Accounts of Chemical Research	264	Quang Luu-Nguyen
ACS Central Science	**MOOK**	Colin McKinlay
ACS Chemical Biology	264	Clayton Hardman
ACS Nano	266	Nancy Benner
Advanced Drug Delivery Reviews	N/A	N/A
Angewandte Chemie International Edition	266	Samanta Capolicchio
Bioconjugate Chemistry	N/A	N/A
Biomacromolecules	267	Nancy Benner
Bioorganic and Medicinal Chemistry	268	Samanta Capolicchio
Bioorganic and Medicinal Chemistry Letters	N/A	N/A
Chemical Communications	268	Katie Near
Chemical & Engineering News	**MOOK**	Colin McKinlay
Chemical Reviews	N/A	N/A
Chemical Science	269	Jack Sloane
Chemistry, A European Journal	N/A	Clayton Hardman
European Journal of Organic Chemistry	270	Jack Sloane
Journal of the American Chemical Society	271	Melanie Huttner (odd)
		Akira Shimizu (even)
JAMA	272	Stephen Ho
Journal of Medicinal Chemistry	**MOOK**	Matt Stevens
Journal of Organic Chemistry	**MOOK**	Matt Jeffreys
Molecular Pharmaceutics	272	Xiaoyu Zang (Janice)
Natural Product Reports	273	Nancy Benner
Nature	274	Stephen Ho
Nature Chemistry	274	Stephen Ho
Nature Chemical Biology	N/A	Xiaoyu Zang (Janice)
New England Journal of Medicine	275	Stephen Ho
The New York Times	N/A	N/A
The Onion	N/A	N/A
Organic Letters	276	Quang Luu-Nguyen
Organometallics	276	Ryan Quiroz
PNAS	**MOOK**	Colin McKinlay
Science	276	Xiaoyu Zang (Janice)
Science Translational Medicine	N/A	N/A
Synlett	N/A	N/A
Synthesis	N/A	N/A
Tetrahedron	277	Ryan Quiroz
Tetrahedron Letters	**MOOK**	Matt Stevens

Next Due Date: Monday, January 16, 2017

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

Create an Abstract

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

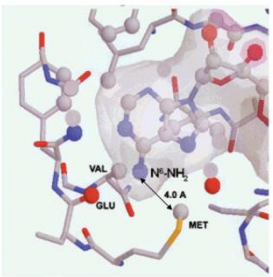
Include a brief textual summary of the article; an example of a completed abstract is shown below. The list of topics and subgroups on the right is useful to highlight which subgroups should pay attention to your abstract and roughly what kind of chemistry the article contains.

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

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-32PI-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

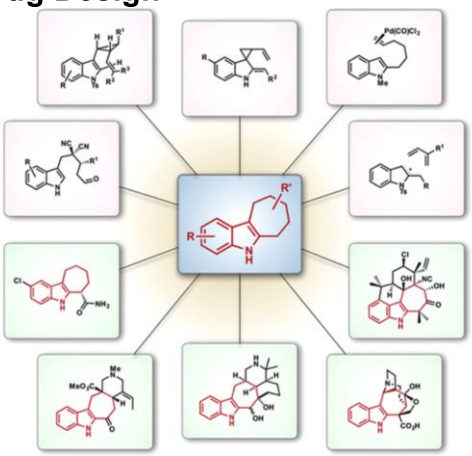
DON'T BE A MOOK!

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: Stempel, E.; & Gaich, T. *Acc. Chem. Res.*, **2016**, *49* (11), pp 2390-2402

Cyclohepta[*b*]indoles: A Privileged Structure Motif in Natural Products and Drug Design



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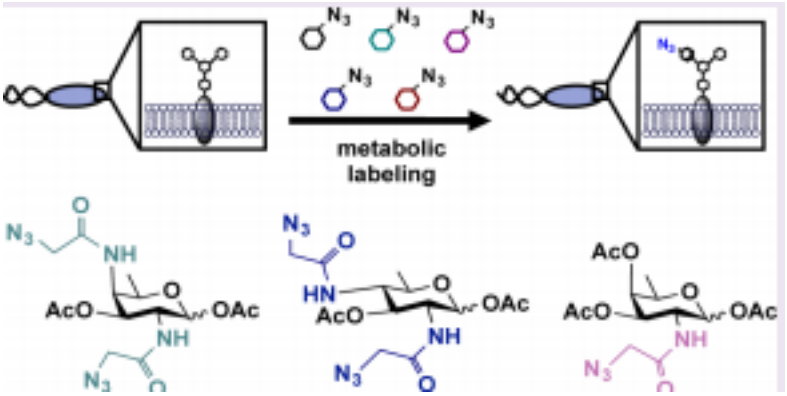
Drug Deliv.
Prostratin

Citation: Clark, E.; Emmadi, M.; Krupp, K.; Podilapu, A.; Helble, J.; Kulkarni, S.; Dube, D. *ACS Chemical Biology* **2016**.

Development Of Rare Bacterial Monosaccharide Analogs For Metabolic Glycan Labeling In Pathogenic Bacteria



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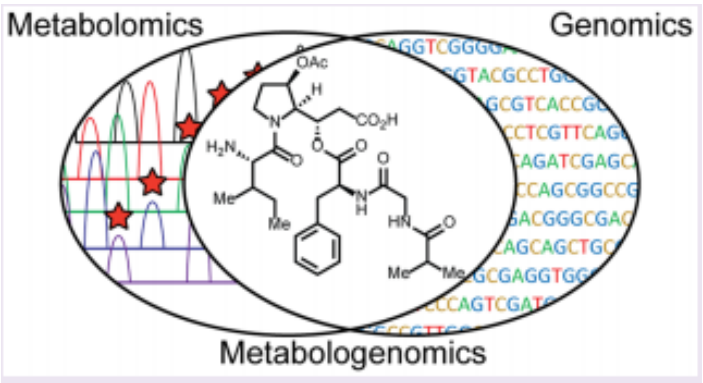
Prostratin

Citation: McClure, R.; Goering, A.; Ju, K.; Baccile, J.; Schroeder, F.; Metcalf, W.; Thomson, R.; Kelleher, N. *ACS Chemical Biology* **2016**.

