Accounts of Chemical Research	260	Melanie Huttner
ACS Chemical Biology	**MOOK**	Jessica Vargas
ACS Nano	260	Nancy Benner
Advanced Drug Delivery Reviews	261	Gabriella Fernandes Cunha
Angewandte Chemie International Edition	**MOOK**	Andrew Raub
Bioconjugate Chemistry	**MOOK**	Colin McKinlay
Biomacromolecules	**MOOK**	Colin McKinlay
Bioorganic and Medicinal Chemistry	262	Nancy Benner
Bioorganic and Medicinal Chemistry Letters	262	Nancy Benner
Chemical Communications	262	Katie Near
Chemical & Engineering News	264	Steven Ryckbosch
Chemical Reviews	264	Ryan Quiroz
Chemical Science	265	Jack Sloane
Chemistry, A European Journal	266	Xiaoyu Zang (Janice)
European Journal of Organic Chemistry	268	Samanta Capolicchio
Journal of the American Chemical Society	268	Akira Shimizu (odd) Hsiao-Tieh Hsu (even)
Journal of Medicinal Chemistry	**MOOK**	Matthew Stevens
Journal of Organic Chemistry	272	Matthew Jeffreys
Molecular Pharmaceutics	**MOOK**	Colin McKinlay
Natural Product Reports	N/A	Jack Sloane
Nature	274	Ryan Quiroz
Nature Chemistry	**MOOK**	Andrew Raub
Nature Chemical Biology	**MOOK**	Jessica Vargas
The New York Times	276	Melanie Huttner
The Onion	N/A	Melanie Huttner
Organic Letters	276	Jack Sloane
Organometallics	**MOOK**	Matthew Stevens
PNAS	278	Melanie Huttner
Science	279	Steven Ryckbosch
Science Translational Medicine	**MOOK**	Jessica Vargas
Synlett	280	Katie Near
Synthesis	281	Stephen Ho
Tetrahedron	282	Samanta Capolicchio
Tetrahedron Letters	N/A	Stephen Ho

Next Due Date: Thursday, October 15, 2015

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.

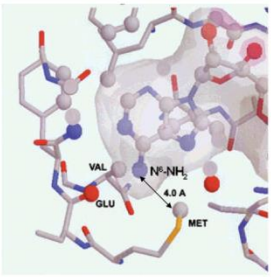
Include a brief textual summary of the article; an example of a completed abstract is shown below. The list of topics and subgroups on the right is useful to highlight which subgroups should pay attention to your abstract and roughly what kind of chemistry the article contains.

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 (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.



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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

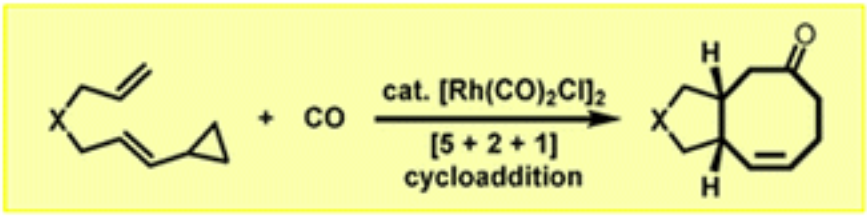
DON'T BE A MOOK!

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, Y.; Yu, Z.-X. *Acc. Chem. Res.*, **2015,** *48,* 2288-2296.

Rhodium-Catalyzed [5 + 2 + 1] Cycloaddition of Ene–Vinylcyclopropanes and CO: Reaction Design, Development, Application in Natural Product Synthesis, and Inspiration for Developing New Reactions for Synthesis of Eight-Membered Carbocycles



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synthesis
mechanism
review
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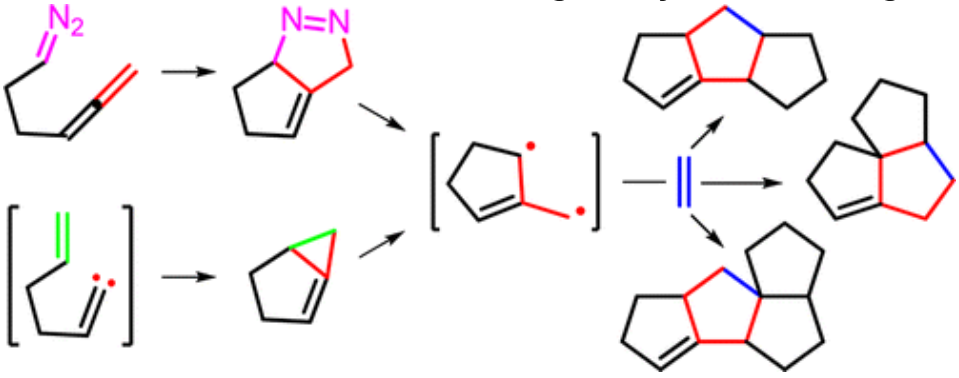
Citation: Lee, H.-Y. *Acc. Chem. Res.*, **2015,** *48,* 2308-2319.

Trimethylenemethane Diyl Mediated Tandem Cycloaddition Reactions: Mechanism Based Design of Synthetic Strategies



Note: former group member

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review
other

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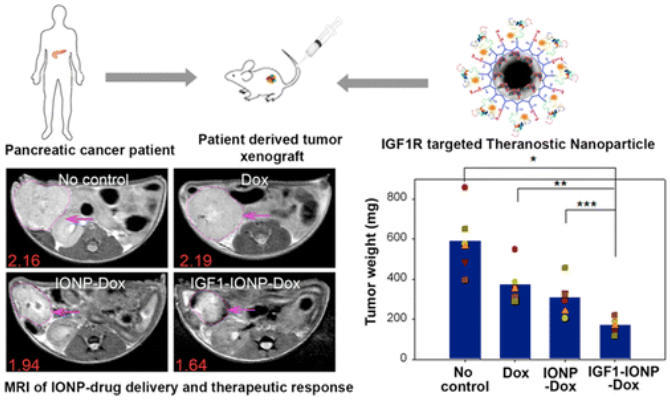
Citation: Zhou, H. et. al, *ACS Nano,* **2015**, 9 (8) 7976-7991

IGF1 Receptor Targeted Theranostic Nanoparticles for Targeted and Image-Guided Therapy of Pancreatic Cancer



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mechanism
review
other

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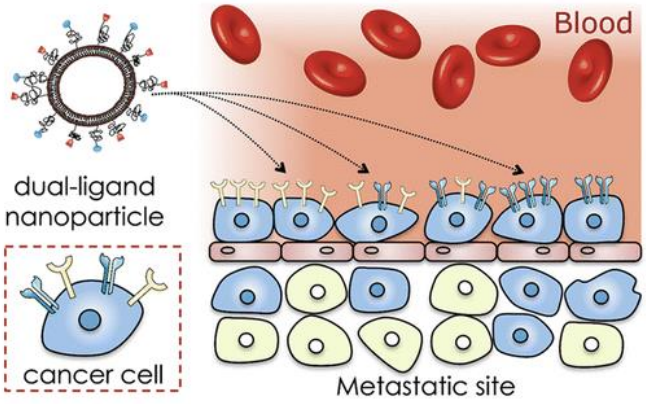
Citation: Doolittle, E. et. al, *ACS Nano,* **2015**, 9 (8) 8012-8021

Spatiotemporal Targeting of a Dual-Ligand Nanoparticle to Cancer Metastasis



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synthesis
mechanism
review
other

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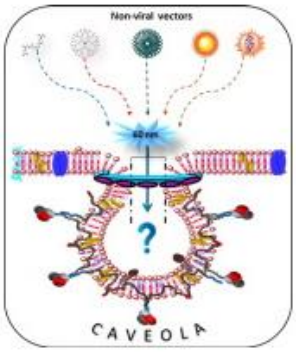
Citation: Rewatkar P. et al. *Advanced Drug Delivery Reviews.* **2015**, 91, 92–108

Are caveolae a cellular entry route for non-viral therapeutic delivery systems?



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methods
synthesis
mechanism
review
other

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Drug Deliv.
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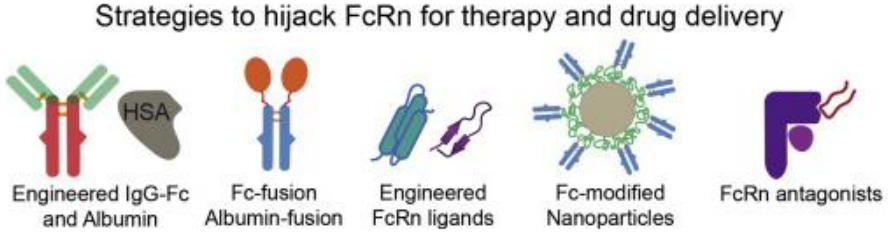
Citation: Sockolosky J. and Szoka F. *Advanced Drug Delivery Reviews*. **2015**, 91,109–124

The neonatal Fc receptor, FcRn, as a target for drug delivery and therapy



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methods
synthesis
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review
other

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Drug Deliv.
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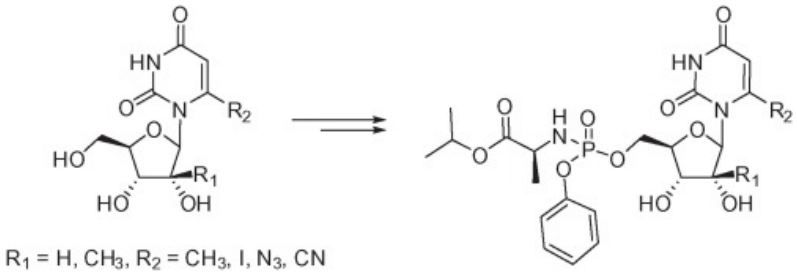
Citation: Soares, F. et al. *Bioorg. Med. Chem.*, 23, (2015) 5809-5815

NMR-based confirmational analysis of 2',6-disubstituted uridines and antiviral evaluation of new ohosphoroamidate prodrugs



R_1 = H, CH_3, R_2 = CH_3, I, N_3, CN

bioorganic
methods
synthesis
mechanism
review
other

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DDO
Hybrid
Drug Deliv.
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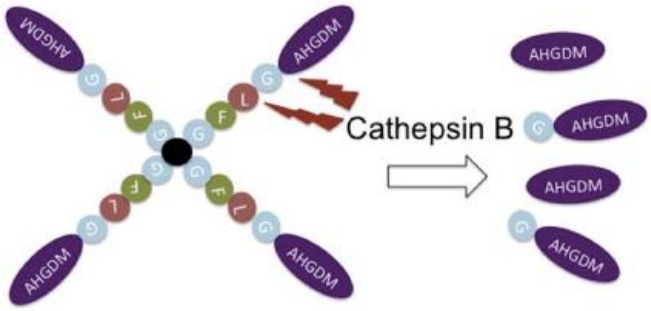
Citation: Kolhatkar, V. et al. *Bioorg. Med. Chem. Lett.*, 25, (2015) 3744-3747.

