



**93rd SLA Annual Conference
Chemistry Division Vendor Roundtable**

Edward E. Hueckel, Account Manager



Agenda - Chemistry Division Roundtable



- Academic IDEAL Integration
- New Features and Functionality
- Backfiles
- Dymond Linking
- Chem Village from EI
- New From MDL!

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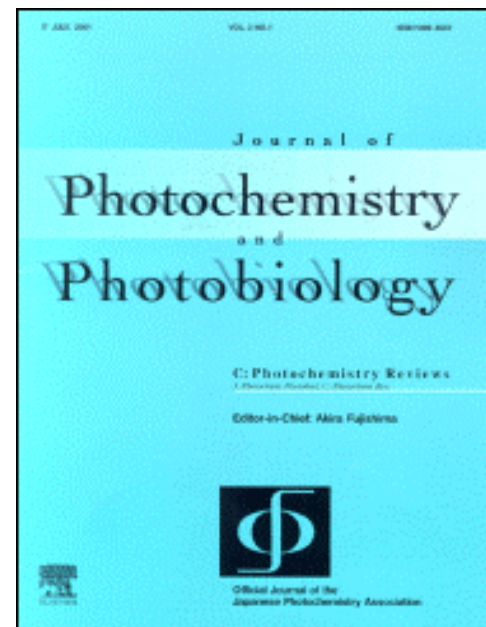
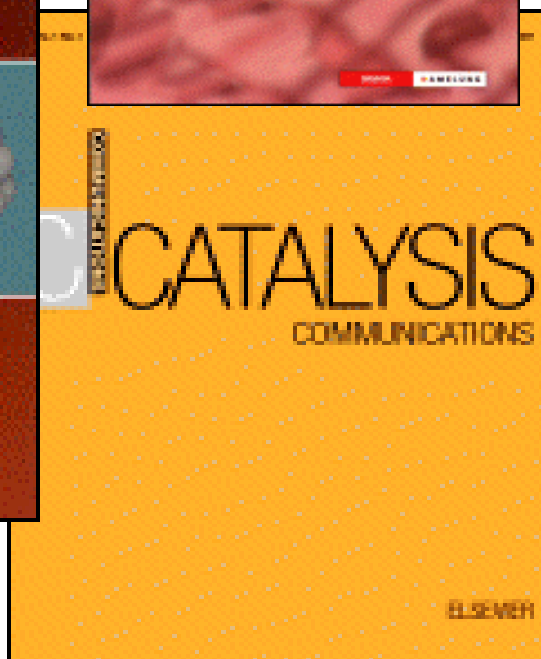
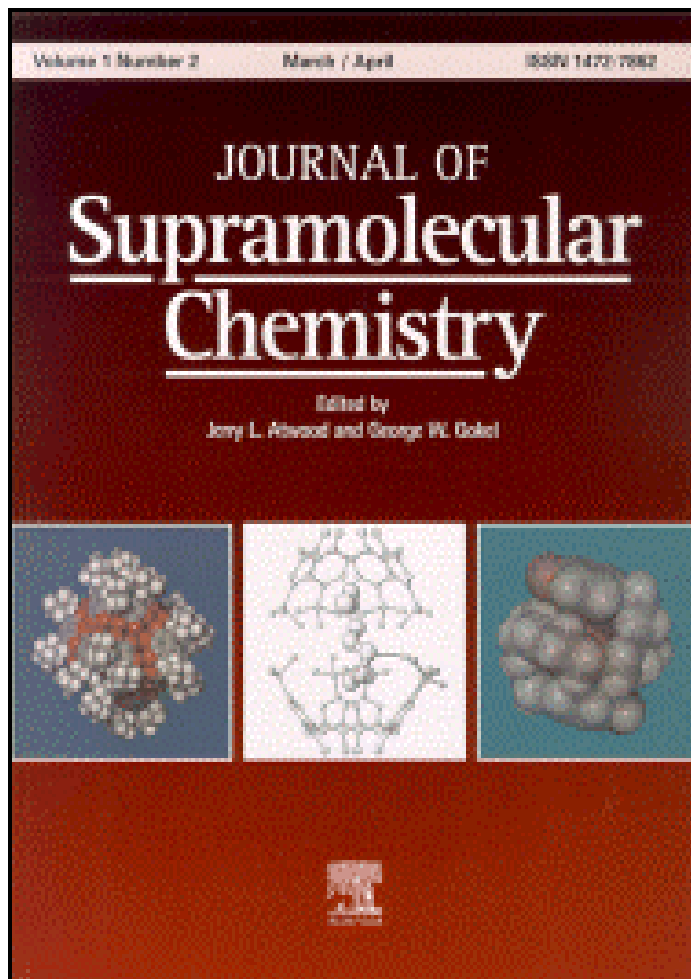
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- Dymond Linking on Tetrahedron Letters
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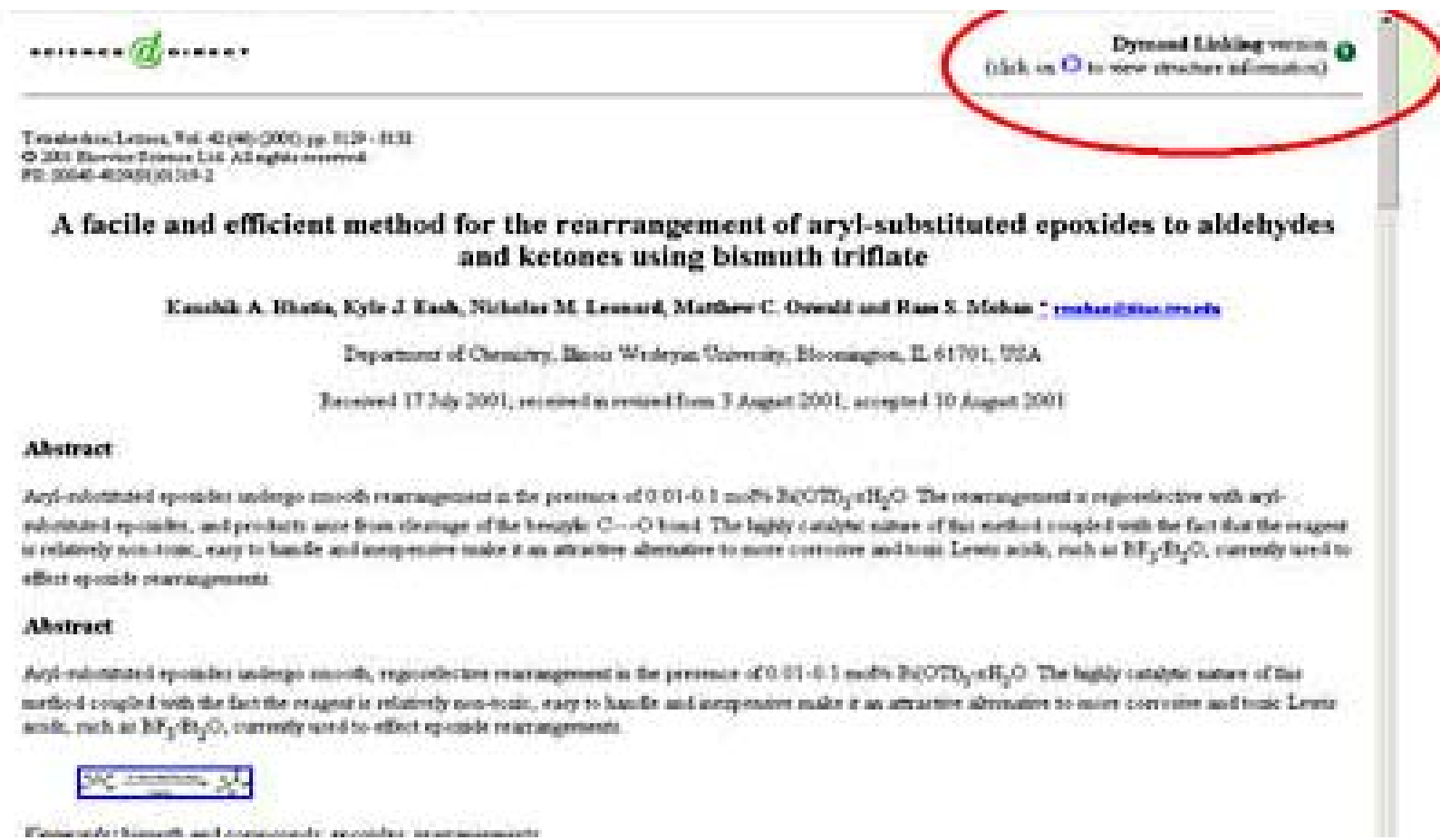