Elucidating The Rimosamide-Detoxin Natural Product Families And Their Biosynthesis Using Metabolite/Gene Cluster Correlations.



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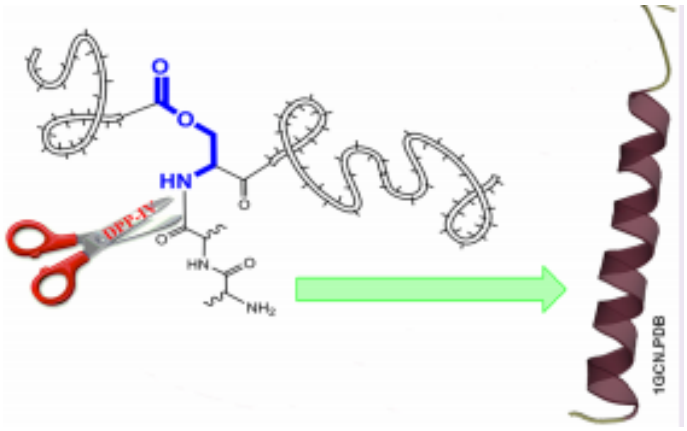
Citation: Mroz, P.; Perez-Tilve, D.; Liu, F.; Mayer, J.; DiMarchi, R. *ACS Chemical Biology* **2016.**

Native Design Of Soluble, Aggregation-Resistant Bioactive Peptides: Chemical Evolution Of Human Glucagon



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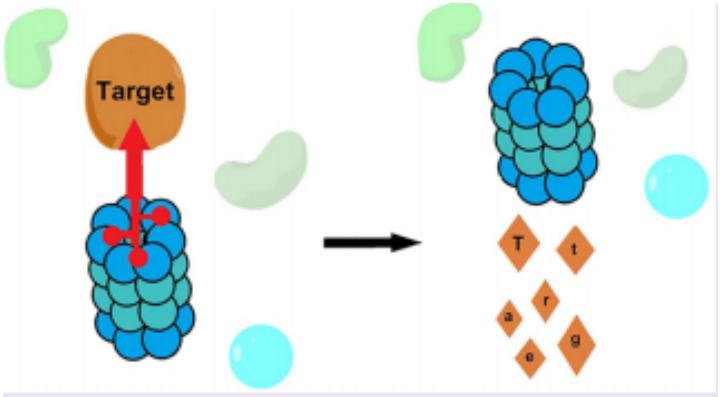
Citation: Shi, Y.; Long, M.; Rosenberg, M.; Li, S.; Kobjack, A.; Lessans, P.; Coffey, R.; Hedstrom, L. *ACS Chemical Biology* **2016.**

Boc3arg-Linked Ligands Induce Degradation By Localizing Target Proteins To The 20S Proteasome



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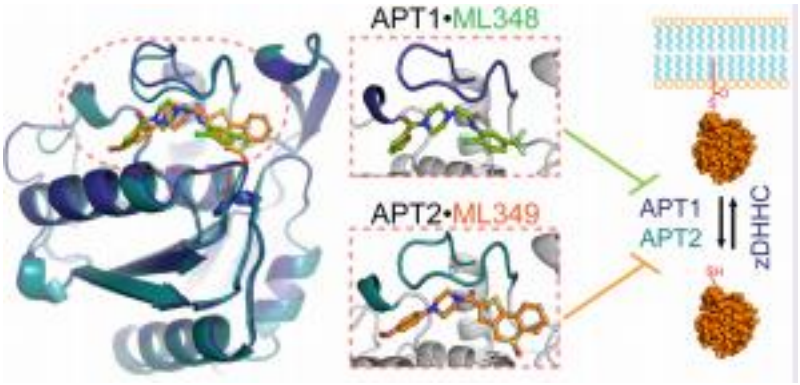
Citation: Won, S.; Davda, D.; Labby, K.; Hwang, S.; Pricer, R.; Majmudar, J.; Armacost, K.; Rodriguez, L.; Rodriguez, C.; Chong, F. et al. *ACS Chemical Biology* **2016**.

Molecular Mechanism For Isoform-Selective Inhibition Of Acyl Protein Thioesterases 1 And 2 (APT1 And APT2).



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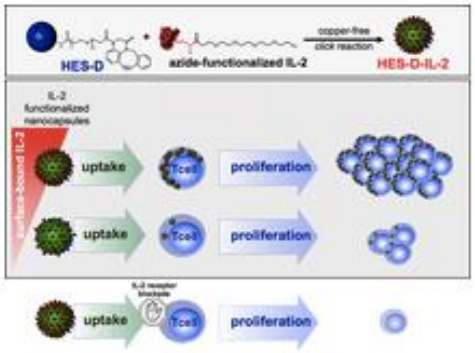
Citation: Frick, S. et. al, *ACS Nano,* **2016**, 10 (9) 9216-9226

Interleukin-2 Functionalized Nanocapsules for T Cell-Based Immunotherapy



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Citation: Tirla, A. et al. *Angew. Chem. Int. Ed.* **2016**, *55*, 14709–14712.