Dendritic hexadecapeptide as a cathepsin B degradable carrier for delivery of HSP90 inhibitor



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synthesis
mechanism
review
other

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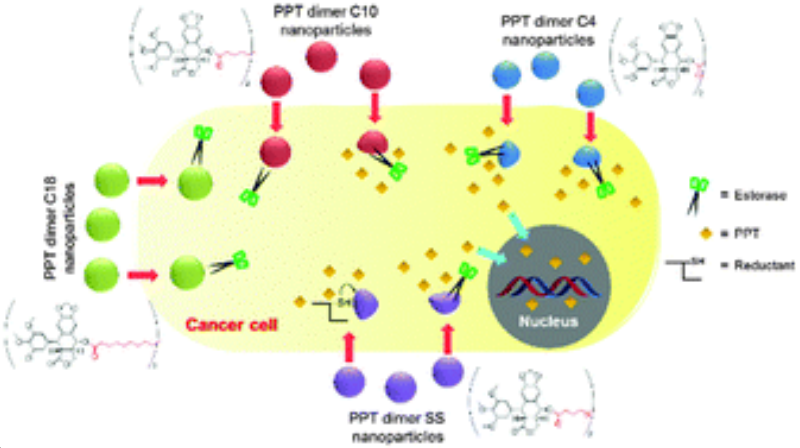
Citation: Ikuta, Y.; *et al. Chem. Commun.* **2015**, *51,* 12835.

The effect of molecular structure on the anticancer drug release rate from prodrug nanoparticles



The controlled release of an anticancer agent from drug nanoparticles could be successfully achieved by optimizing the chemical structure of dimeric compounds as prodrug.

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methods
synthesis
mechanism
review
other

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Drug Deliv.
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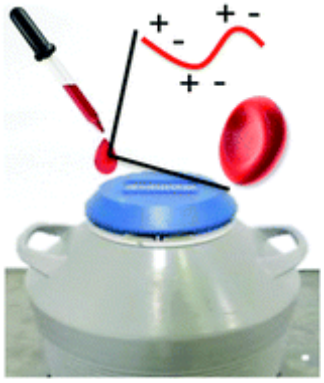
Citation: Mitchell, D. E..; *et al. Chem. Commun.* **2015**, *51,* 12977.

Rational, yet simple, design and synthesis of an antifreeze-protein inspired polymer for cellular cryopreservation



The authors present the rational synthesis of a new, biomimetic, ice-recrystallization inhibiting polymer derived from a cheap commodity polymer, based on an ampholyte structure. The polymer is used to enhance the cryopreservation of red blood cells, demonstrating a macromolecular solution to tissue storage

bioorganic
methods
synthesis
mechanism
review
other

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Hybrid
Drug Deliv.
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Citation: Raju, G. S. R.; *et al. Chem. Commun.* **2015**, *51,* 13248.

Multifunctional nanoparticles: recent progress in cancer therapeutics

In recent times, several biocompatible nanomaterials with different morphologies and compositions, such as metals, metal oxides, and polymers, have been employed as multi-functional biomaterials to target cancer cells.

bioorganic
methods
synthesis
mechanism
review
other

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DDOs
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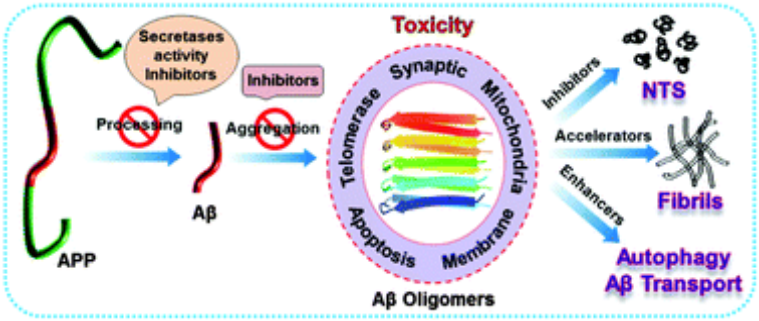
Citation: Rajasekhar, K.; *et al. Chem. Commun.* **2015**, *51,* 13434.

Function and toxicity of amyloid beta and recent therapeutic interventions targeting amyloid beta in Alzheimer's disease



The Feature Article details the physiological role of amyloid beta (Aß), elaborates its toxic effects and outlines therapeutic molecules designed in the last two years targeting different aspects of Aß for preventing AD.

bioorganic
methods
synthesis
mechanism
review
other

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DDOs
Hybrid
Drug Deliv.
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Citation: *C&E News*, http://goo.gl/fW59OA

Opening Up About Stress In Graduate School

According to a 2011 survey by the nonprofit group Grad Resources, 43% of U.S. graduate students who participated reported experiencing more stress than they could handle. And a 2014 study conducted by the Graduate Assembly of the University of California, Berkeley, found that 47% of UC Berkeley Ph.D. students who responded to the survey reached the threshold considered to be depressed. Stress continues to be one of the biggest mental health issues that graduate students face, and although attempts have been made to mitigate the problem, the issue of stress largely flies under the radar, quieted by the unrelenting pressure to publish.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: *C&E News*, http://goo.gl/BH1pJJ

How Tulane University's Chemists Rescued Their NMRs From Hurricane Katrina

bioorganic
methods
synthesis
mechanism
review
other

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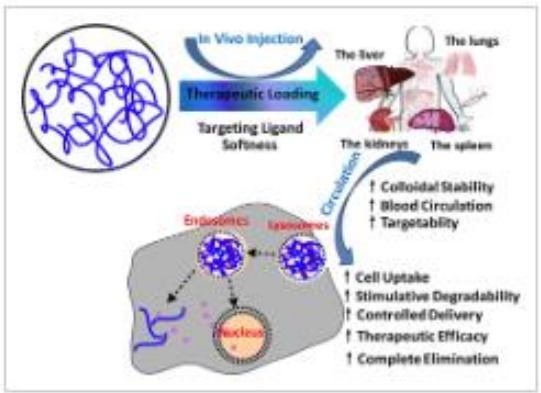
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Li, Y.; Maciel, D.; Rodrigues, J.; Shi, X.; Tomas, H. *Chem. Rev*. **2015**, *115*, 8564.

Biodegradable Polymer Nanogels for Drug/Nucleic Acid Delivery



bioorganic
methods
synthesis
mechanism
review
other

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Drug Deliv.
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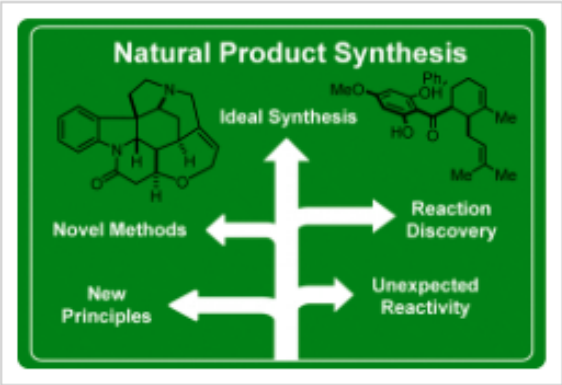
Citation: Schindler, C. S. et al. *Chem. Rev*. **2015**, *115*, 9232.

Discovery of Novel Synthetic Methodologies and Reagents during Natural Product Synthesis in the Post-Palytoxin Era



Part of the "Frontiers in Organic Synthesis" Issue

bioorganic
methods
synthesis
mechanism
review
other

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Drug Deliv.
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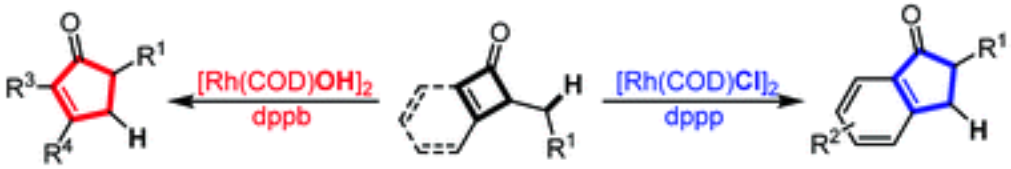
Citation: Chen, P. et al.Chem. *Sci.* **2015**, 6, 5440-5445

Rh-catalyzed reagent-free ring expansion of cyclobutenones and benzocyclobutenones



- *no pre-installed reactive functional groups*
- *reagent free*
- *atom-economical*
- *near pH and redox neutral*

bioorganic
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synthesis
mechanism
review
other

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Drug Deliv.
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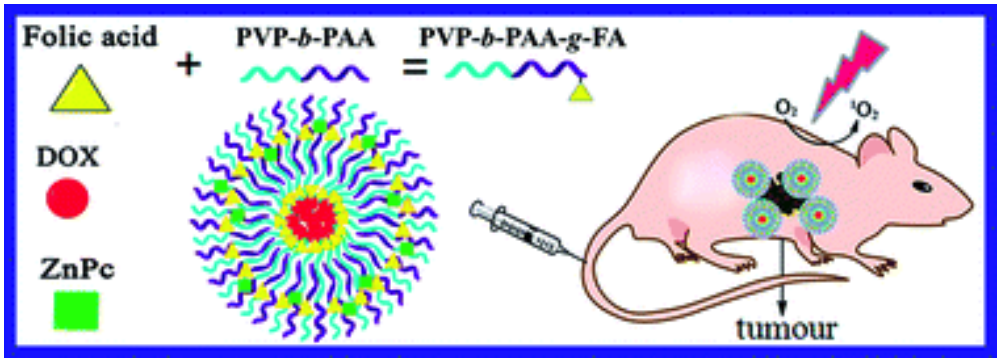
Citation: Liang, R., et al. *Chem. Sci.* **2015**, 6, 5511-5518