The screenshot displays the Elsevier ScienceDirect interface. At the top, there are navigation buttons for 'Name', 'Publications', 'Search', 'My Alerts', 'My Profile', and 'Help'. Below this is a search bar and a '1 of 37' indicator. The main content area features the journal title 'Tetrahedron Letters' and article details: 'Volume 42, Issue 46', '12 November 2001', and 'Pages S129-S132'. The article title is 'A facile and efficient method for the rearrangement of aryl-substituted epoxides to aldehydes and ketones using bismuth triflate'. The authors listed are 'Kanchh A. Bhatia, Kyle J. East, Nicholas M. Leonard, Matthew C. Oswald and Russ S. McManis'. The abstract begins with 'Aryl-substituted epoxides undergo ring-to-ring rearrangement in the presence of 0.05-0.1 mol% Bi(OTf)₃·xH₂O. The rearrangement is regioselective with aryl-substituted epoxides, and products arise from cleavage of the benzylic C-O bond. The highly catalytic nature of this method coupled with the fact that the reagent is relatively non-toxic, easy to handle and inexpensive make it an attractive alternative to more corrosive and toxic Lewis acids, such as BF₃·Et₂O, currently used to effect epoxide rearrangements.'

In the right-hand sidebar, under 'External Links', the 'Dymond' link is highlighted with a red circle. Other links include 'Full Document', 'Summarizing Article', 'Journal Format PDF (129,132)', and 'Actions' such as 'Cited By', 'Sign Up for Citation Alert', and 'Export Citation'.

New Developments at Elsevier Science

- ...this then brings up a second window with the Dymond version of the article



.....@.....

Tetrahedron Letters, Vol. 42 (46) (2001) pp. 8129 - 8131
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PII: S0040-4039(01)5181-2

A facile and efficient method for the rearrangement of aryl-substituted epoxides to aldehydes and ketones using bismuth triflate

Kamali A. Hkatha, Kyle J. Eash, Nicholas M. Leonard, Matthew C. Oswald and Russ S. Mielhan * rmelhan@stan.ox.ac.uk

Department of Chemistry, Boston Wesleyan University, Bloomington, IL 61701, USA


Received 17 July 2001; received in revised form 3 August 2001; accepted 10 August 2001

Abstract

Aryl-substituted epoxides undergo smooth rearrangement in the presence of 0.01–0.1 mol% $\text{Bi}(\text{OTf})_3 \cdot n\text{H}_2\text{O}$. The rearrangement is regioselective with aryl-substituted epoxides, and products arise from cleavage of the bicyclic C–O bond. The highly catalytic nature of this method coupled with the fact that the reagent is relatively non-toxic, easy to handle and inexpensive make it an attractive alternative to more corrosive and toxic Lewis acids, such as $\text{BF}_3 \cdot \text{Et}_2\text{O}$, currently used to effect epoxide rearrangements.

Abstract

Aryl-substituted epoxides undergo smooth, regioselective rearrangement in the presence of 0.01–0.1 mol% $\text{Bi}(\text{OTf})_3 \cdot n\text{H}_2\text{O}$. The highly catalytic nature of this method coupled with the fact the reagent is relatively non-toxic, easy to handle and inexpensive make it an attractive alternative to more corrosive and toxic Lewis acids, such as $\text{BF}_3 \cdot \text{Et}_2\text{O}$, currently used to effect epoxide rearrangements.