Development of a Photoactivatable Phosphine Probe for Induction of Intracellular Reductive Stress with Single-Cell Precision

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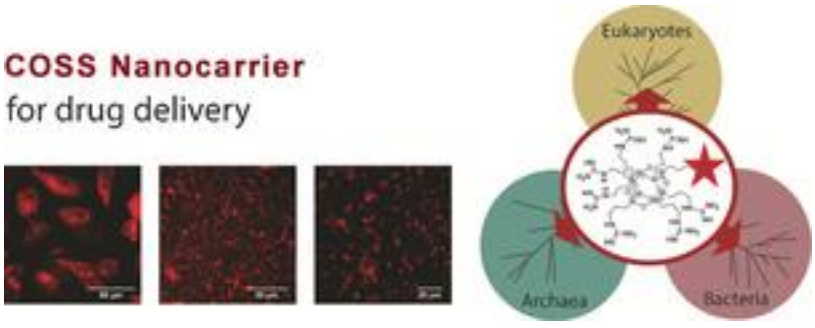
Citation: Hörner, S. et al. *Angew. Chem Int. Ed.* **2016**, *55*, 14842-14846.

Nanoscale Biodegradable Organic–Inorganic Hybrids for Efficient Cell Penetration and Drug Delivery



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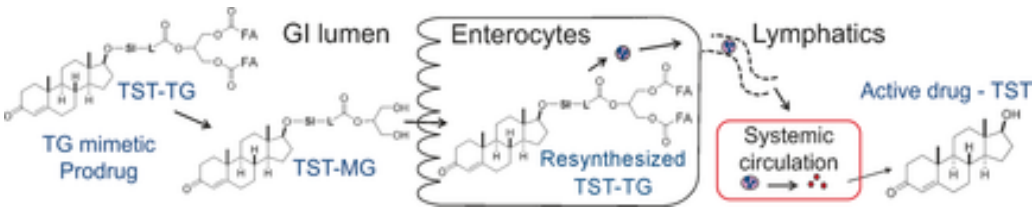
Citation: Hu, L. et al. *Angew. Chem Int. Ed.* **2016**, *55*, 13700-13705.

Glyceride-Mimetic Prodrugs Incorporating Self-Immolative Spacers Promote Lymphatic Transport, Avoid First-Pass Metabolism, and Enhance Oral Bioavailability



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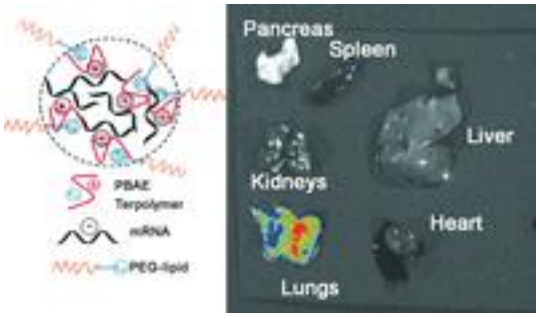
Citation: Kaczmarek, J. C. et al. *Angew. Chem Int. Ed.* **2016**, *55*, 13808-13812.

Polymer–Lipid Nanoparticles for Systemic Delivery of mRNA to the Lungs



mRNA-loaded nanoparticles were synthesized using degradable poly(β-amino ester) terpolymers formulated with a PEG-lipid. The PEG-lipid imparted serum stability to the nanoparticles, which resulted in successful mRNA delivery to the lungs after systemic nanoparticle administration in mice.

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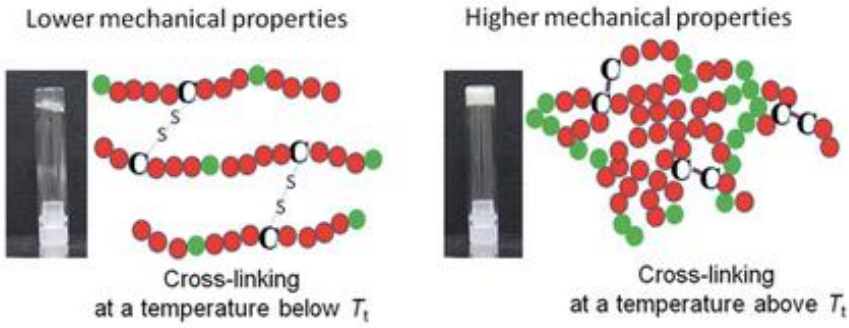
Citation: Zhou, H. et. al, *Biomacromolecules,* **2016**, 17 (10) 3508-3515

Rationally Designed Redox-Sensitive Protein Hydrogels with Tunable Mechanical Properties



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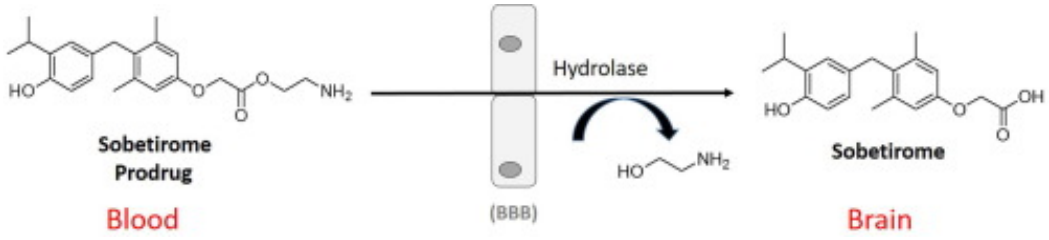
Citation: Placzek, A. T. et al. *Bioorg. Med. Chem.* **2016**, *24*, 5842-5854.

Sobetirome prodrug esters with enhanced blood–brain barrier permeability



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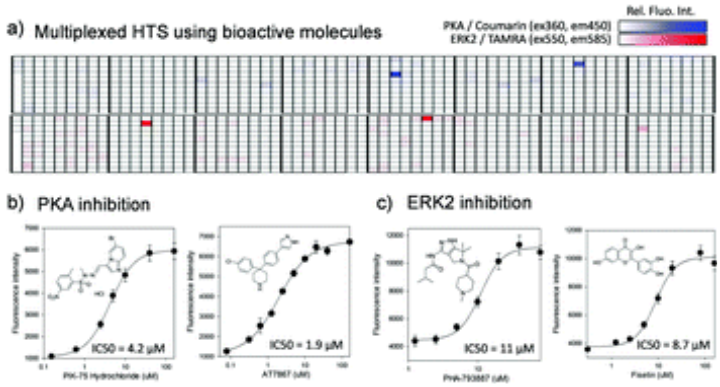
Citation: Lee, J. *et al. Chem. Commun.* **2016**, *52,* 12112.