A supramolecular nanovehicle toward systematic, targeted cancer and tumor therapy



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mechanism
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other

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Drug Deliv.
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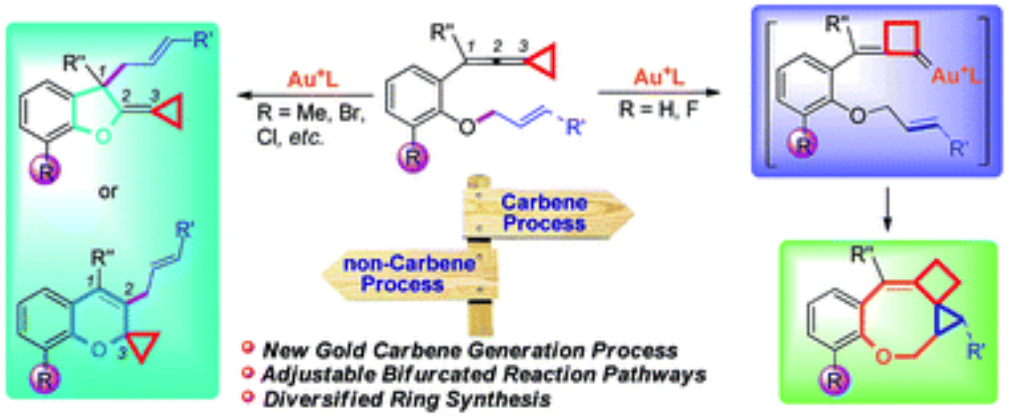
Citation: Li, D., et al. *Chem. Sci.* **2015**, 6, 5519-5525

Gold(I)-catalyzed cycloisomerization of vinylidenecyclopropane-enes via carbene or non-carbene processes



bioorganic
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synthesis
mechanism
review
other

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Hybrid
Drug Deliv.
Prostratin

Citation: Zhang**,** *et al. Chem. Eur. J.* **2015,** 21, 11938-11946.

How to Make Weak Noncovalent Interactions Strong

This paper summarized some established methods to construct stable supramolecular assemblies by increasing the strength of noncovalent interactions. Some general rules in the design of building blocks for enhanced binding ability are outlined as follows. 1) The best-fitted host conformation to recognize guest molecules is significant in host¨Cguest complexation; 2) the rational arrangement of binding sites is essential in making multiple interactions synergistically; 3) a good (uncompetitive) solvent is very important in making complexation more favorable. Although considerable achievements have been made to attain very strong binding affinity in recent decades, it is still necessary to develop new strategies to enhance the binding strength to make self-assembly efficient and convenient. Furthermore, with the aim to build supramolecular architectures with desired topologies, especially in the case of sequence-specific assemblies, we also need to develop new strategies to control the directionality and selectivity of noncovalent interactions. Hierarchical assembly and integrative self-sorting may play important roles in future work to make self-assembly a powerful tool in creating new materials.

bioorganic
methods
synthesis
mechanism
review
other

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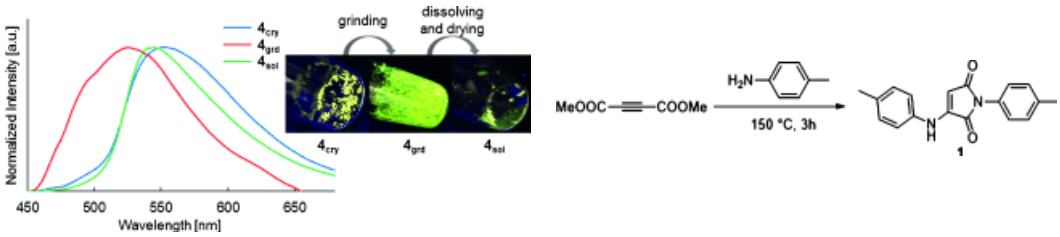
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Naka, *et al. Chem. Eur. J.* **2015,** 21, 12105-12111.

Color Tuning of the Aggregation-Induced Emission of Maleimide Dyes by Molecular Design and Morphology Control



The paper described methodologies for color tuning of AIE-active maleimide dyes by molecular design and morphology control. The luminophore is located at the five-membered maleimide ring, and its electronic state can be controlled by the substituents in the 2- and 3-positions.

bioorganic
methods
synthesis
mechanism
review
other

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Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Kruk, *et al. Chem. Eur. J.* **2015,** *21*, 12747-12764.

Tuning of the Temperature Window for Unit-Cell and Pore-Size Enlargement in Face-Centered-Cubic Large-Mesopore Silicas Templated by Swollen Block Copolymer Micelles

The unit-cell size and pore diameter as functions of temperature are investigated in the syntheses of FDU-12 silicas with face-centered cubic structure templated by Pluronic (PEO-PPO-PEO) block copolymer micelles swollen by toluene. The temperature range in which the unit-cell size and pore size strongly increase as temperature decreases is correlated with the critical micelle temperature (CMT) of the surfactant. While Pluronic F127 affords a wide range of unit-cell parameters (28-51nm) and pore diameters (16-32nm), it renders moderately enlarged pore sizes at 25C. The use of Pluronic F108 with higher CMT affords FDU-12 with very large unit-cell size (49nm) and large pore diameter (27nm) at 23C. Large unit-cell size (40-41nm) and pore size (22nm) were obtained even at 25C.

bioorganic
methods
synthesis
mechanism
review
other

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Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Pumera, *et al. Chem. Eur. J.* **2015,** 21, 13020-13026.

Fluorinated Nanocarbons Cytotoxicity

As the research in nanotechnology progresses, there will eventually be an influx in the number of commercial products containing different types of nanomaterials. This phenomenon might damage our health and environment if the nanomaterials used are found to be toxic and they are released into the waters when the products degrade. In this study, we investigated the cytotoxicity of fluorinated nanocarbons (CXFs), a group of nanomaterials which can find applications in solid lubricants and lithium primary batteries. Our cell viability findings indicated that the toxicological effects induced by the CXF are dependent on the dose, size, shape, and fluorine content of the CXF. In addition, we verified that CXFs have insignificant interactions with the cell viability assays¡ªmethylthiazolyldiphenyl-tetrazolium bromide (MTT) and water-soluble tetrazolium salt (WST-8), thus suggesting that the cytotoxicity data obtained are unlikely to be affected by CXF-induced artifacts and the results will be reliable.

bioorganic
methods
synthesis
mechanism
review
other

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Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Iranzo, *et al. Chem. Eur. J.* **2015,** 21, 13100-13111.

Effect of the Peptidic Scaffold in Copper(II) Coordination and the Redox Properties of Short Histidine-Containing Peptide

A new linear decapeptide (OdPro[BOND]Asp) was synthesised by replacing the ProGly unit in the middle of the sequence by the stronger ¡Â-turn-inducing dProPro. The copper(II) coordination properties were studied and data revealed that the new scaffold was fine-tuned for copper(II) coordination and could bind up to three equivalents of Cu2+. At a 1:1 ratio of CCu/Cpeptide, this peptide formed a single major [CuH(OdPro-Asp)]2+ species in the pH range 5.5-7.0, at which the Cu2+ ion was bound to the Im ring of the His residues and to the carboxylate group of the Asp amino acid. EPR parameters indicated either distorted square-planar or square-pyramidal geometry. In the latter, a single water molecule (or other anions existing in solution) was most likely to occupy the axial position.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Shreeve, *et al. Chem. Eur. J.* **2015,** 21, 13297-13301.

Borohydride Ionic Liquids as Hypergolic Fuels: A Quest for Improved Stability

Hydrazine and its derivatives are used as fuels in rocket propellant systems; however, due to high vapor pressure, toxicity, and carcinogenicity, handling of such compounds is extremely hazardous. Hypergolic ionic liquids have shown great promise to become viable replacements for hydrazines as fuels. Borohydride-containing ionic liquids have now been synthesized using a more efficient synthetic pathway that does not require liquid ammonia and halide precursors. These ionic liquids have some unusual advantages, including negligible vapor pressures, good ignition delay (ID) times, and reduced synthetic and storage costs, thereby showing good application potential as environmentally friendly fuels in bipropellant formulations. In addition, they also have potential applications in the form of reducing agents and hydrogen storage materials.

bioorganic
methods
synthesis
mechanism
review
other

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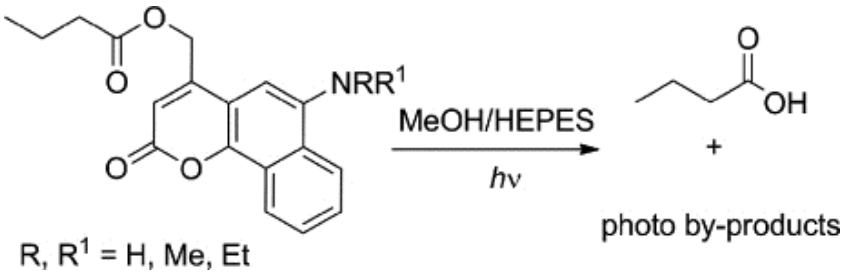
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Soares, A. et al. *Eur. J. Org. Chem.* **2015**, *2015*, 5979-5987.