Keywords: Bismuth triflate and organotin(IV) epoxide rearrangements

New Developments at Elsevier Science

Clicking on a Dymond link...

Scheme 2 Strategy for preparation of allylic alcohols

The requisite silicon-tethered ynales were previously prepared by initial addition of a lithium acetylide to dimethyl-dichlorosilane to afford chloro-allylsilanes [1a-d](#). Chloro-ynes [1a-d](#) and hydroxyaldehyde [2](#) were then stored in CH_2Cl_2 at 0°C with Et_3N and catalytic DMAP for 15 min to directly afford ynales [3a-d](#) [Scheme 2](#). The gem-phenyl moiety was chosen simply because of the stability and ease of preparation of hydroxyaldehyde [2](#). It is interesting to note that other linkages would be equally effective in the subsequent cyclization processes.

Scheme 3 Cyclization of silicon-protected ynales

With the desired ynales in hand, we examined the efficiency of nickel-catalyzed cyclization with organozinc according to procedures previously developed in our lab.² Organozincs were prepared by treatment of anhydrous zinc chloride in THF with an organolithium or organomagnesium reagent (1.6:1 stoichiometry). A mixture of the organozinc with $\text{Ni}(\text{COD})_2$ (10 mol%) was transferred to a THF solution of the ynal and trimethylsilyl chloride. After 1 h at 0°C , trimethylsilyl-protected silicon heterocycles [4a-f](#) were efficiently formed [Scheme 3](#). Treatment with Et_3N -pyridine selectively deprotected the trimethylsilyl moiety to afford alcohol derivatives [5a-f](#), whereas treatment with rtBu_2NF resulted in exhaustive silyl cleavage to afford the corresponding acyclic diols. In the rtBu_2NF -mediated process, proto-dehydration proceeded cleanly to afford the trisubstituted alkene in a stereospecific fashion.³

Scheme 4 Silicon heterocycle formation and oxidative cleavage

For purposes of obtaining allylic alcohols with a trisubstituted alkene moiety, the most direct and efficient procedure involves treatment of the crude reaction mixture from a nickel-catalyzed cyclization with rtBu_2NF to afford the 1,2-diol with concomitant proto-dehydration of the vinyl silane in a single step [Scheme 4](#).¹¹ Treatment of the diol with *p*-nitro-*o*-c acid in ether cleanly afforded the expected aldehyde which was directly treated with $\text{NaBH}_4/\text{Ce}(\text{Cl}_4)$ to afford the desired allylic alcohols [6a-f](#) in $>95\%$ isomeric purity. The examples shown demonstrate that aromatic and aliphatic



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...brings up another window with additional information

Dymond: Search - Microsoft Internet Explorer provided by America Online

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Structure 1 Amit Basak and Subrata Mandal 4241 - 4243
A carbene insertion route to β -lactam fused cyclic enediynes

1

Chime™ View ?

