, W.; *et al. JOC,* **2016**, *81*, 2930-2942.

Synthesis of Carbazoles and Carbazole-Containing Heterocycles via Rhodium-Catalyzed Tandem Carbonylative Benzannulations



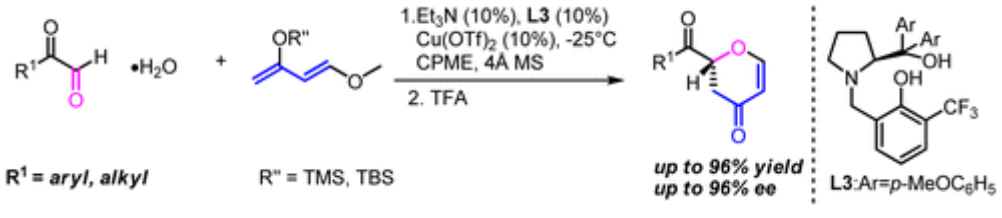
We should all take a look at their mechanistic proposal because I'm not so sure.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Li, Y.; *et al. JOC,* **2016**, *81,* 2993-2999.

Copper-Catalyzed Enantioselective Hetero-Diels–Alder Reaction of Danishefsky's Diene with Glyoxals

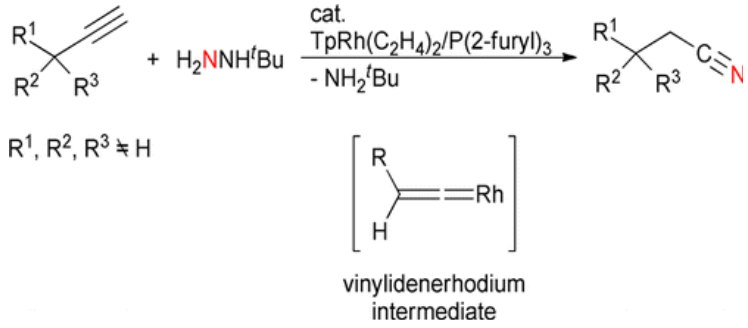


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Smith, A.B. III; *et al. JOC,* **2016**, *81,* 1930-1942.

Conversion of 3,3,3-Trisubstituted Prop-1-ynes with tert-Butylhydrazine into 3,3,3-Trisubstituted Propionitriles Catalyzed by TpRh(C2H4)2/P(2-furyl)3



bioorganic
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synthesis
mechanism
review
other

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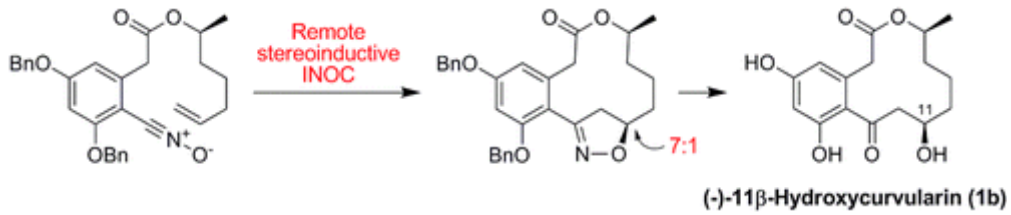
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Lee, J.; *et al. JOC,* **2016**, *81,* 2612-2617.

Remote Stereoinductive Intramolecular Nitrile Oxide Cycloaddition: Asymmetric Total Synthesis and Structure Revision of (-)-11ß-Hydroxycurvularin



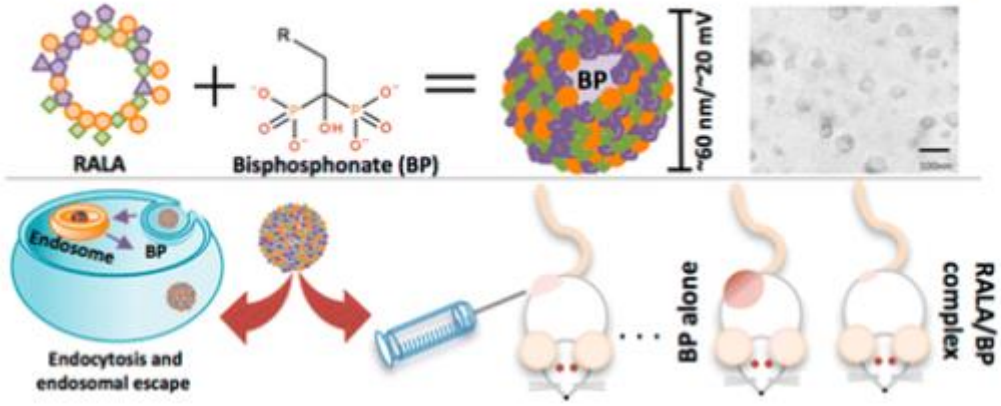
Well that's cute.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Massey, A.S.; *et al. Mol. Pharm.* **2016,** *13,* 1217.