Photoactivation of Butyric Acid from 6-Aminobenzocoumarin Cages



Butyric acid was released from new aminobenzocoumarin ester cages in a photoinduced process employing UV/Vis light.

bioorganic
methods
synthesis
mechanism
review
other

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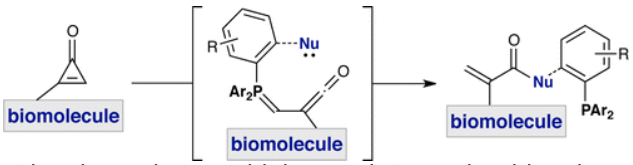
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Shih, H. -W. et al. J. Am. Chem. Soc., 2015, 137 (32), pp 10036–10039

A Bioorthogonal Ligation of Cyclopropenones Mediated by Triarylphosphines



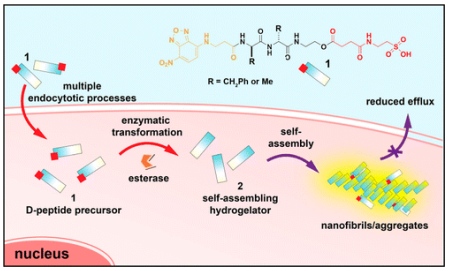
Bioorthogonal chemistries have been widely used to probe biopolymers in living systems. To date, though, only a handful of broadly useful transformations have been identified because of the stringent requirements placed on the reactants. Here we report a novel bioorthogonal ligation between cyclopropenones and functionalized phosphines. These components are stable in physiological buffers and react rapidly with one another to form covalent adducts. The cyclopropenone ligation is also distinct from other bioorthogonal chemistries in that it makes use of readily accessible, commercially available reagents and proceeds via a nucleophilic reaction pathway. On the basis of these features, the cyclopropenone ligation is poised to join the ranks of chemistries with utility in living systems.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Zhou, J. et al. J. Am. Chem. Soc., 2015, 137 (32), pp 10040–10043

Taurine Boosts Cellular Uptake of Small d-Peptides for Enzyme-Instructed Intracellular Molecular Self-Assembly



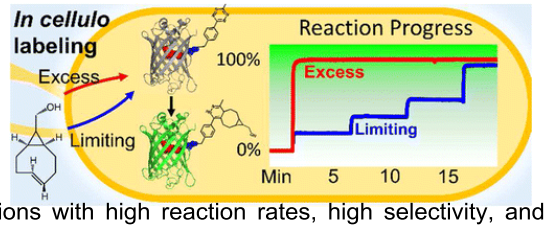
Being proteolytically resistant,D--peptides lack interactions with endogenous transporters and hardly enter cells. Here we show that taurine, a natural amino acid, drastically boosts the cellular uptake of small d-peptides in mammalian cells by >10-fold, from 118 uM (without conjugating taurine) to >1.6 mM (after conjugating taurine). The uptake of a large amount of the ester conjugate of taurine and d-peptide allows intracellular esterase to trigger intracellular self-assembly of the d-peptide derivative, further enhancing their cellular accumulation. The study on the mechanism of the uptake reveals that the conjugates enter cells via both dynamin-dependent endocytosis and macropinocytosis, but likely not relying on taurine transporters.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Blizzard, R. J. et al. J. Am. Chem. Soc., 2015, 137 (32), pp 10044–10047

Ideal Bioorthogonal Reactions Using A Site-Specifically Encoded Tetrazine Amino Acid



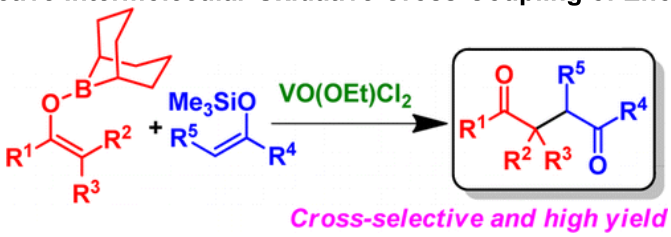
Ideal bioorthogonal reactions with high reaction rates, high selectivity, and high stability would allow for stoichiometric labeling of biomolecules in minutes and eliminate the need to wash out excess labeling reagent. We developed a significantly improved tetrazine-containing amino acid (Tet-v2.0) and genetically encoded Tet-v2.0 with an evolved aminoacyl-tRNA synthetase/tRNA(CUA) pair. We demonstrated in cellulo that protein containing Tet-v2.0 reacts selectively with cyclopropane-fused trans-cyclooctene (sTCO) with a bimolecular rate constant of 72,500 ± 1660 M–1 s–1 without reacting with other cellular components. This bioorthogonal ligation of Tet-v2.0-protein reacts in cellulo with substoichiometric amounts of sTCO-label fast enough to remove the labeling reagent from media in minutes, thereby eliminating the need to wash out label. This ideal bioorthogonal reaction will enable the monitoring of a larger window of cellular processes in real time.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Amaya, T. et al. J. Am. Chem. Soc., 2015, 137 (32), pp 10072–10075

Selective Intermolecular Oxidative Cross-Coupling of Enolates



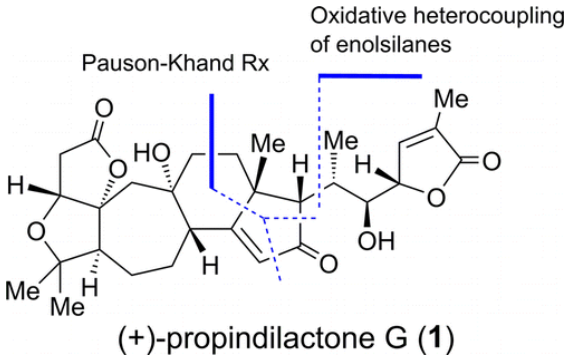
Selective intermolecular oxidative cross-coupling of enolates, which is a bond-forming reaction between carbanion equivalents, remains as an unsolved issue despite its potential utility for the direct synthesis of unsymmetrical 1,4-diones. The main difficulty derives from the unavoidable homo-coupling. Our strategy depends on the selective one-electron oxidation of one enolate to afford an electrophilic carbonyl a--radical species, followed by trapping with another enolate. The present study demonstrates the selective oxovanadium(V)-induced cross-coupling between boron and silyl enolates.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: You, L. et al. J. Am. Chem. Soc., 2015, 137 (32), pp 10120–10123

Asymmetric Total Synthesis of Propindilactone G



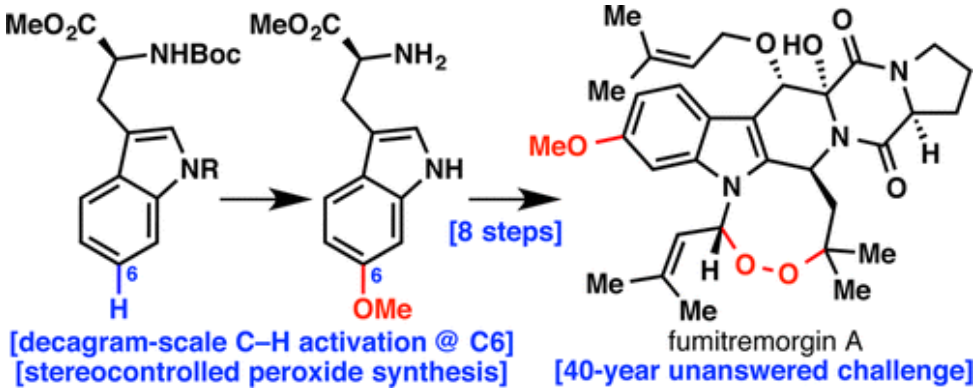
A concise total synthesis of (+)-propindilactone G, a nortriterpenoid isolated from the stems of Schisandra propinqua var. propinqua, has been achieved for the first time. The key steps of the synthesis include an asymmetric Diels–Alder reaction, a Pauson–Khand reaction, a Pd-catalyzed reductive hydrogenolysis reaction, and an oxidative heterocoupling reaction. These reactions enabled the synthesis of (+)-propindilactone G in only 20 steps. As a consequence of our synthetic studies, the structure of (+)-propindilactone G has been revised.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Feng, Y. et al. J. Am. Chem. Soc., 2015, 137 (32), pp 10160–10163

Total Synthesis of Verruculogen and Fumitremorgin A Enabled by Ligand-Controlled C–H Borylation

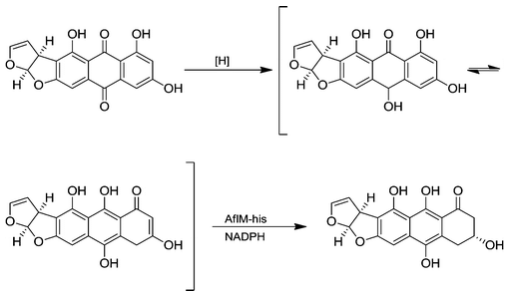


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Conradt, D. et al. J. Am. Chem. Soc., 2015, 137 (34), pp 10867–10869

New Insights into the Conversion of Versicolorin A in the Biosynthesis of Aflatoxin B1



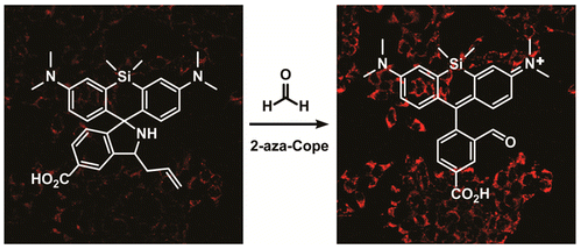
The asymmetric reduction of emodin hydroquinone to (R)-3,8,9,10-tetrahydroxy-6-methyl-3,4-dihydroanthracen-1(2H)-one (up to 82% for AflM) has also been observed in previous studies using MdpC from Aspergillus nidulans (monodictyphenone biosynthetic gene cluster). The first (nonenzymatic) reduction of emodin to emodin hydroquinone, for example with sodium dithionite, is obligatory for the enzymatic reduction by AflM or MdpC. These results imply an unprecedented role of AflM in the complex enzymatic network of aflatoxin biosynthesis.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Brewer, T. F., Chang, C. J. J. Am. Chem. Soc., 2015, 137 (34), pp 10886–10889

An Aza-Cope Reactivity-Based Fluorescent Probe for Imaging Formaldehyde in Living Cells