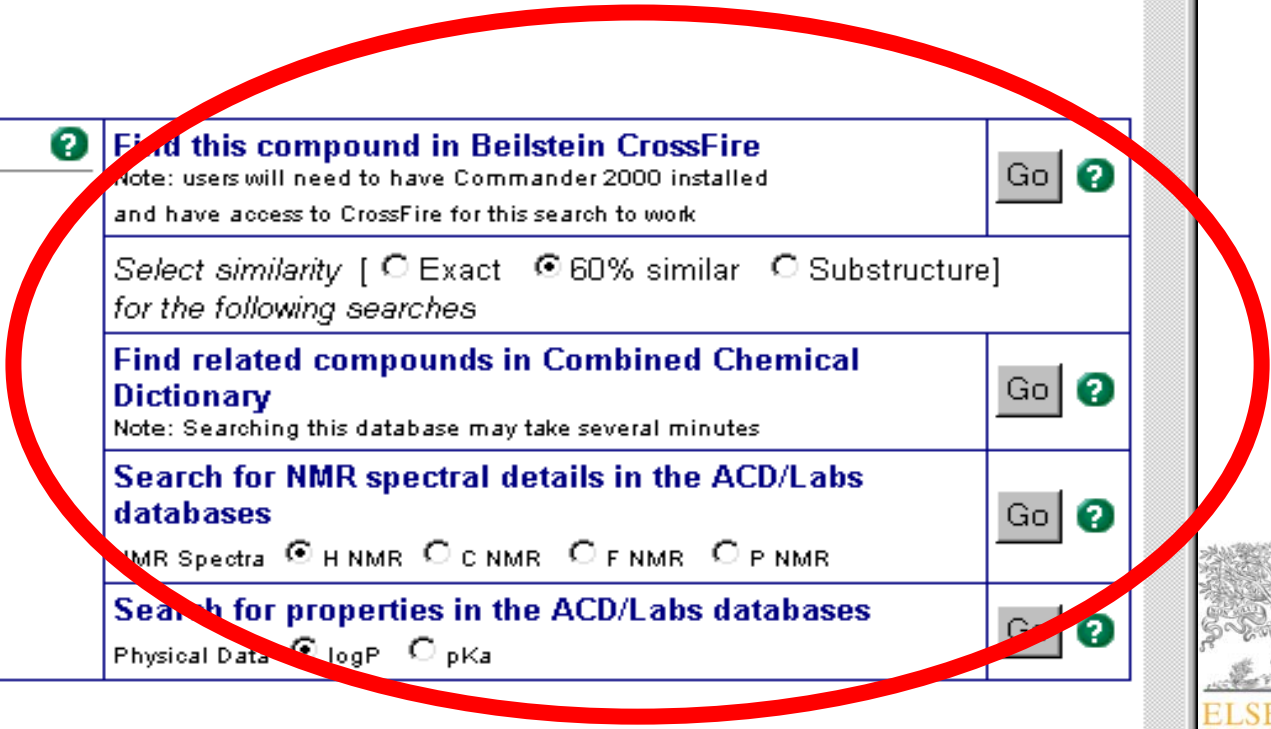
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Comprehensive Asymmetric Catalysis

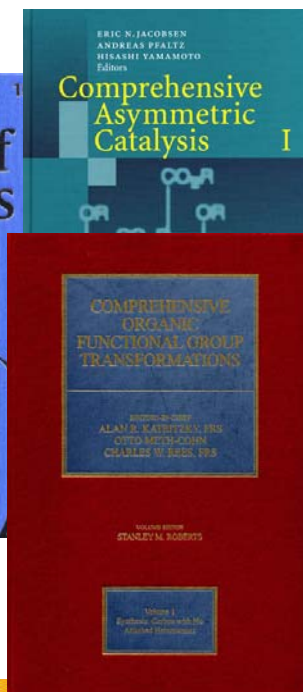
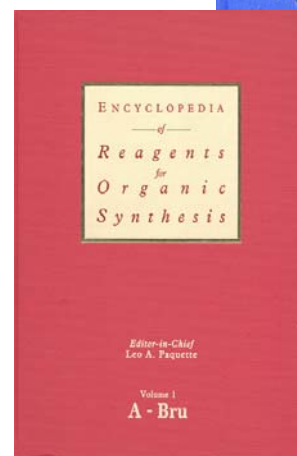
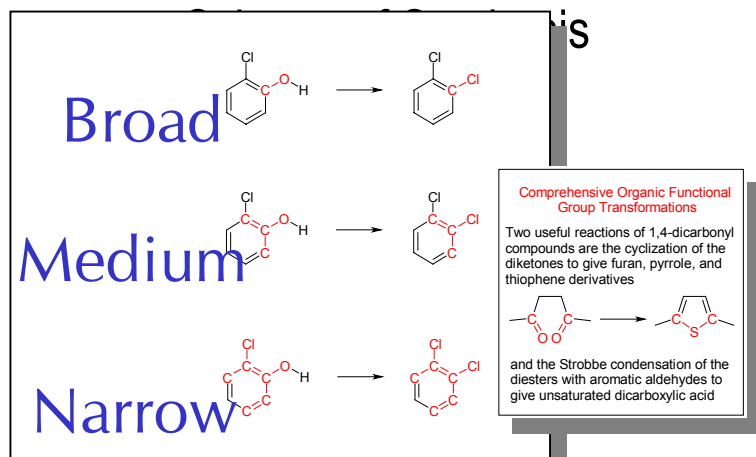
COFGT – Elsevier Science