A robust and quantitative assay platform for multiplexed, high throughput screening of protein kinase inhibitors



The authors designed a new platform for protein kinase activity assay using TiO2 decorated graphene oxide (GO). On the basis of the strong affinity of TiO2 for the phosphate group and the fluorescence quenching capability of GO, phosphorylation of substrates by protein kinases was quantitatively measured in a short time

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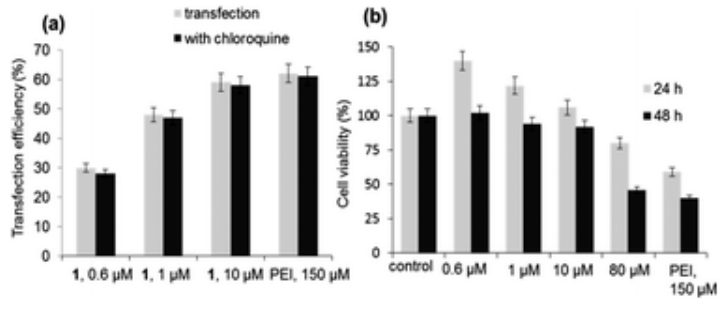
Citation: Samanta, K. *et al. Chem. Commun.* **2016**, *52,* 12446.

Guanidiniocarbonyl pyrrole (GCP) conjugated PAMAM-G2, a highly efficient vector for gene delivery: the importance of DNA condensation



A novel hybrid compound efficiently shuttles genetic material into HeLa cells at concentrations as low as 0.6 μM, whereas the parent compound PAMAM-G2 is ineffective even at 200 μM. The high efficiency stems from its capabiliy to form highly condensed ligand–DNA polyplexes.

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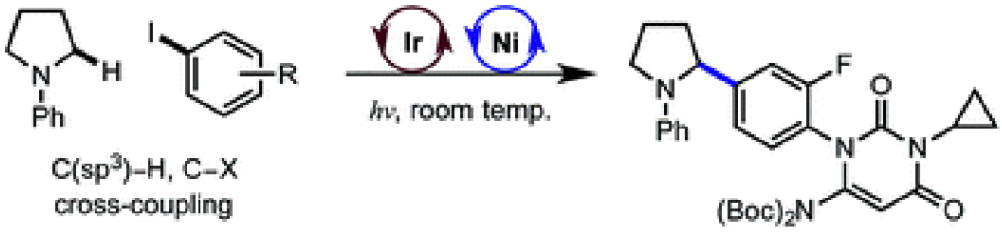
Citation: Ahneman, D. T..; et al. *Chem. Sci.* **2016**, 7, 7002-7006

C-H Functionalization of amines with aryl halides by nickel-photoredox catalysis



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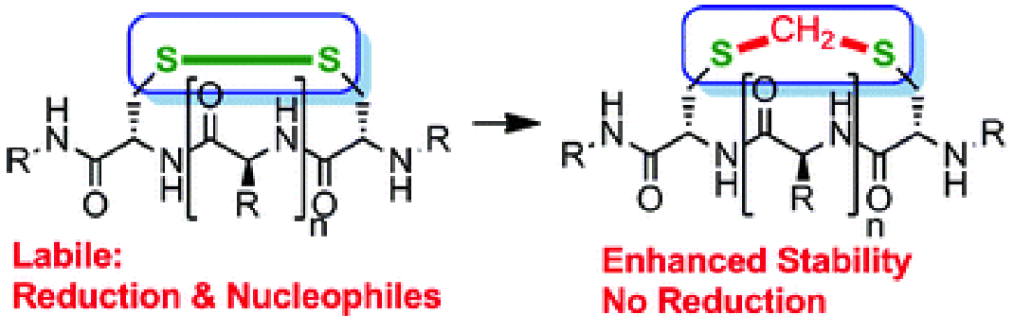
Citation: Kourra, C. M. B. K.; et al. *Chem. Sci.* **2016**, 7, 7007-7012

Converting disulfide bridges in native peptides to stable methylene thioacetals



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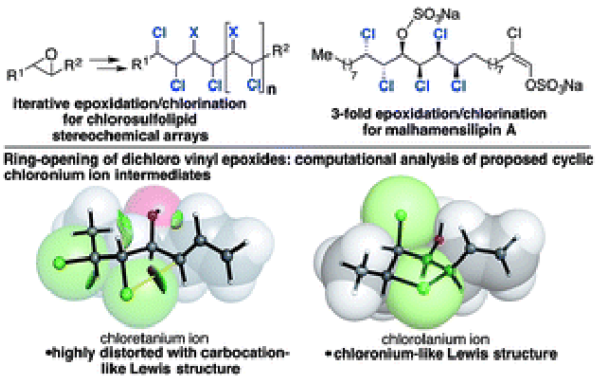
Citation: Saska, J.; et al. *Chem. Sci.* **2016**, 7, 7040-7049

Synthesis of malhamensilipin A exploiting iterative epoxidation/chlorination: experimental and computational analysis of epoxide-derived chloronium ions



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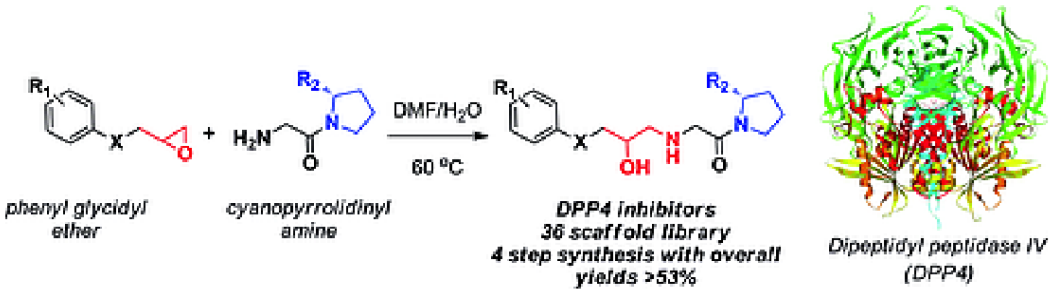
Citation: Lizza, J. R. et al. *Eur. J. Org. Chem.* **2016**, 30, 5160-5168