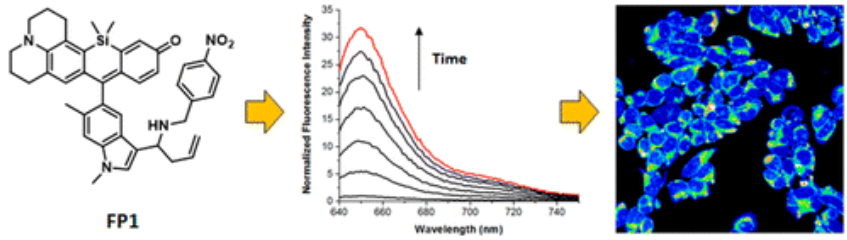
Traditional methods for biological FA detection rely on sample destruction and/or extensive processing, resulting in a loss of spatiotemporal information. To help address this technological gap, we present the design, synthesis, and biological evaluation of a fluorescent probe for live-cell FA imaging that relies on a FA-induced aza-Cope rearrangement. Formaldehyde probe-1 (FAP-1) is capable of detecting physiologically relevant concentrations of FA in aqueous buffer and in live cells with high selectivity over potentially competing biological analytes. Moreover, FAP-1 can visualize endogenous FA produced by lysine-specific demethylase 1 in a breast cancer cell model, presaging the potential utility of this chemical approach to probe RCS biology.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Roth, A. et al. J. Am. Chem. Soc., 2015, 137 (34), pp 10890–10893

A Reaction-Based Fluorescent Probe for Imaging of Formaldehyde in Living Cells



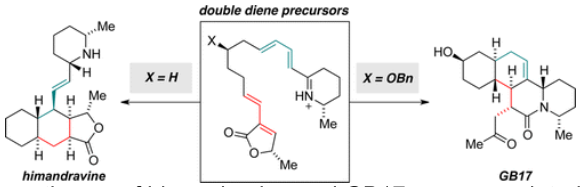
Optical imaging is a powerful noninvasive approach used to study FA in living systems; however, biocompatible chemical probes for FA are currently lacking. Herein, we report the design, synthesis, and biological evaluation of Formaldehyde Probe 1 (FP1), a new fluorescent indicator based on the 2-aza-Cope sigmatropic rearrangement. The remarkable sensitivity, selectivity, and photostability of FP1 has enabled us to visualize FA in live HEK293TN and Neuroscreen-1 cells. We envision that FP1 will find widespread applications in the study of FA associated with normal and pathological processes.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Larson, L. T. et al. J. Am. Chem. Soc., 2015, 137 (34), pp 11197–11204

Total Synthesis of the Galbulimima Alkaloids Himandravine an d GB17 Using Biomimetic Diels–Alder Reactions of Double Diene Precursors



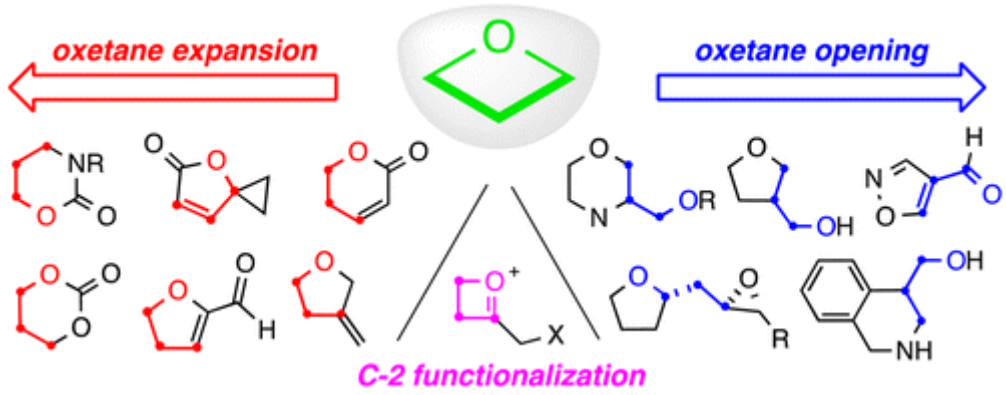
The enantioselective total syntheses of himandravine and GB17 were completed through a common biomimetic strategy involving Diels–Alder reactions of unusual double diene containing linear precursors. The double diene precursors, containing or lacking a C12 substituent as required to produce GB17 or himandravine, respectively, were found to undergo Diels–Alder reactions to afford mixtures of regioisomeric cycloadducts that map onto the alternative carbocyclic frameworks of both himandravine and GB17. Computational investigations revealed that these Diels–Alder reactions proceed via transition state structures of similar energy that have a high degree of bispericyclic character and that the low levels of regioselectivity observed in the reactions are a consequence of competing orbital interaction and distortion energies. The combined experimental and computational results provide valuable insights into the biosynthesis of the Galbulimima alkaloids.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Malapit, C. A.; Howell, A. R. *JOC,* **2015**, *80,* 8489-8495.

Recent Applications of Oxetanes in the Synthesis of Heterocyclic Compounds



bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Vilarrasa, J.; *et al*. *JOC,* **2015**, *80*, 8511-8519.

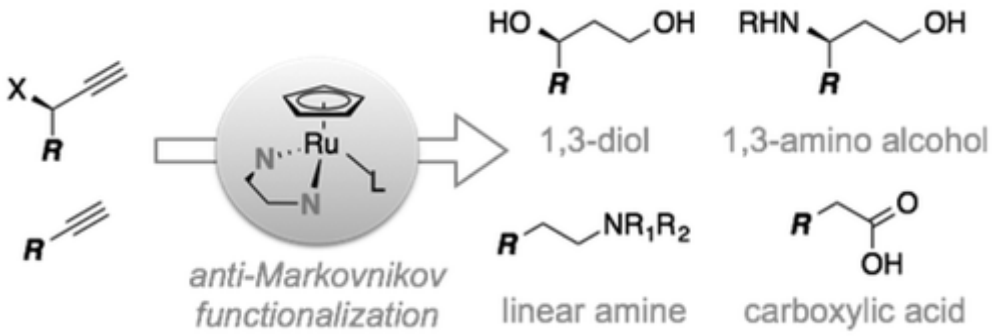
Total Synthesis of Amphidinolide K, a Macrolide That Stabilizes F-Actin

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Zeng, M.; Herzon, S. B. *JOC,* **2015**, *80,* 8604-8618.

Synthesis of 1,3-Amino Alcohols, 1,3-Diols, Amines, and Carboxylic Acids from Terminal Alkynes

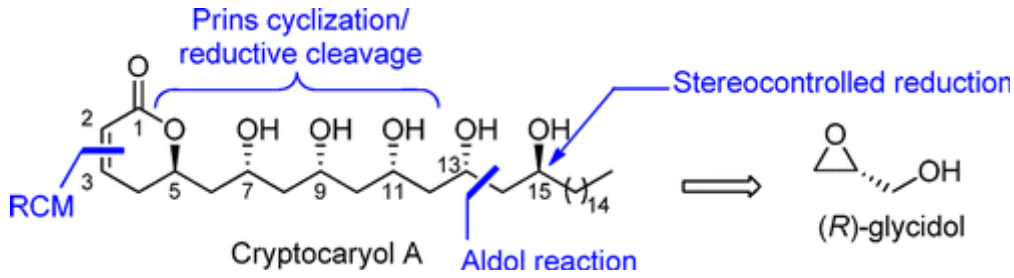


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Brun, E.; Bellosta, V.; Cossy, J. *JOC,* **2015**, *80,* 8668-8676.

Total Synthesis of (+)-Cryptocaryol A Using a Prins Cyclization/Reductive Cleavage Sequence

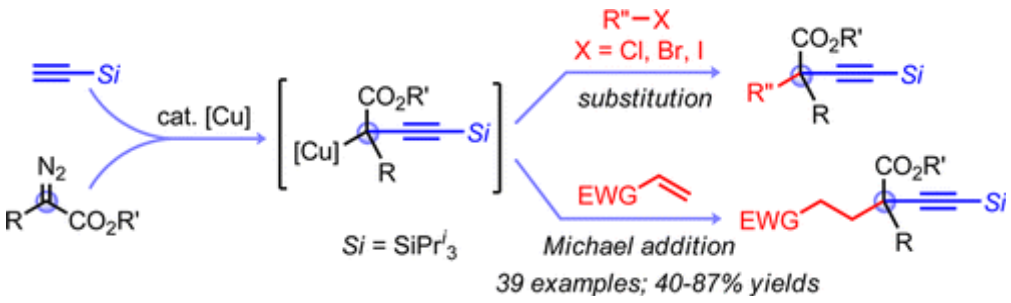


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Wang, C.; Ye, F.; Wu, C.; Zhang, Y.; Wang, J. *JOC,* **2015**, *80,* 8748-8757.

Construction of All-Carbon Quaternary Centers through Cu-Catalyzed Sequential Carbene Migratory Insertion and Nucleophilic Substitution/Michael Addition

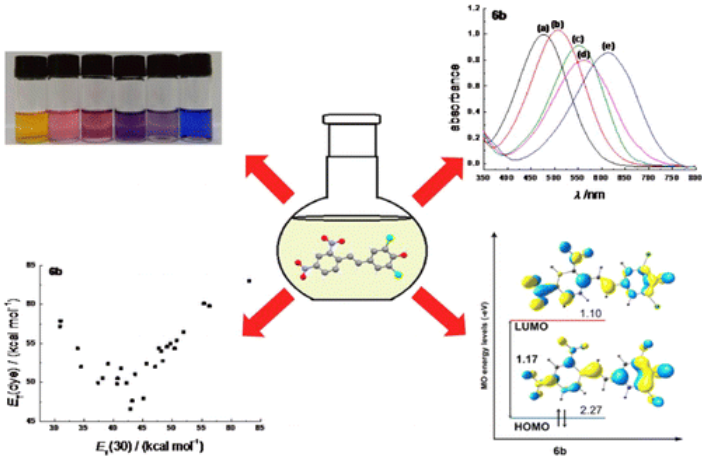


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Machado, V.; *et al*. *JOC,* **2015**, *80,* 7971-7983.