Comprehensive Organic Functional Group Transformations

EROS - John Wiley and Sons

Encyclopedia of Reagents for Organic Synthesis

SOS - Georg Thieme Verlag(Summer 2002)



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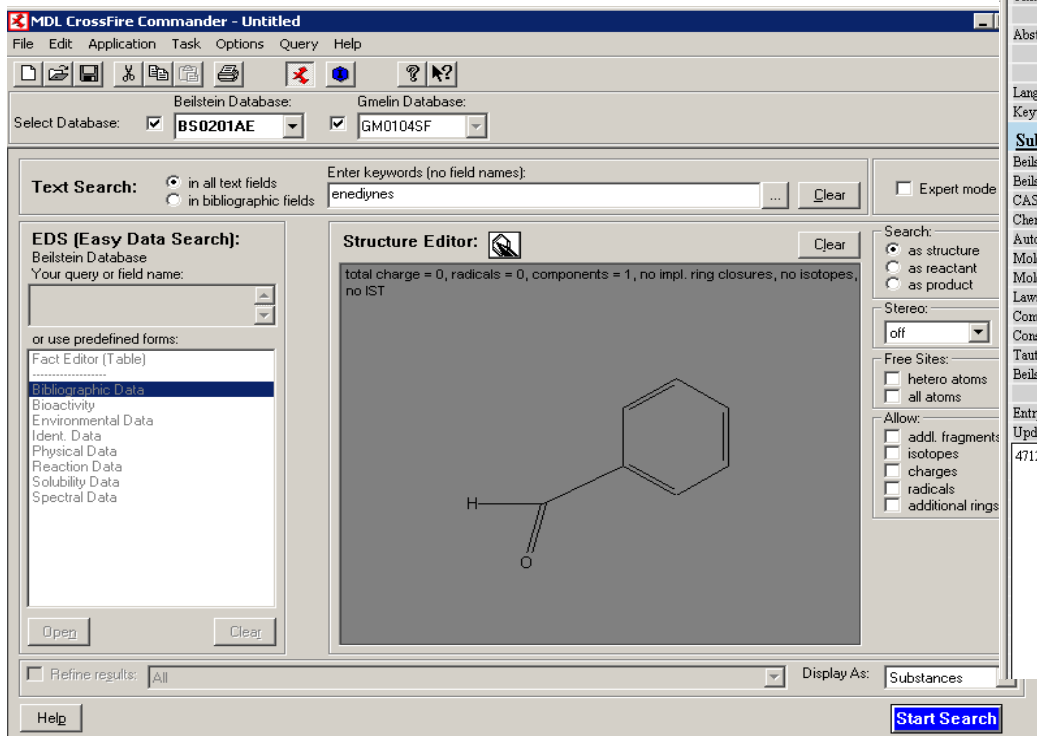


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Beilstein Database: Gmelin Database:

Text Search: in all text fields in bibliographic fields

Enter keywords (no field names): enediynes

EDS [Easy Data Search]: Beilstein Database
Your query or field name:

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Structure Editor: total charge = 0, radicals = 0, components = 1, no impl. ring closures, no isotopes, no IST