Direct Synthesis of Cyanopyrrolidinyl β-Amino Alcohols for the Development of Diabetes Therapeutics

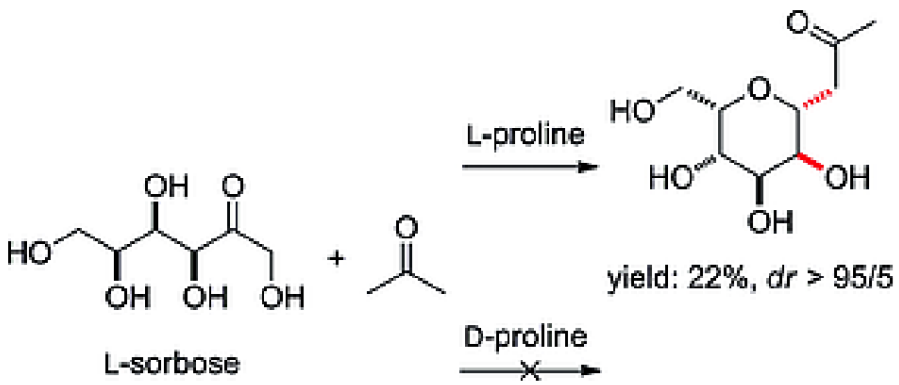


bioorganic **methods** **synthesis** mechanism review other

OM Bryo DDO Hybrid Drug Deliv. Prostratin

Citation: Richter, C. et al. *Eur. J. Org. Chem.* **2016**, 31, 5309-5320

Cascade Reactions of Unprotected Ketoses with Ketones - A Stereoselective Access to C-Glycosides

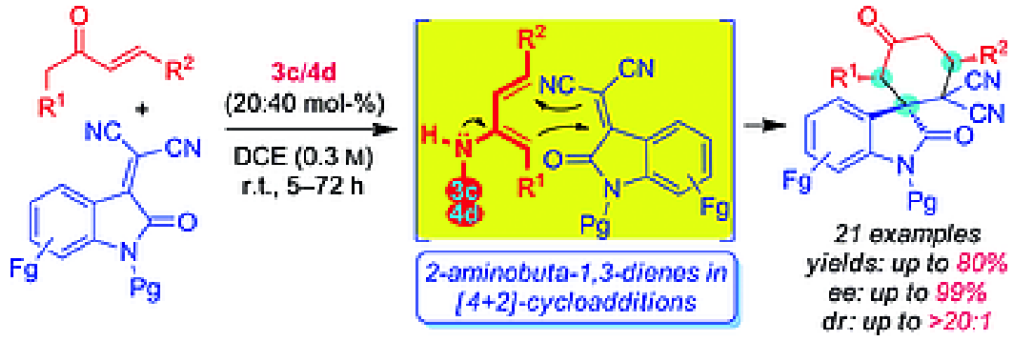


bioorganic **methods** synthesis mechanism review other

OM Bryo DDO Hybrid Drug Deliv. Prostratin

Citation: Ramachary, D. B. et al. *Eur. J. Org. Chem.* **2016**, 31, 5220-5226

A Bronsted Acid-Primary Amine as a Synergistic Catalyst for Stereoselective Asymmetric Diels-Alder Reactions



bioorganic **methods** synthesis **mechanism** review other

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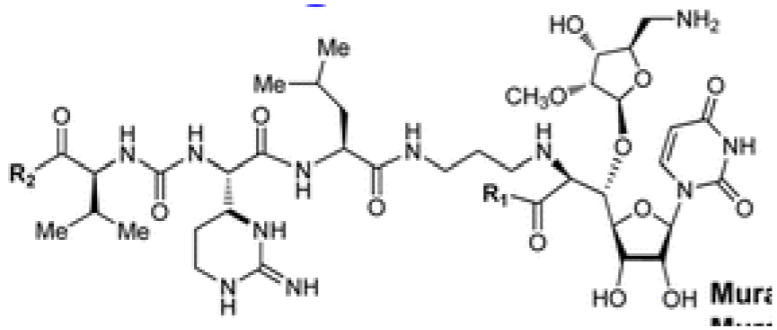
Citation: *JACS*, **2016,** *138,* 12975-12980.

Stereocontrolled Total Synthesis of Muraymycin D1 Having a Dual Mode of Action against *Mycobacterium tuberculosis*

The synthetic route consists of (1) selevtice beta-ribosylation, (2) selective Strecker reaction, and (3) ring-opening reaction of a diastereomeric mixture of diaminolactone. Muraymycin D1 and two derivatives inhibited growth of *Mycobacterium tuberculosis*.



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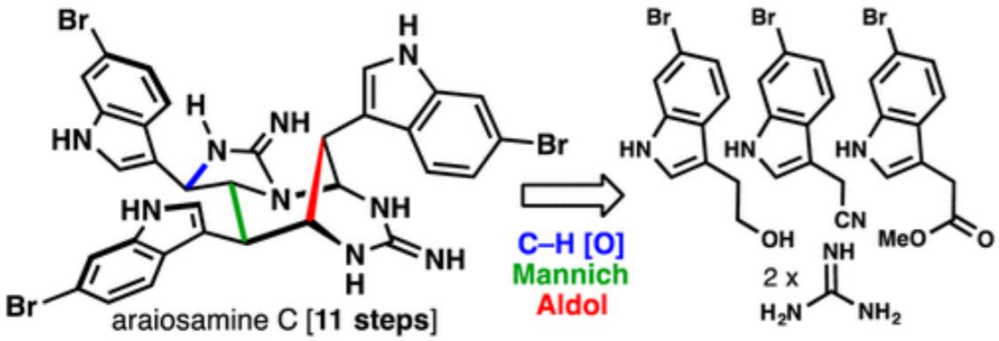
Citation: *JACS*, **2016,** *138,* 14234.

11 Step Total Synthesis oof Araiosamines

Baran paper



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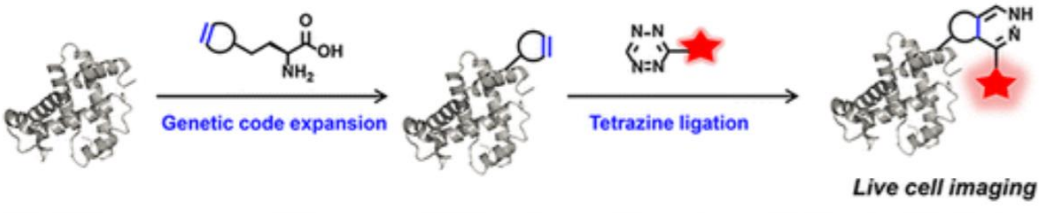
Citation: *JACS*, **2016,** *138,* 14423.

Site-Specific Bioothogonal Labeling for Fluorescence Imaging of Intracellular Proteins in Living Cells

Site-specific incorporation of unnatural amino acids has mostly been used to label extracellular proteins. Here the authors label and track the localization and trafficking of IFITM3, a small membrane-associated protein.



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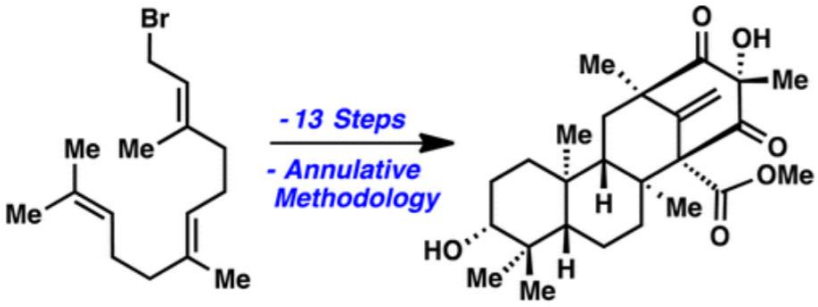
Citation: *JACS,* **2016,** *138,* 14868.

Annulative Methods Enable a Total Synthesis of the Complex Meroterpene Berkeleyone A

Thomas Maimone paper.



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Citation: **JAMA. 2016;316(19):1957. doi:10.1001/jama.2016.16344**

"Artificial Pancreas" Is Approved

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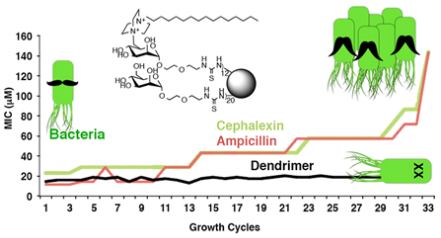
Citation: VanKoten, et *al. Mor. Pharm.* **2016,** *13*, 3827-3834

Synthesis and Biological Activity of Highly Cationic Dendrimer Antibiotics



the synthesis and biological activity of fourth generation poly(amidoamine) dendrimers decorated with 1-hexadecyl-azoniabicylo[2.2.2]octane (C16-DABCO), a quaternary ammonium compound known to have antibacterial activity, are described. This highly cationic dendrimer antibiotic was tested against several Gram positive and Gram negative strains of pathogenic bacteria and exhibited activity against both. Higher activity toward the Gram positive strains that were tested was observed. After the antimicrobial activity was assessed, E. coli and B. cereus were subjected to a resistance selection study. This study demonstrated that a multivalent approach to antimicrobial design significantly reduces the likelihood of developing bacterial resistance. Highly cationic dendrimers were also used as pretreatment of a membrane to prevent biofilm formation.

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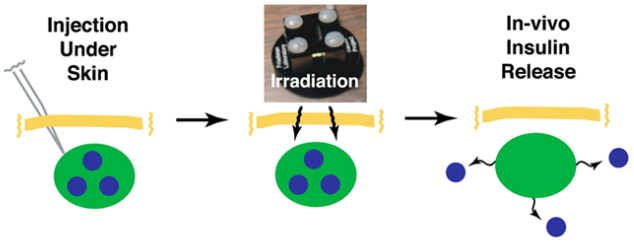
Citation: Sarode, et *al.* *Mor. Pharm.* **2016,** *13*, 3835-3841

Light Control of Insulin Release and Blood Glucose Using an Injectable Photoactivated Depot

In this work the authors demonstrate that blood glucose can be controlled remotely through light stimulated release of insulin from an injected cutaneous depot. Human insulin was tethered to an insoluble but injectable polymer via a linker, which was based on the light cleavable di-methoxy nitrophenyl ethyl (DMNPE) group. This material was injected into the skin of streptozotocin-treated diabetic rats.



bioorganic
methods
synthesis
mechanism
review
other

OM
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Hybrid
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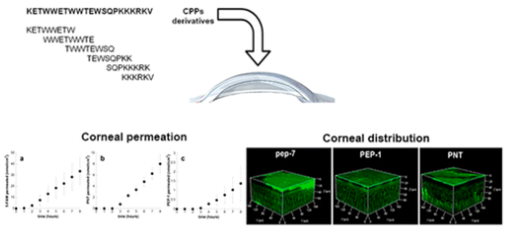
Citation: Pescina, et *al.* *Mor. Pharm.* **2016,** *13*, 3876-3883

The enhancement of trans-corneal transport for anterior segment targeting is a very important issue possibly leading to important outcomes on efficacy and to the opportunity of topical administration of molecules with unfavorable penetration properties. The aim of the present work was the design and synthesis of new CPPs, deriving from the structure of PEP-1 peptide. Synthesized peptides were labeled with 5-carboxyfluorescein (5-FAM), and their diffusion behavior and distribution inside the cornea were evaluated by a validated ex vivo model and a confocal microscopy approach.

Design and Synthesis of New Cell Penetrating Peptides: Diffusion and Distribution Inside the CorneaDesign and Synthesis of New Cell Penetrating Peptides: Diffusion and Distribution Inside the Cornea



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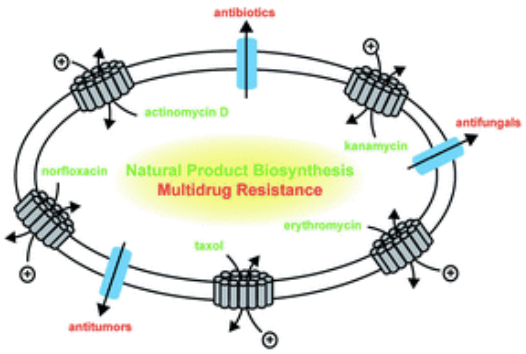
Citation: Mousa, J. et al. *Nat. Prod. Rep.*, **2016**, 33, 1255-1267

Structural and mechanistic diversity of multidrug transporters



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Citation: **Nature 539, 179 (10 November 2016) doi:10.1038/539179a**

Neurodegenerative diseases

Neurodegenerative diseases Marie-Thérèse Heemels	**Ageing, neurodegeneration and brain rejuvenation** Tony Wyss-Coray
The road to restoring neural circuits for the treatment of Alzheimer's disease Rebecca G. Canter, Jay Penney & Li-Huei Tsai	**Decoding ALS: from genes to mechanism** J. Paul Taylor, Robert H. Brown Jr & Don W. Cleveland
Defects in trafficking bridge Parkinson's disease pathology and genetics Asa Abeliovich & Aaron D. Gitler	**Mammalian prions and their wider relevance in neurodegenerative diseases** John Collinge
The activities of amyloids from a structural perspective Roland Riek & David S. Eisenberg	

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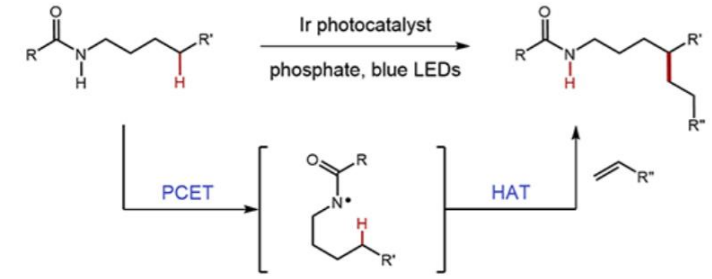
Citation: **Nature 539, 268–271 (10 November 2016) doi:10.1038/nature19811**

1) Amide-directed photoredox-catalysed C–C bond formation at unactivated sp3 C–H bonds (Rovis group)
2) Catalytic alkylation of remote C–H bonds enabled by proton-coupled electron transfer (Knowles group)



Directed alkylation of remote C-H bonds enabled by amide PCET

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Citation: **Nature Chemistry (2016) doi:10.1038/nchem.2636**

Oxadiazole grafts in peptide macrocycles

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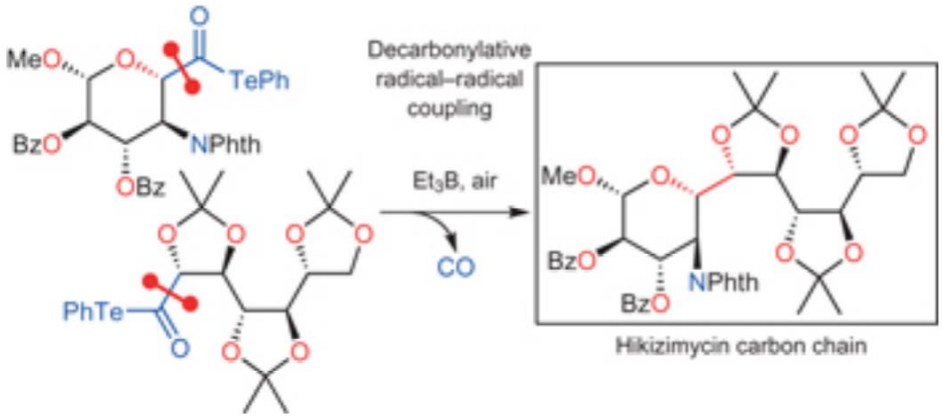
Citation: **Nature Chemistry (2016) doi:10.1038/nchem.2639**

Direct assembly of multiply oxygenated carbon chains by decarbonylative radical–radical coupling reactions



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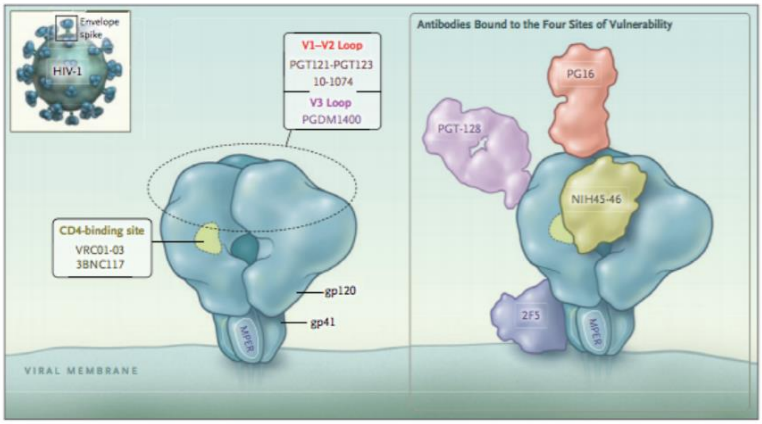
Citation: **NEJM: November 9, 2016DOI: 10.1056/NEJMp1613362**

Broadly Neutralizing Antibodies for HIV-1 Prevention or Immunotherapy



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Citation: **NEJM: November 13, 2016DOI: 10.1056/NEJMoa1609243**

A Highly Durable RNAi Therapeutic Inhibitor of PCSK9

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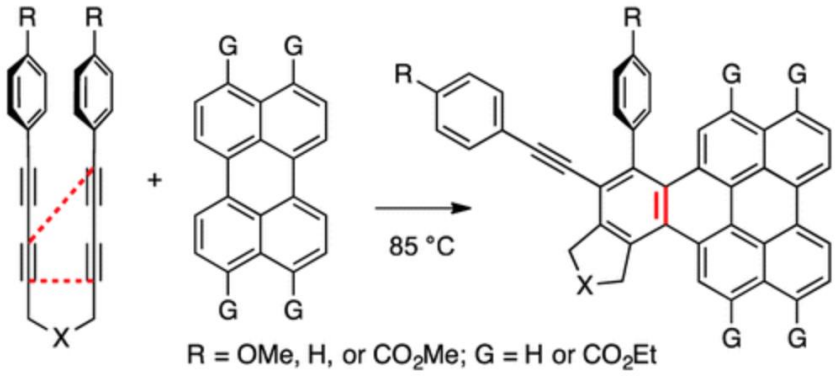
Citation: Xu, F; Xiao, X.; & Hoye, T. R. *Org. Lett.*, **2016**, *18* (21), pp 5636 - 5639

Reactions of HDDA-Derived Benzynes with Perylenes: Rapid Construction of Polycyclic Aromatic Compounds



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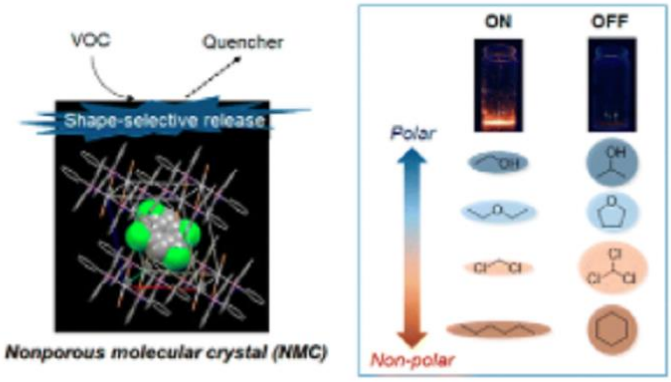
Citation: Imoto, H. et al. *Organomet.* **2016**, *35*, 3647-3650.

Molecular Shape Recognition by Using a Switchable Luminescent Nonporous Molecular Crystal



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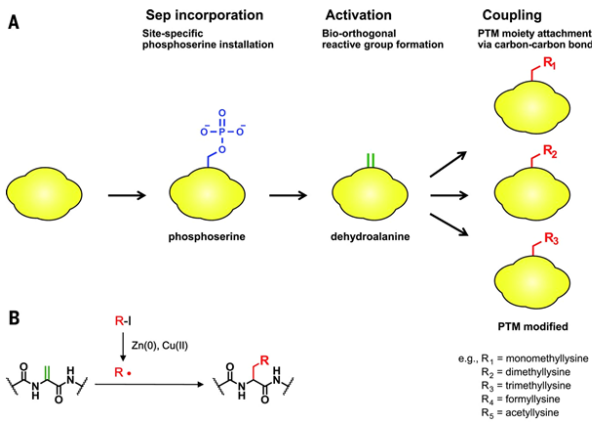
Prostratin

Citation: Yang, *et al.* *Science.* **2016,** *354*, 623-626.

A chemical biology route to site-specific authentic protein modifications

Site-specific authentic three-step approach for installing authentic posttranslational modifications in recombinant proteins. We first use the established O-phosphoserine (Sep) orthogonal translation system to create a Sep-containing recombinant protein. The Sep residue is then dephosphorylated to dehydroalanine (Dha). Last, conjugate addition of alkyl iodides to Dha, promoted by zinc and copper, enables chemoselective carbon-carbon bond formation.



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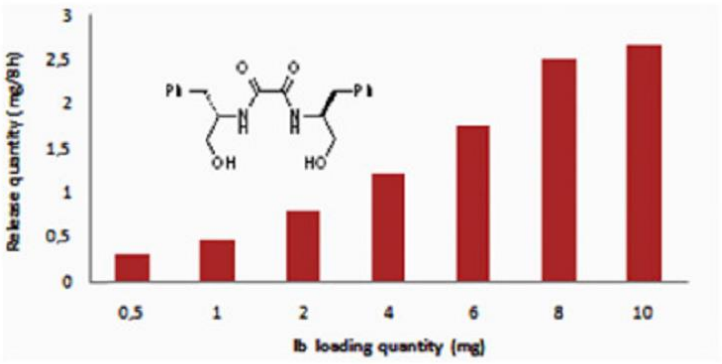
Prostratin

Citation: Uzacn, S. et al. *Tetrahedron*. **2016**, *72*, 7517-7525.

Organogels as novel carriers for dermal and topical drug delivery vehicles



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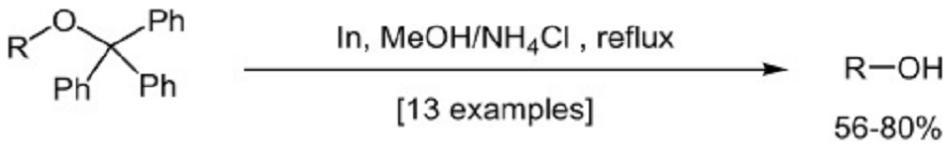
Prostratin

Citation: Behloul, C. et al. *Tetrahedron*. **2016**, *72*, 7937-7941.

Indium-mediated cleavage of the trityl group from protected alcohols and diols



R = alkyl, allyl, benzyl, phenyl

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