Synthesis and Solvatochromism of Substituted 4-(Nitrostyryl)phenolate Dyes

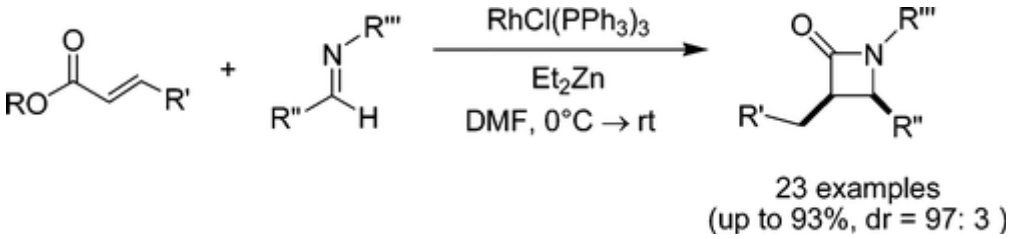


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Ando, A.; *et al*. *JOC,* **2015**, *80,* 8398-8405.

Diastereoselective Synthesis of syn-ß-Lactams Using Rh-Catalyzed Reductive Mannich-Type Reaction of a,ß-Unsaturated Esters



23 examples
(up to 93%, dr = 97: 3)

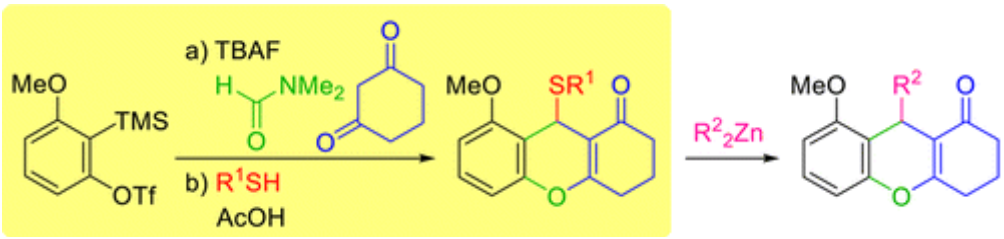
"The combination of Et2Zn and RhCl(PPh3)3 led to the facile generation of a rhodium–hydride complex (Rh–H) that catalyzed the 1,4-reduction of a,ß-unsaturated esters. The resulting rhodium enolate performed as a Reformatsky-type reagent and reacted with various imines to give syn-ß-lactams in good to excellent yields with high diastereoselectivity."

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Miyabe, H.; *et al*. *JOC,* **2015**, *80,* 8464-8469.

Multicomponent Coupling Reaction Using Arynes: Synthesis of Xanthene Derivatives



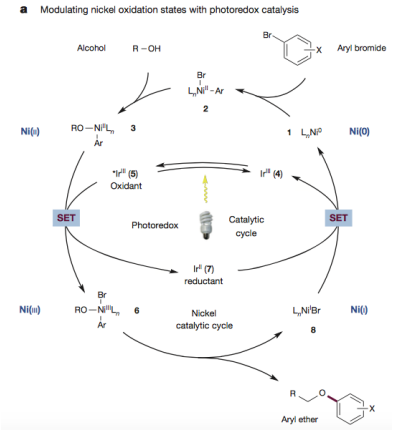
"One-pot synthesis of xanthene derivatives was achieved by a route involving the cascade three-component coupling reaction of arynes with DMF and active methylenes followed by the SN2' reaction of three-component coupling products with thiols. The reactivity of three-component coupling products toward nucleophiles and the further conversion of oxygen heterocycles allowing facile incorporation of structural variety were studied."

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Terrett, J. A.; Cuthbertson, J. D.; Shurtleff, V. W.; MacMillan, D. W. C. *Nature*. **2015**, *524*, 330.

Switching on elusive organometallic mechanisms with photoredox catalysis

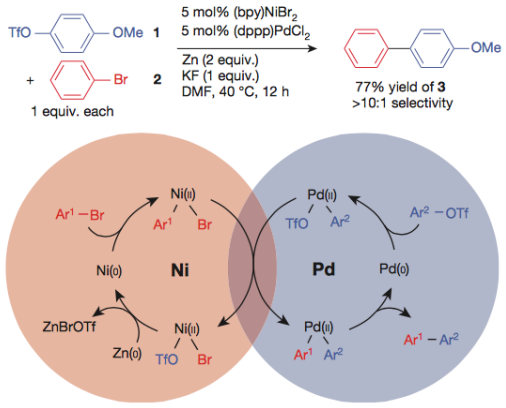


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Ackerman, L. K. G.; Lovell, M. M.; Weix, D. J. *Nature*. **2015**, *524*, 454.

Multimetallic catalysed cross-coupling of aryl bromides with aryl triflates

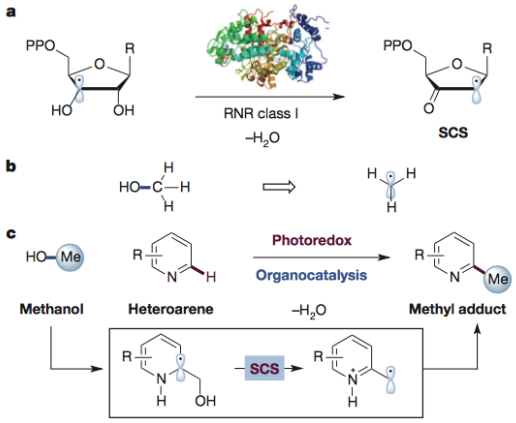


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Jin, J.; MacMillan, D. W. C. *Nature*. **2015**, *525*, 87.

Alcohols as alkylating agents in heteroarene C-H functionalization



bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Jaunmuktane, Z. et al. *Nature*. **2015**, *525*, 247.

Evidence for human transmission of amyloid-b pathology and cerebral amyloid angiopathy

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

http://www.nytimes.com/aponline/2015/09/02/business/ap-eu-switzerland-novartis-amgen.html

Novartis, Amgen Partner on Alzheimer's, Migraine Treatment

ENEVA — Swiss drug maker Novartis says it will cooperate with California-based biotech giant Amgen to develop and sell neuroscience treatments for illnesses and ailments like Alzheimer's disease and migraine headaches.

A Novartis statement released late Tuesday said that as part of the deal, Amgen will make initial payments and cover some research and development costs at the start with regard to the BACE inhibitor program for treatment of Alzheimer's. That will be followed by a 50-50 cost and profit sharing arrangement.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: http://www.nytimes.com/2015/09/09/health/lasker-awards-go-to-3-scientists-and-doctors-without-borders.html

Lasker Prizes Given for Discoveries in Cancer and Genetics, and for Ebola Response

The Lasker awards, among the most respected prizes in medicine, will go to three scientists who made groundbreaking discoveries in cancer and genetics, and to the aid group Doctors Without Borders, the Albert and Mary Lasker Foundation announced Tuesday.

Evelyn M. Witkin and Stephen J. Elledge shared the Albert Lasker Basic Medical Research Award for work they did independently of each other on the “DNA-damage response” — an array of actions that bacteria, yeast and human cells take to protect their genomes against an endless barrage of threats from chemicals, radiation and normal biochemical processes that go awry.

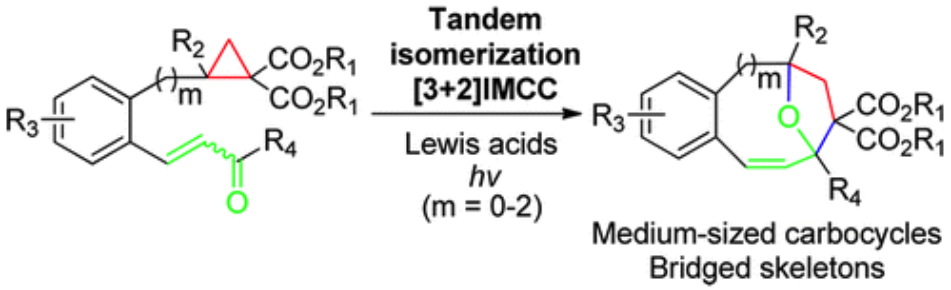
James P. Allison received the Lasker-DeBakey Clinical Medical Research Award for discovering and developing a cancer treatment that became the first of a new class of drugs called checkpoint inhibitors, which work by unleashing the immune system to fight cancer.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Wang, Z., et al. *Org. Lett.* **2015**, 17, 4184-4187

Cooperative Photo-/Lewis Acid Catalyzed Tandem Intramolecular [3+2] Cross-Cycloadditions of Cyclopropane 1,1-Diesters with a,b-**Unsaturated Carbonyls for Medium-Sized Carbocycles**

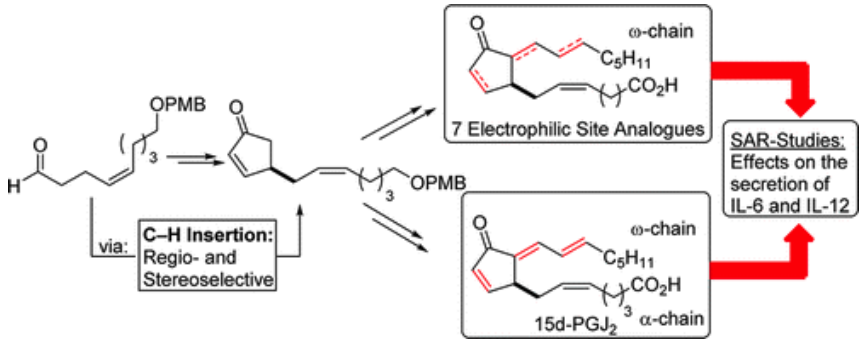


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Egger, J. et al. *Org. Lett.* **2015**, 17, 4340-4343

Total Synthesis of Prostaglandin 15d-PGJ$_2$ and Investigation of its Effect on the Secretion of IL-6 and IL-12