Potentiating the Anticancer Properties of Bisphosphonates by Nanocomplexation with the Cationic Amphipathic Peptide, RALA



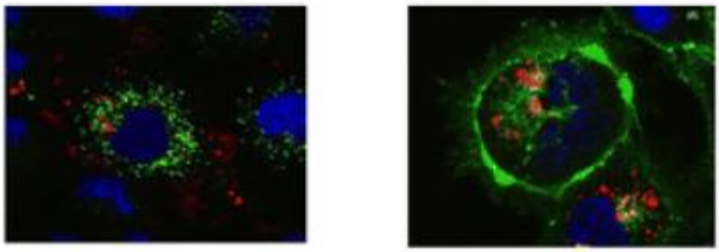
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Ran, R.; *et al. Mol. Pharm.* **2016,** *13,* 1366.

Uptake Mechanism and Direct Translocation of a New CPP for siRNA Delivery

Intracellular localization of STR-KV/siRNA complexes on A549 cells



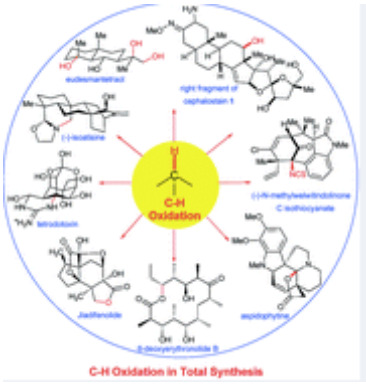
with endosome/lysosome | with cell membrane

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Qui, Y. et al. *Nat. Prod. Rep.*, **2016**, 33, 562-581

Trends in applying C–H oxidation to the total synthesis of natural products



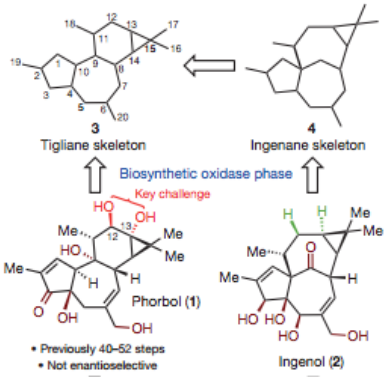
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Baran, et al Nature 532, 90–93 (07 April 2016)

Nineteen-step total synthesis of (+)-phorbol

Because biorenewable feedstock isolation is soooo 2008.



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methods
synthesis
mechanism
review
other

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Drug Deliv.
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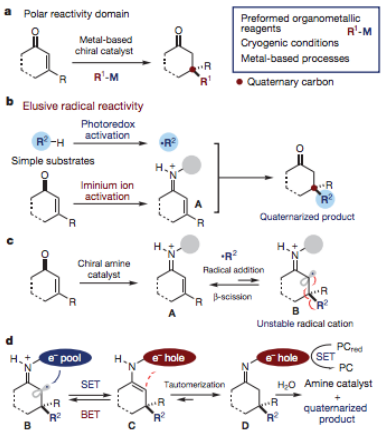
Citation: Nature 532, 218–222 (14 April 2016)	
Asymmetric catalytic formation of quaternary carbons by iminium ion trapping of radicals  	bioorganic methods synthesis mechanism review other OM Bryo DDO Hybrid Drug Deliv. Prostratin

Citation: Francl, M. *Nature Chemistry*, **2016**, *8,* 289-290.	
Changing chemistry by degrees An interesting discussion of how the invention of temperature scales brought about modern chemical knowledge.	bioorganic methods synthesis mechanism review **other** OM Bryo DDO Hybrid Drug Deliv. Prostratin

Citation: Kattnig, D.R.; *et al*. *Nature Chemistry*, **2016**, *8,* 384-391.	
Chemical amplification of magnetic field effects relevant to avian magnetoreception See the title.	bioorganic methods synthesis mechanism review **other** OM Bryo DDO Hybrid **Drug Deliv.** Prostratin

Citation: **NEJM April 4, 2016: DOI: 10.1056/NEJMp1600894**	*Douglas R. Lowy, M.D., and Francis S. Collins, M.D., Ph.D.*	
Aiming High — Changing the Trajectory for Cancer		bioorganic methods synthesis mechanism review **other**
		OM Bryo DDO Hybrid Drug Deliv. Prostratin