O=Cc1ccccc1

Search: as structure as reactant as product

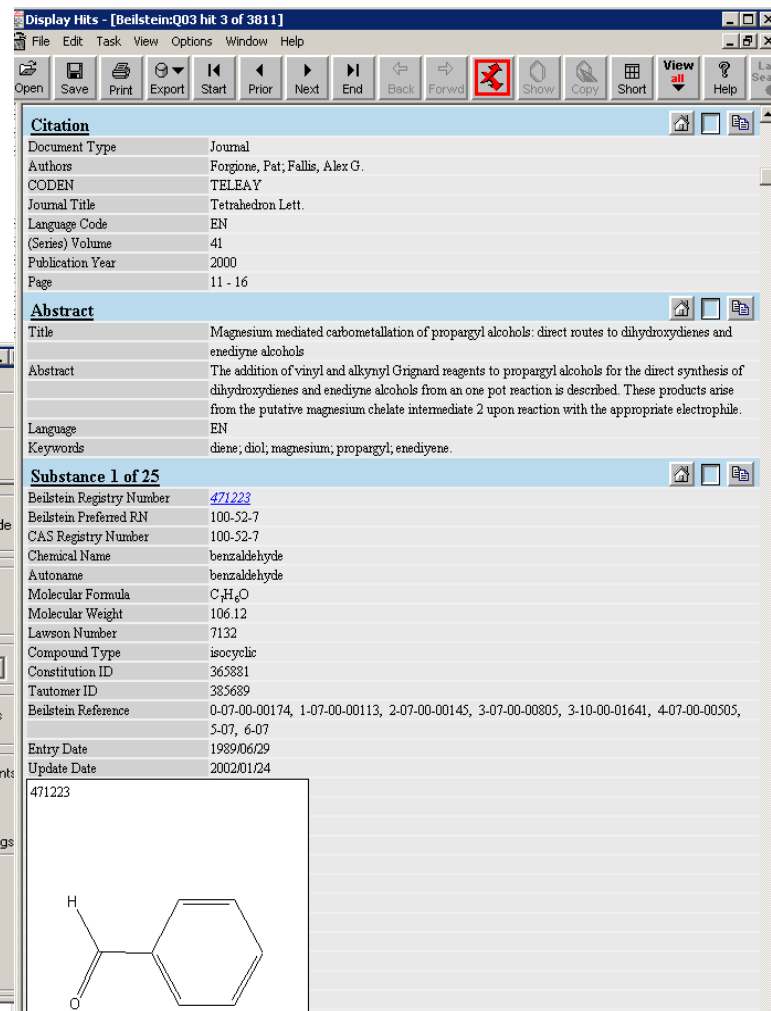
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Display Hits - [Beilstein:Q03 hit 3 of 3811]

File Edit Task View Options Window Help

Open Save Print Export Start Prior Next End Back Forward Show Copy Short View all Help

Citation

Document Type	Journal
Authors	Forgone, Pat; Fallis, Alex G.
CODEN	TELEAY
Journal Title	Tetrahedron Lett.
Language Code	EN
(Series) Volume	41
Publication Year	2000
Page	11 - 16

Abstract

Title: Magnesium mediated carbometallation of propargyl alcohols: direct routes to dihydroxydienes and enediyne alcohols

Abstract: The addition of vinyl and alkynyl Grignard reagents to propargyl alcohols for the direct synthesis of dihydroxydienes and enediyne alcohols from a one pot reaction is described. These products arise from the putative magnesium chelate intermediate 2 upon reaction with the appropriate electrophile.

Language: EN

Keywords: diene; diol; magnesium; propargyl; enediyne.

Substance 1 of 25

Beilstein Registry Number	471223
Beilstein Preferred RN	100-52-7
CAS Registry Number	100-52-7
Chemical Name	benzaldehyde
Autname	benzaldehyde
Molecular Formula	C ₇ H ₆ O
Molecular Weight	106.12
Lawson Number	7132
Compound Type	isocyclic
Constitution ID	365881
Tautomer ID	385689
Beilstein Reference	0-07-00-00174, 1-07-00-00113, 2-07-00-00145, 3-07-00-00805, 3-10-00-01641, 4-07-00-00505,
Entry Date	5-07, 6-07
Update Date	1989/06/29
Update Date	2002/01/24

471223

O=Cc1ccccc1



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