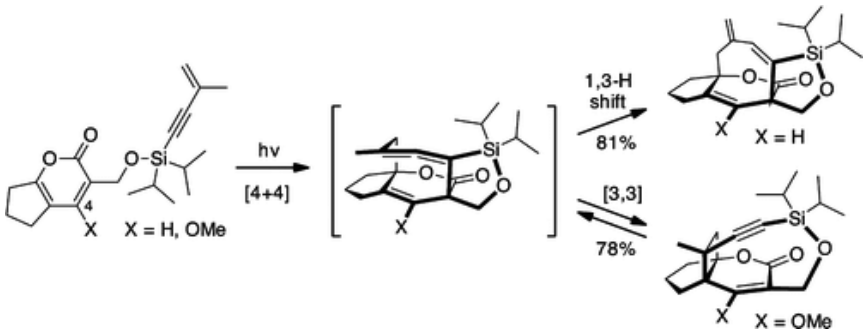


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Khatri, B. B., et al. *Org. Lett.* **2015**, 17, 4360-4363

Enyne-2-pyrone [4+4]-Photocycloaddition: Sesquiterpene Synthesis and a Low-Temperature Cope Rearrangement

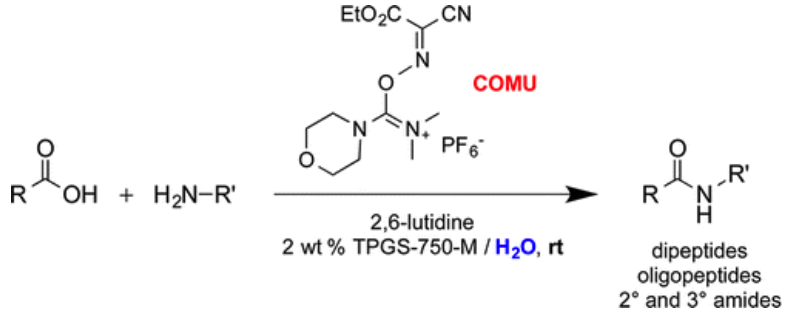


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Gabriel, C. M., et al. *Org. Lett.* **2015**, 17, 3968-3971

Amide and Peptide Bond Formation in Water at Room Temperature

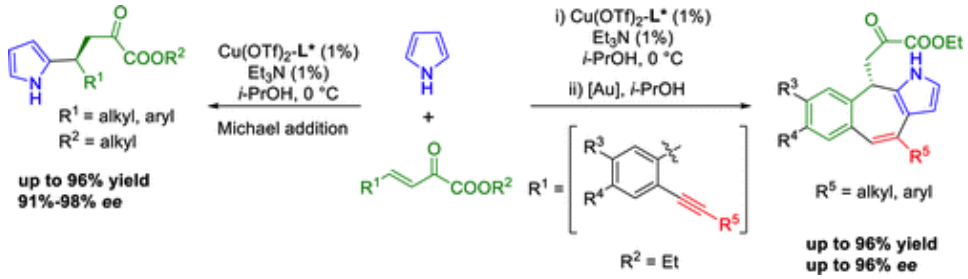


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Hu, Y., et al. *Org. Lett.* **2015**, 17, 4018-4021

Copper Catalyzed Enantioselective Alkylation of Pyrrole with b,g-Unsaturated a-Ketoesters: Application to One-Pot Construction of the Seven-Membered Ring by Merging a Gold Catalysis

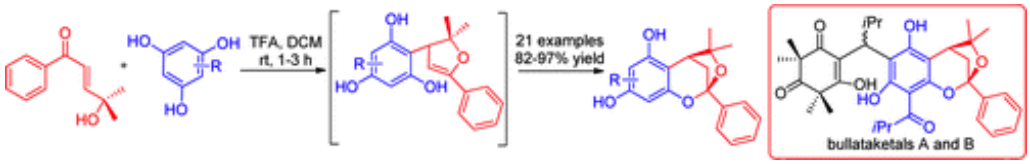


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Tan, H., et al. *Org. Lett.* **2015**, 17, 4050-4053

Concise Construction of the Tricyclic Core of Bullataketals Enabled by a Biomimetic Intermolecular (3+3) Type Cycloaddition



bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Peterson, A. M. *Proc. Natl. Acad. Sci. U.S.A.;* **2015,** E4671-E4680.

Quantifying the impact of weak, strong, and super ties in scientific careers

(A mathamatical analysis) A scientist will encounter many potential collaborators throughout his/her career. As such, the choice to start or terminate a collaboration can be an important strategic consideration with long-term implications. While previous studies have focused primarily on aggregate cross-sectional collaboration patterns, here we analyze the collaboration network from a researcher's local perspective along his/her career. Our longitudinal approach reveals that scientific collaboration is characterized by a high turnover rate juxtaposed with surprisingly frequent "life partners." We show that these extremely strong collaborations have a significant positive impact on productivity and citations—the apostle effect—representing the advantage of "super" social ties characterized by trust, conviction, and commitment.

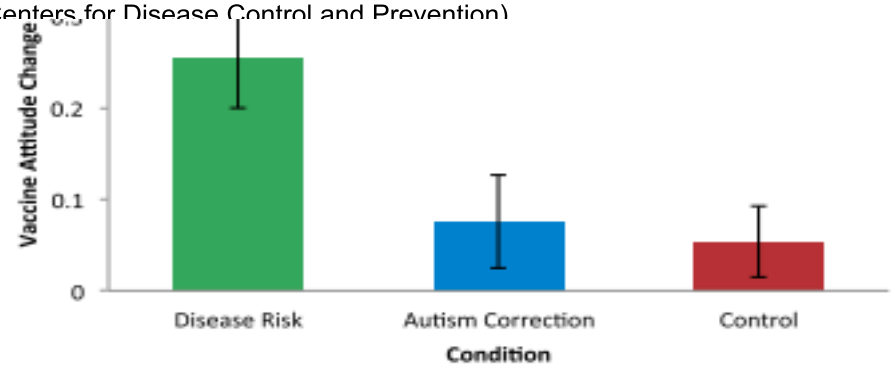
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Horne, Z.; Powell, D.; Hummel, J. E.; Holyoak, K. J. *Proc. Natl. Acad. Sci. U.S.A.* **2015,** *112,* 10321.

Countering antivaccination attitudes

Prior research on vaccine attitude change suggests that it is difficult to persuade vaccination skeptics and that direct attempts to do so can even backfire. Here, we successfully countered people's antivaccination attitudes by making them appreciate the consequences of failing to vaccinate their children (using information provided by the Centers for Disease Control and Prevention)



bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Webber, B. L.; Raghu, S.; Edwards, O. R. *Proc. Natl. Acad. Sci. U.S.A.* **2015,** *112,* 10565.

Opinion: Is CRISPR-based gene drive a biocontrol silver bullet or global conservation threat?

Recent developments in clustered regularly interspaced short palindromic repeats (CRISPR)-Cas9 technology have restarted discussions of using gene drive for invasive species control. A CRISPR-Cas9 gene drive approach to invasive species control would be based on a laboratory strain with a deleterious trait being mass-reared and released into the field in sufficient numbers for the engineered mutation to spread and control the target population within a desired time frame.

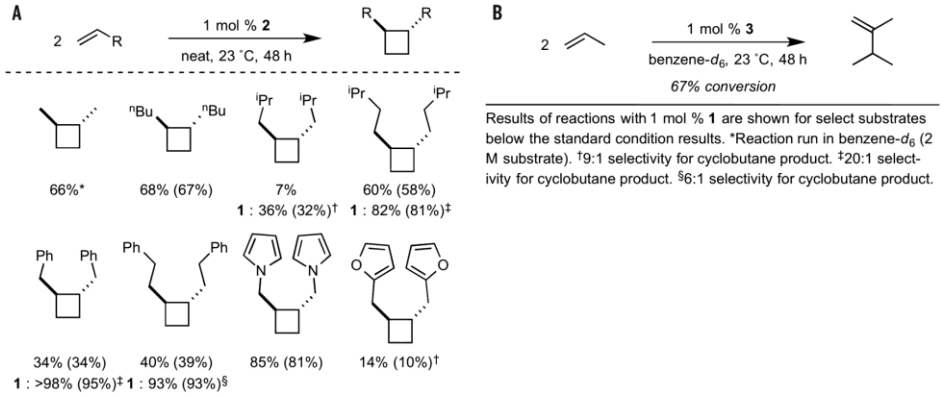
⇐ Invasive species!

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Hoyt, J.M.; Scmidt, V.A.; Tondreau, A.M.; Chirik, P.J. *Science*, **2015**, *349* (6251) 960-963.

Iron-catalyzed intermolecular [2+2] cycloadditions of unactivated alkenes



Results of reactions with 1 mol % **1** are shown for select substrates below the standard condition results. *Reaction run in benzene-d_6 (2 M substrate). †9:1 selectivity for cyclobutane product. ‡20:1 selectivity for cyclobutane product. §6:1 selectivity for cyclobutane product.

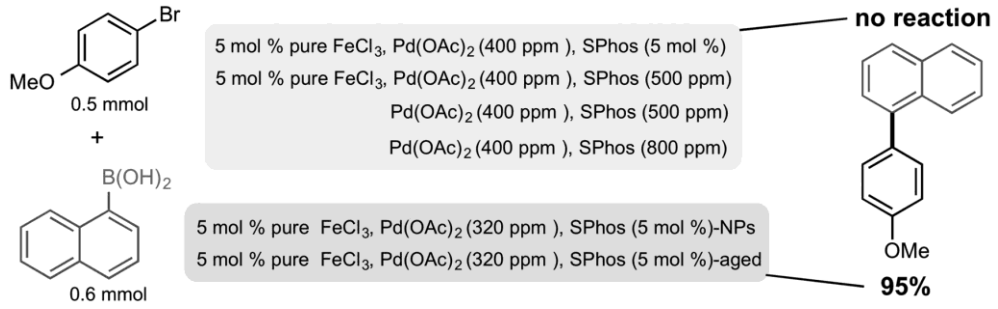
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Handa, S.; Wang, Y.; Gallou, F.; Lipschutz, B.H. *Science*, **2015**, *349* (6252), 1087-1091.