Citation: **NEJM: DOI: 10.1056/NEJMp1603747**	*Tatiana M. Prowell, M.D., Marc R. Theoret, M.D., and Richard Pazdur, M.D.*	
Seamless Oncology-Drug Development		bioorganic methods synthesis mechanism review **other**
		OM Bryo DDO Hybrid Drug Deliv. Prostratin

Citation: **N Engl J Med 2016; 374:1089-1091**	Daniel R. Salomon, M.D.	
A CRISPR Way to Block PERVs. Engineering Organs for Transplantation		bioorganic methods synthesis mechanism review **other**
		OM Bryo DDO Hybrid Drug Deliv. Prostratin

Citation: http://www.nytimes.com/2016/04/12/health/people-who-avoided-illness-could-be-key-in-treating-those-who-didnt.html?_r=0

People Who Avoided Illness Could Be Key in Treating Those Who Didn't

Somewhere in the world are 13 incredibly lucky people. Although they do not know it, each inherited a mutated gene that causes a fatal or terribly debilitating disease in infancy or childhood — but these people are adults, and healthy.

Their DNA may hold clues to treating others who did not escape the gene's effects.

That is the conclusion of a paper, published Monday in the journal Nature Biotechnology, in which researchers searched databases containing genetic sequences from nearly 600,000 healthy adults and found these remarkable 13 who had verifiable mutations that cause one of eight serioues diseases before age 18 in all who inherit them - or so it had been thought.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: http://www.nytimes.com/2016/04/13/business/facebook-and-napster-pioneer-to-start-cancer-immunotherapyeffort.html

Sean Parker, a Facebook and Napster Pioneer, to Start Cancer Immunotherapy Effort

Sean Parker is donating $250 million to start the Parker Institute for Cancer Immunotherapy, an effort that he said represented a new "blueprint for biomedical research funding." The effort will bring together six leading academic centers to develop ways to unleash patients' own immune systems to fight cancer.

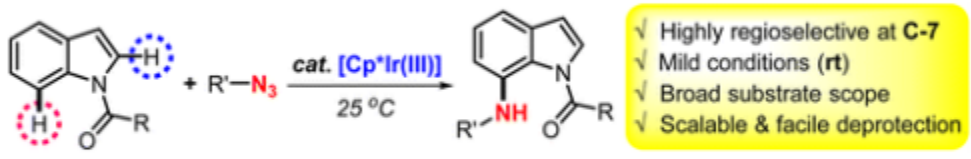
The six institutions involved are Memorial Sloan Kettering Cancer Center, the University of Pennsylvania, the University of Texas M.D. Anderson Cancer Center, Stanford University, UCSF and UCLA.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: **Org. Lett., 2016, 18 (8), pp 1892–1895** **Youyoung Kim, Juhyeon Park, and Sukbok Chang**

A Direct Access to 7-Aminoindoles via Iridium-Catalyzed Mild C–H Amidation of N-Pivaloylindoles with Organic Azides

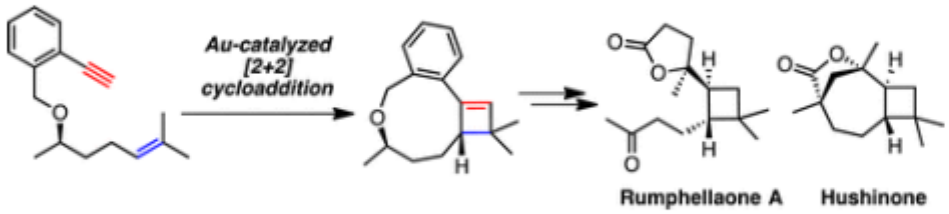


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: **Org. Lett., 2016, 18 (7), pp 1614–1617** **Beatrice Ranieri, Carla Obradors, Mauro Mato, and Antonio M. Echavarren**

Synthesis of Rumphellaone A and Hushinone by a Gold-Catalyzed [2 + 2] Cycloaddition



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methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Science 08 Apr 2016: Vol. 352, Issue 6282, pp. 164-166

Malignant messengers

Tumor cells may send out tiny vesicles that prime organs for cancer to spread.

Exosome theory of tumor metastasis.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Science 08 Apr 2016: Vol. 352, Issue 6282, pp. 220-224

Durably reducing transphobia: A field experiment on door-to-door canvassing

Even though a high-profile study demonstrating increased empathy for gay persons after an in-person conversation with one was retracted due to author misconduct, the idea provided the basis of an improved study that used validated methodology and transparent data practices. This study also concluded that transphobia could be decreased with person-to-person contact.

Count it as a win for science's self-correcting, non-linear advancement of testable hypotheses.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Romero, *et al.* *Sci. Trans. Med.* **2016,** *8*, 334ps9

The Human Vaccines Project: A roadmap for cancer vaccine development

Cancer vaccine development has been vigorously pursued for 40 years. Immunity to tumor antigens can be elicited by most vaccines tested, but their clinical efficacy remains modest. We argue that a concerted international effort is necessary to understand the human antitumor immune response and achieve clinically effective cancer vaccines.

bioorganic
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synthesis
mechanism
review
other

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Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Bhakta, N.R. *Sci. Trans. Med.* **2016,** *8*, 332ec51.

Scientists flip-flop: Vitamin C suppresses immunity

Vitamin C is necessary in the human diet, but mice synthesize this nutrient, which has been assigned many roles since the days when Linus Pauling zealously recommended boosting immunity through megadose supplementation to treat the common cold and prevent cancer. The new findings may have you believe that vitamin C does the opposite of enhancing immunity. But wait. Before you question your next bite of an orange, note that vitamin C's benefit on the maintenance of iTregs peaked at 10 ¦Ìg/mL (~50 ¦ÌM), which is the average serum level in adults. Thus, it is unlikely that increasing vitamin C levels above normal will increase the suppressive capacity of in vivo Tregs. However, what these findings do tell us is that vitamin C or other molecules that are more selective for TETs might be tools for potentiating and stabilizing in vitro-generated Tregs

bioorganic
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synthesis
mechanism
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Drug Deliv.
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Citation: Maza *et al.* Synlett, **2016**, 27, 805–813

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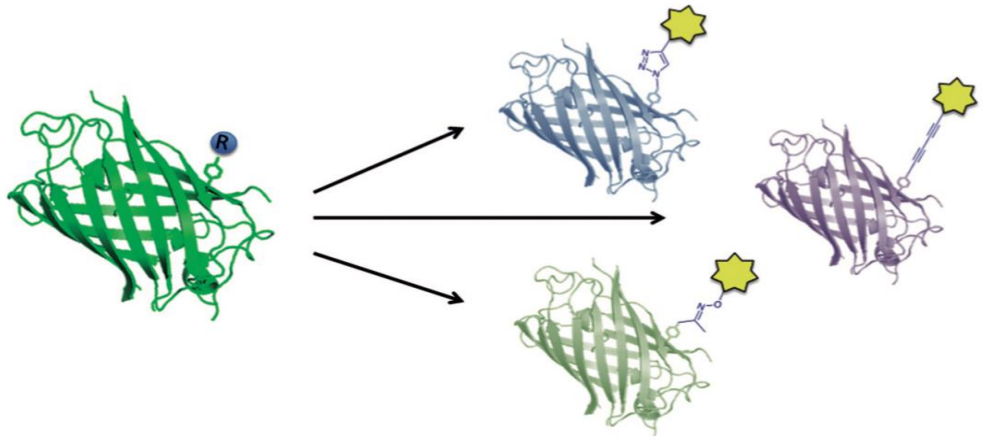

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Synthesis
Mechanism
Review
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Hybrid
Drug Delivery
Prostratin
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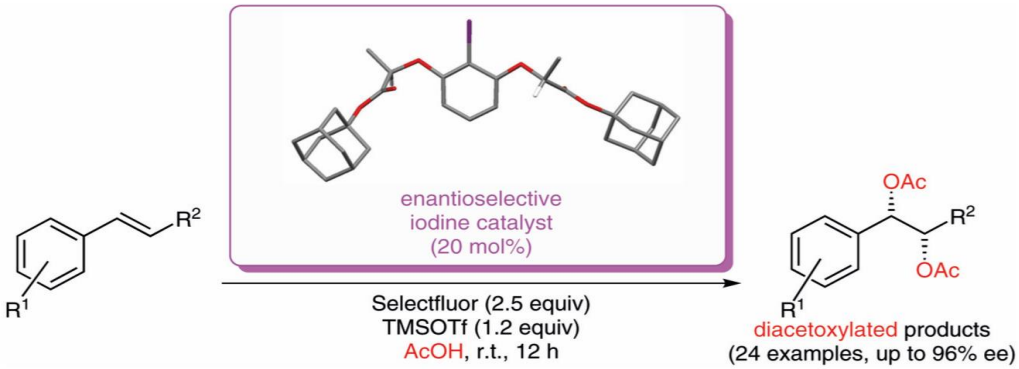
Citation: Wöste *et al.* Synthesis, **2016**, 48, 816–827

Enantioselective Vicinal Diacetoxylation of Alkenes under Chiral Iodine(III) Catalysis



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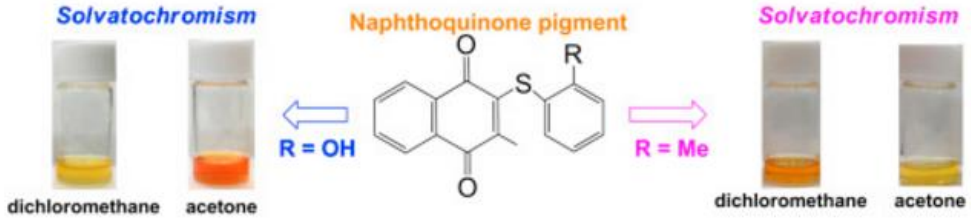
Methods
Synthesis
Mechanism
Review
Other

OM
Bryo
Hybrid
Drug Delivery
Prostratin
Other

Citation: Akiyama, H.; Sako, A.; Tajima, N.; Shizuma, M.; Kuroda, R.; Imai, Y. Tetrahedron **2016**, *72*, 2109-2115.

Solvatochromic Property Switching Of A Naphthoquinone Pigment: 2-Methyl-3-Arylthio-1,4-Naphthalenedione.

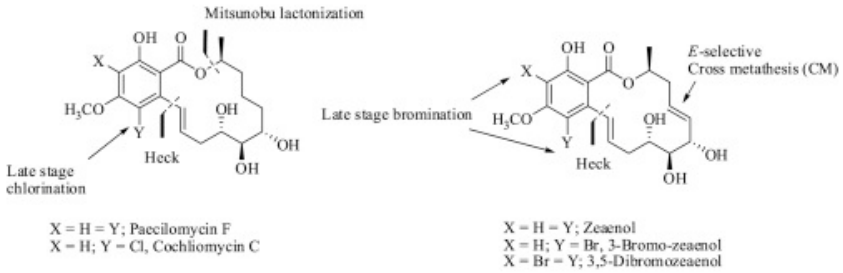


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Pal, P.; Chakraborty, J.; Mali, A.; Nanda, S. Tetrahedron **2016**, *72*, 2336-2348.

Asymmetric Total Synthesis Of Paecilomycin F, Cochliomycin C, Zeaenol, 5-Bromo-Zeaenol And 3,5-Dibromo-Zeaenol By Heck Coupling And Late Stage Macrolactonization Approach.



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synthesis
mechanism
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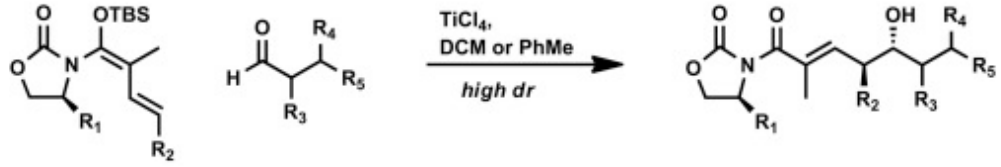
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Banasik, B.; Wang, L.; Kanner, A.; Bergdahl, B. Tetrahedron **2016**, *72*, 2481-2490.

Further Insight Into The Asymmetric Vinylogous Mukaiyama Aldol Reaction (VMAR); Application To The Synthesis Of The C27–C45 Segment Of Lagunamide A



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methods
synthesis
mechanism
review
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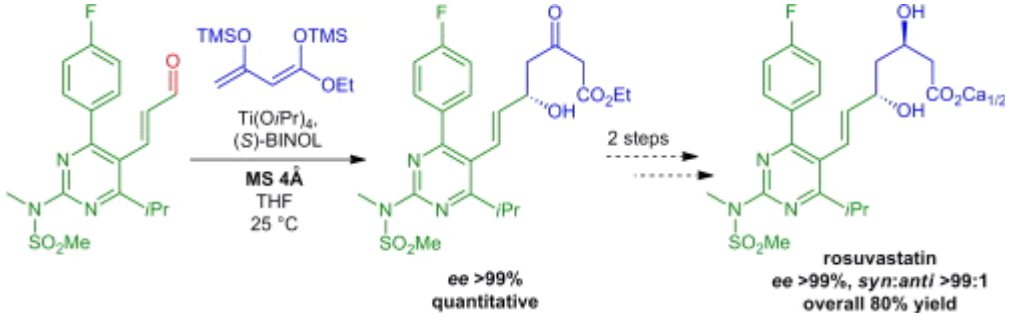
Citation: Sterk, D.; *et al. Tet. Lett.* **2016**, *57,* 1338.

Efficient and highly stereoselective assembly of rosuvastatin



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mechanism
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other

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