Sustainable Fe-ppm Pd nanoparticle catalysis of Suzuki-Miyaura cross-couplings in water

(they do this in water and have very little Pd so that's pretty cool)

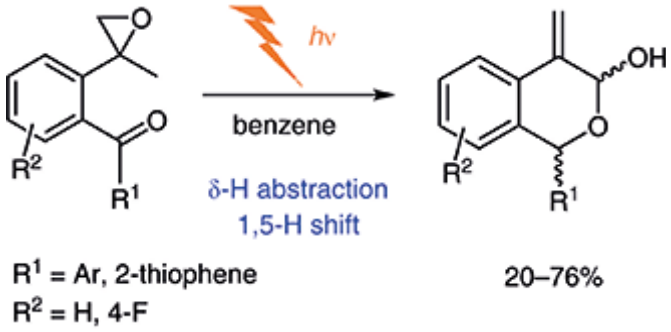


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Li, B.; Yang, C.; Xia, W.; Xia, W. *Synlett* **2015**, *26*(14), 1997.

Further Insight into the Photochemical Behavior of Aromatic γ,δ-Epoxy Ketones: A New Approach for Synthesis of 4-Methyleneisochromanols

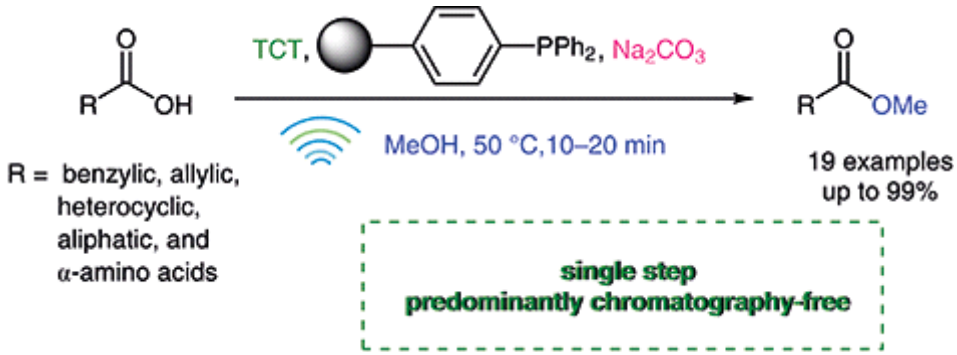


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDOs
Hybrid
Drug Deliv.
Prostratin

Citation: Jaita, S.; *et al. Synlett* **2015**, *26*(14), 2006.

Ultrasound-Assisted Methyl Esterification of Carboxylic Acids Catalyzed by Polymer-Supported Triphenylphosphine

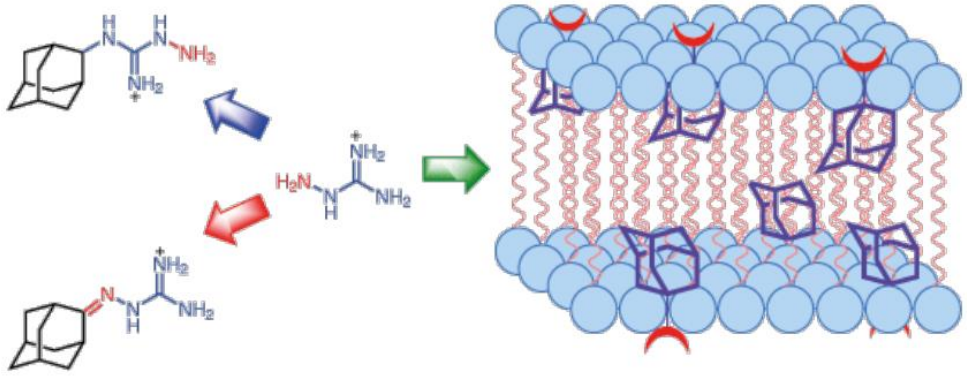


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDOs
Hybrid
Drug Deliv.
Prostratin

Citation: **Sekutor, M. Synlett 2015, 26, A–F**

A Multidisciplinary Approach to the Study of Adamantyl Aminoguanidines – A New Class of Potentially Bioactive Compounds

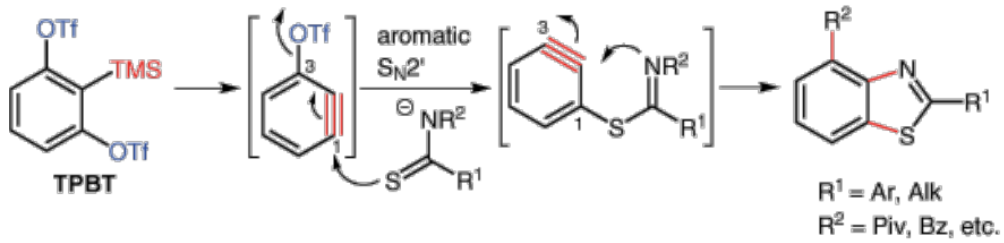


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: **Qui, D. Shi, J. Li, Y. Synlett 2015, 26, A–E**

Domino Aryne Precursor: A Step beyond the Boundary of Traditional Aryne Chemistry

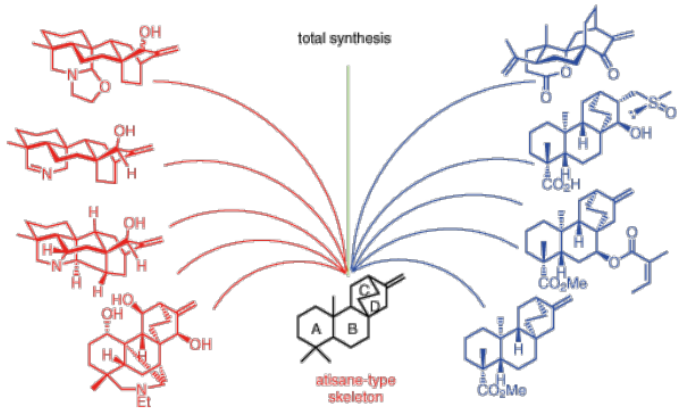


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: **Zhu, G., Liu, R., Liu, B. Synthesis 2015, 47, 2691–2708**

Total Synthesis of Atisane-Type Diterpenoids and Related Diterpenoid Alkaloids

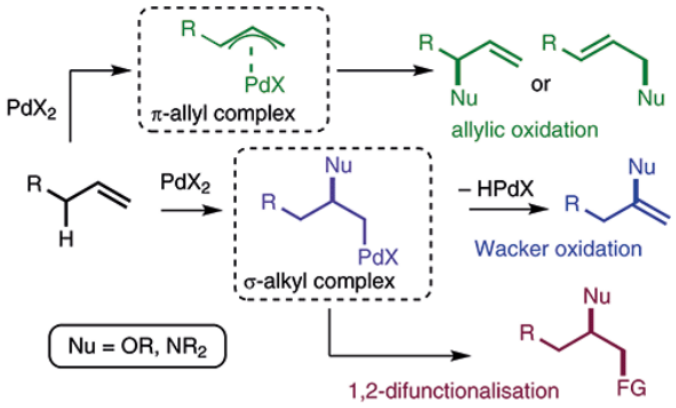


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: **Mann, S.E., Benhamou, L., Sheppard, Tom D. Synthesis 2015, 47, A–AM**

Palladium(II)-Catalysed Oxidation of Alkenes



bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: **Pathe, G. K., Ahmed, N. Synthesis 2015, 47, A–K**

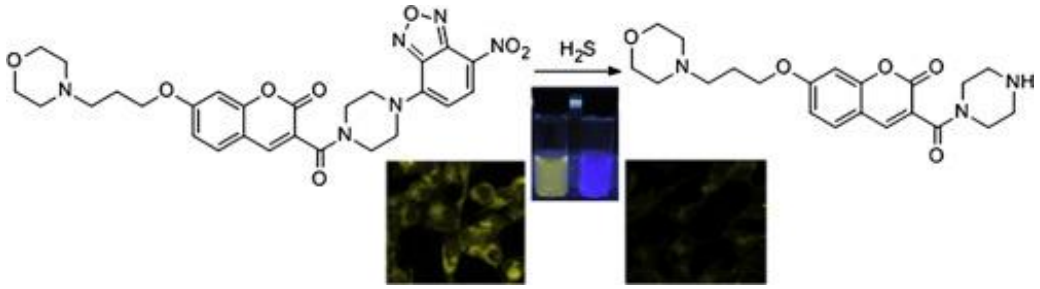
Mild and Efficient Reductive Deoxygenation of Epoxides to Olefins with Tin(II) Chloride/Sodium Iodide as a Novel Reagent

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Zhang, J. et al. *Tetrahedron* **2015**, In Press.

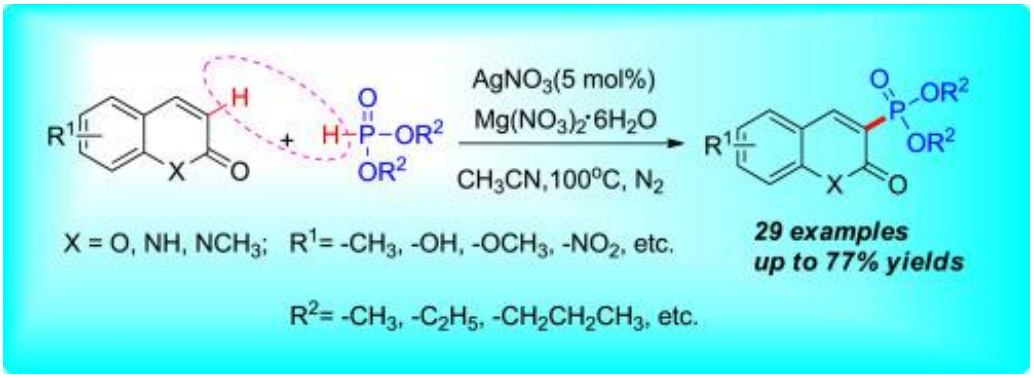
A FRET-based ratiometric fluorescent probe for visualizing H2S in lysosomes



bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Silver-catalyzed direct Csp2-H radical phosphorylation of coumarins with H-phosphites



bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin