Alfred Bader

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# *Minority Academic Achievement Scholarship Reception*

*Honoring UWM Scholars, Sponsors and Friends*

*September 24, 2002*

Edith S. Hefter Conference Center
3271 North Lake Drive
5:30 – 7:00 P.M.

## *2001-2002 MAASP Scholarships and Scholars*

| | |
|---|---|
| ***Maria and Luis Cerrillo Scholarship*** | |
| ***Scholar*** | Cynthia Santiago |
| ***Northwestern Mutual Foundation Scholarship*** | |
| ***Scholars*** | Landry Long |
| | Rudy Garay |
| | Mahmoud Masoud |
| | Bernadette Thao |
| | Melissa Lee |
| | Larry Rhodes |
| | Larry Brown Jr. |
| | Janet Hernandez |
| ***Northwestern Mutual Sullivan Spaights Scholarship*** | |
| ***Scholar*** | Diana Marie DeLaCruz |
| ***Sullivan-Spaights Scholarship*** | |
| ***Scholar*** | Twanna Watson |
| | Mario Nimock |
| | Thomas Foster |
| ***Stuart & Ann Tisdale Minority Scholarship*** | |
| ***Scholar*** | Mai Yang |
| ***Helen & Bruce Ambuel Scholarship*** | |
| ***Scholar*** | Louise Wang |
| ***Physical/Biological Sciences Scholarship*** | |
| ***Scholars*** | Asare Christian |
| ***Harley-Davidson Foundation Scholarship*** | |
| ***Scholars*** | Tuan Ton |
| | Sukninderpal Kaur |
| ***Manpower Foundation Scholarship*** | |
| ***Scholars*** | Mayra Regalado |
| | Tina Anderson |
| ***MAASP General Scholarships*** | |
| ***Scholars*** | Dana Dang |
| | Mary Pham |

***On Behalf of the University of Wisconsin-Milwaukee***

***and***

***The UWM Foundation***

***We welcome you to the***

***2002-2003 MAASP Recognition Program***

| | |
|---|---|
| ***Welcome and Opening Remarks*** | *Dr. Stanley F. Battle, Assistant Chancellor, Student & Multicultural Affairs, Professor of Helen Bader School of Social Welfare* |
| ***Remarks*** | |
| ***"The University Experience"*** | *Mario Nimock, Sullivan-Spaights Scholar* |
| ***Introduction of MAASP Scholars and Presentation to Sponsors*** | *Allyson Olivier, Director of UWM Foundation Scholarships* |
| ***Closing Remarks*** | *Dr. Stanley F. Battle* |

*We thank all those individuals and organizations that have committed time and resources to ensure the Minority Academic Achievement Scholarship Program's (MAASP) success. Thank you!*

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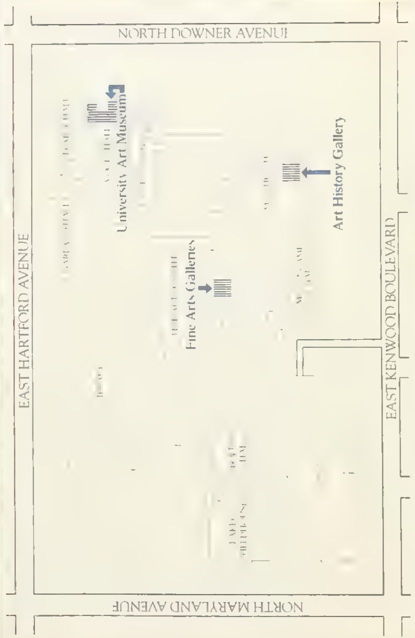
*Thank you!*



As[illegible] The [illegible] century [illegible] Collection Dr. Alfred Bader

**Department of Art History**
The University of Wisconsin Milwaukee
Box 413
Milwaukee, WI 53201

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## Baroque Art in Italy A Symposium

## The Art of the Marvelous: The Baroque in Italy An Exhibition

[illegible] Father c. 1690 oil on canvas 51½ x 39 [illegible] Collection Dr. Alfred Bader

# Baroque
# Art
# in
# Italy

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## Baroque Art in Italy
A Symposium
April 13 and 14, 1984

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## The Art of the Marvelous: The Baroque in Italy
An Exhibition
April 13 - May 12, 1984

An exhibition of twenty-four paintings, drawings, and prints from Milwaukee-area collections celebrating the variety and fascination of the Italian Baroque

---

**Friday, April 13**
8 00 pm
Symposium Baroque Art in Italy
Jeremiah Curtin Hall, 175
Lecture by Dr Howard Hibbard, Professor of Art History, Columbia University, New York, "Love and Death in Baroque Art Bernini's Ludovica Albertoni."

9 00 - 11 00 pm
Preview Reception for the Exhibition: The Art of the Marvelous The Baroque in Italy
Art History Gallery, Mitchell Hall, 154

**Saturday, April 14**
10:00 am - 4:00 pm
The Art of the Marvelous The Baroque in Italy
Art History Gallery, Mitchell Hall, 154

9 30 am - 12 noon
Symposium: Baroque Art in Italy
Jeremiah Curtin Hall, 175
Lecture by Dr Irving Lavin, Professor of Art History, Institute for Advanced Study, Princeton, New Jersey, "On the Unity of the Arts and the Baroque Opera House," followed by the presentation of invited papers: Troy Thomas, Assistant Professor, Department of Art, Pennsylvania State University Capitol Campus, "Caravaggio's Surprised St. Matthew"; Wendy Wassyng Roworth, Associate Professor, Department of Art, University of Rhode Island, "'Ut Rhetorica Pictura,' Salvator Rosa's Self Portrait in the National Gallery, London"; Thomas Pickrel, Assistant Professor, Department of Art, University of Missouri-St. Louis, "Art and Music in Antonio Gherardi's Chapel of S. Cecilia ."

2 00 pm
Concert of Italian Baroque Music and Dance
Mitchell Hall 256
A selection of Italian Baroque instrumental, vocal, and dance pieces, including works by Monteverdi, Corelli, Caccini, Frescobaldi, and Geminiani. Organized by Professors Jane Bowers, Department of Music, and Marcia Schram Purdy, Department of Theater/Dance, with the assistance of Joan Parsley, harpsichord, and Gerald Fischbach, violin. Sponsored by the School of Fine Arts Department of Music and Theater/Dance, with the cooperation of the Department of Art History Admission $3 00 general, $2 00 students and senior citizens Tickets available in advance from the Fine Arts Box Office or at the door

---

The Golda Meir Library at UWM will show a selection of books on the Italian Baroque in the Main Lobby Exhibit area and Italian 17th century maps in the American Geographical Society Collection concurrent with the Baroque art exhibition

The two-day symposium is sponsored by the Department of Art History, and with the support of the Departments of History, French and Italian, the Comparative Study of Religion Program, the College of Letters and Sciences and the University Art Museum

---

Art History Gallery
Mitchell Hall, 154
Phone (414) 963-4060

Hours
Monday-Tuesday/Thursday-Friday, 10:00 am - 4:00 pm
Wednesday, 6:30 pm - 9:30 pm
Saturday, 12:00 pm - 3:00 pm

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The University of Wisconsin-Milwaukee

*University Art Museum*

THE UNIVERSITY of WISCONSIN–MILWAUKEE
SCHOOL of FINE ARTS

*P. O. Box 413*
*Milwaukee, Wisconsin 53201*
*(414) 963-6509*

May 3, 1984

Dr. Alfred Bader
2961 North Shepard Avenue
Milwaukee, WI 53211

Dear Dr. Bader:

I learned from the UWM Foundation of your contribution to support the symposium and the catalogue for the exhibition of Baroque art in Italy. We are indeed grateful for your involvement with the exhibition, and from its inception! You were most gracious in making your paintings available to the students for study and to the University Art Museum for inclusion in the exhibition in the Art History Gallery.

We hope that we can continue to work with you in the future in the development of our exhibitions and collections. As you could see, we have modest holdings in historic painting in the Western European tradition, a prime area of study for art history students. We would welcome your advice and assistance in dealing with this deficit.

Our new art museum has great promise as a resource for the University and the community. I am pleased to know that you are one of our neighbors and I hope we will see you often.

Sincerely,

Suzanne Foley

Suzanne Foley
Director
University Art Museum

# The UWM Foundation

The UWM Foundation
and the University Art Museum
cordially invite you
to a reception celebrating
the exhibition and symposium:

## The Art of the Marvelous: The Baroque in Italy

Friday, April 13, 1984
6:00 to 7:30 p.m.
University Art Museum,
Vogel Hall, 3253 North Downer Avenue

RSVP: University Art Museum
963-6509

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*The UWM Foundation*
*and the University Art Museum*
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*Vogel Hall, 3253 North Downer Avenue*

*RSVP: University Art Museum*
*963-6509*

UWM

FOUNDATION

# *Minority Academic Achievement Scholarship Reception*

*Honoring UWM Scholars, Sponsors and Friends*

*February 26, 2004*

Edith S. Hefter Conference Center
3271 North Lake Drive
5:00 – 6:30 P.M.

# *2004 MAASP Scholarships and Scholars*

***Bruce and Helen Barker Ambuel Scholarship***
Nigeria Childs
Gina Gonzales
Louise Wang
Shanel White

***Maria and Luis Cerrillo Scholarship***
Adam Herrera

***Hazel Erickson Scholarship***
Eydy Grey Martinez

***Harley-Davidson Foundation Scholarship***
Tuan Ton

***Natural Sciences Scholarship***
Marisha Spence

***Northwestern Mutual Foundation Scholarship***
Rudy Garay
Melissa Lee
Mahmoud Masoud
Larry Rhodes
Bernadette Thao

***Northwestern Mutual Fnd. Sullivan-Spaights Scholarship***
Diana De La Cruz

***Jack and Corrine Reichert Scholarship***
Fue Yang

***Sullivan-Spaights Scholarship***
Zachary Correa
Thomas Foster
Twanna Watson

***Stuart and Ann Tisdale Scholarship***
Emmanual Lingongo

***UWM Foundation MAASP Fund***
Mary Pham

***On Behalf of the University of Wisconsin-Milwaukee***

***and***

***The UWM Foundation***

***We welcome you to the***

***2004 MAASP Recognition Program***

| | |
|---|---|
| ***Welcome*** | *Lucia Petrie*<br>*Vice Chancellor for Development* |
| ***Remarks*** | *Bob Greenstreet*<br>*Interim Chancellor* |
| ***A View from Our Scholars*** | *Zachary Correa*<br>*Twanna Watson*<br>*Sullivan Spaights Scholars* |
| ***Introduction of MAASP Scholars*** | *Leonard White*<br>*Assistant Director*<br>*Recruitment & Outreach* |

*We thank all those individuals and organizations that have committed time and resources to ensure the Minority Academic Achievement Scholarship Program's success. Thank you!*

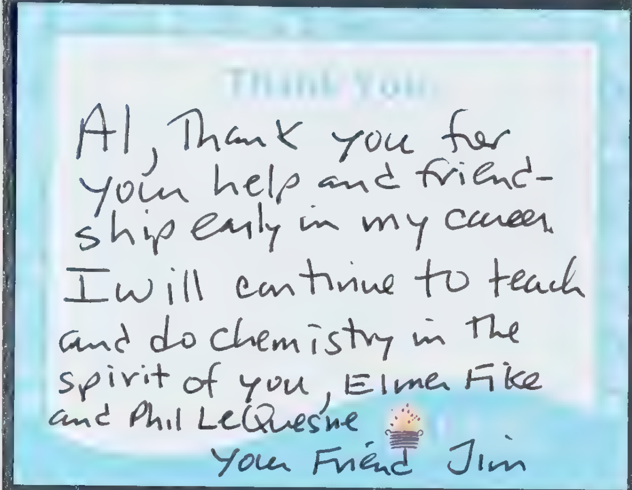
## The Minority Academic Achievement Scholarship Program

Established in 1984, the UWM Foundation's Minority Academic Achievement Scholarship Program awards full and partial tuition scholarships to undergraduate minority students who attend the University of Wisconsin-Milwaukee. This program attracts academically strong students from throughout southeastern Wisconsin, and helps them pursue degrees in a wide variety of the Schools and Colleges at UWM. Graduates of this program become community leaders, making important economic, cultural and social contributions to our city, state and nation.

The Board of Directors of the UWM Foundation wishes to thank all the generous donors who make it possible for our students to receive higher education. The Foundation and University continue to strive to improve educational opportunities for all students and to create a highly diverse, stimulating, and welcoming campus environment.

For more information about scholarship programming at UWM, contact:

Gretchen Miller
Scholarship Coordinator
UWM Office of Development
3271 N. Lake Drive
Milwaukee, WI 53211
(414) 229-3067



Thank You

Al, Thank you for
your help and friend-
ship early in my career
I will continue to teach
and do chemistry in the
spirit of you, Elmer Fike
and Phil LeQuesne

Your Friend Jim

JOC The Journal of Organic Chemistry
Article
pubs.acs.org/joc

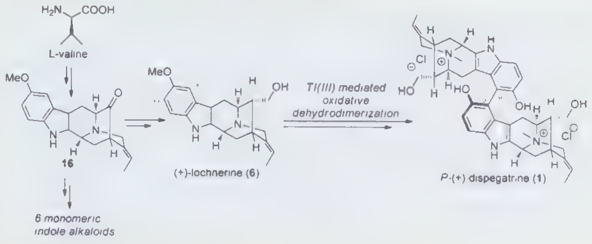
# Stereospecific Approach to the Synthesis of Ring-A Oxygenated *Sarpagine* Indole Alkaloids. Total Synthesis of the Dimeric Indole Alkaloid *P*-(+)-Dispegatrine and Six Other Monomeric Indole Alkaloids

Chitra R. Edwankar,[†] Rahul V. Edwankar,[†] Ojas A. Namjoshi,[†] Xuebin Liao,[†] and James M. Cook*,[†]

[†]Department of Chemistry & Biochemistry, University of Wisconsin—Milwaukee, Milwaukee, Wisconsin 53201, United States

*Supporting Information*

**ABSTRACT:** The first regio- and stereocontrolled total synthesis of the bisphenolic, bisquaternary alkaloid (+)-dispegatrine (**1**) has been accomplished in an overall yield of 8.3% (12 reaction vessels) from 5-methoxy-D-tryptophan ethyl ester (**17**). A crucial late-stage thallium(III) mediated intermolecular oxidative dehydrodimerization was employed in the formation of the C9−C9′ biaryl axis in **1**. The complete stereocontrol observed in this key biaryl coupling step is due to the asymmetric induction by the natural *sarpagine* configuration of the monomer lochnerine (**6**) and was confirmed by both the Suzuki and the oxidative dehydrodimerization model studies on the tetrahydro $\beta$-carboline (**35**). The axial chirality of the lochnerine dimer (**40**) and in turn dispegatrine (**1**) was established by X-ray crystallography and was determined to be *P*(*S*). Additionally, the first total synthesis of the monomeric indole alkaloids (+)-spegatrine (**2**), (+)-10-methoxyvellosimine (**5**), (+)-lochnerine (**6**), lochvinerine (**7**), (+)-sarpagine (**8**), and (+)-lochneram (**11**) were also achieved via the common pentacyclic intermediate **16**.



## INTRODUCTION

The *sarpagine-macroline* group is one of the largest groups of structurally related indole alkaloids isolated principally from the *Apocynaceae* plant family.[1] More than 150 members of this group have been isolated to date, many of which exhibit interesting pharmacological activities.[1,2] Among them, bisindoles are of special significance because they exhibit more potent bioactivity than their monomeric counterparts.[3] However, a vast majority of these alkaloids have been poorly evaluated due to paucity of material available for biological testing. The *sarpagine-macroline* bases are biogenetically related[4] to the clinically important *ajmaline* alkaloids,[5] and common to these three classes is the azabicyclo[3.3.1]nonane core, as illustrated in Figure 1.

In continuation of their efforts at the biology-oriented synthesis (BIOS)[6] of natural product derived probes, Waldmann et al. targeted the *sarpagine-macroline* indole alkaloids which led to the cycloocta[*b*]indole core (**I**) as a starting point for library design.[7] More than a hundred tetracyclic analogues of this core, synthesized by a stereoselective solid-phase synthesis, were investigated for their inhibitory activity in enzymatic assays with various tyrosine phosphatases. The screen yielded an unprecedented class of potent inhibitors of Mycobacterium protein tyrosine phosphatase B (MptpB) with $IC_{50}$ values in low micromolar range (the most potent MptpB inhibitor of the library has an $IC_{50}$ value of 4.71 ± 1.14 $\mu$M). The MptpB inhibitory activity of **I** seemed to be greatly influenced by the '*S*' stereochemistry at C-6 and C-10 and by the presence of a $\beta$-ketoester moiety (see Figure 1). The $N_b$-benzyl group in **I**, containing 1) an oxygen atom either within the aromatic ring system or as a phenol substituent and 2) with *m,p*-disubstituted electron withdrawing groups, was important to potent MptpB inhibition. MptpA and MptpB secreted by the causative organism of tuberculosis, *Mycobacterium tuberculosis*, are known to selectively dephosphorylate human host proteins involved in interferon-$\gamma$ signaling pathways thereby preventing the initiation of host defense mechanisms.[8] The tetracyclic core (**I**) of the *sarpagine* alkaloids thus may be considered as a promising target for the development of new drug candidates against tuberculosis.

The dried roots and leaves of *Rauwolfia verticillata* (Lour.) or *Lou Fu Mu* have been used in Chinese folk medicines for thousands of years as tranquilizers and more recently in the treatment of hypertension and hyperthyroidism.[9] Illustrated in Figure 2 is (+)-dispegatrine (**1**),[10] a bisquaternary, bisphenolic *sarpagine* alkaloid isolated from the water-soluble fraction of the root of *R. verticillata* (Lour.) Baill var. *hainanensis Tsiang* along with the monomer (+)-spegatrine (**2**).[11] Bisphenolic, bisquaternary indole alkaloids are very rare.[12] Of the 300 or so dimeric indole alkaloids isolated to date, the homodimer **1** and blumeanine[13] (not shown) are the only two dimers belonging

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**Published:** May 30, 2013

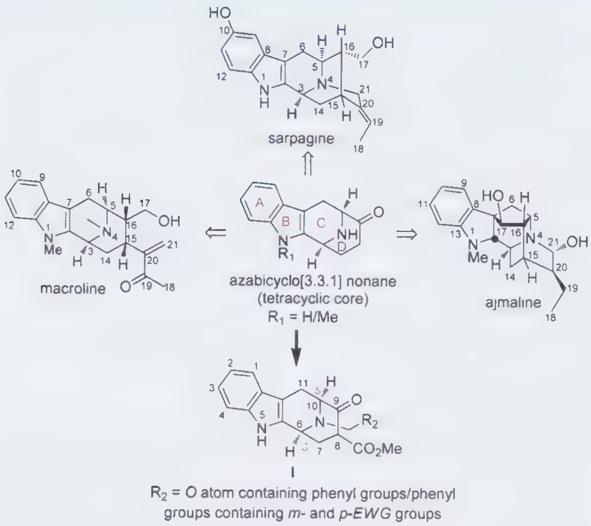


**Figure 1.** SAR of the cycloocta[*b*]indole framework (**I**) of the *sarpagine-macroline* and *ajmaline* related indole alkaloids active against MptpB.[7] EWG: electron withdrawing group.

to this class of alkaloids. Although dispegatrine (**1**) and its corresponding monomer spegatrine (**2**) exhibit promising hypotensive activity, the affinities and activities of the dimer **1** on both $\alpha1$ and $\alpha2$ adrenergic receptors was about an order of magnitude greater than that of the monomer **2**.[3e] The quaternary alkaloids verticillatine (**3**)[14] and macrospegatrine (**4**)[15] illustrated in Figure 2 are also known to exhibit promising antihypertensive activity.[16]

A number of biogenetically related ring-A oxygenated monomeric alkaloids such as (+)-10-methoxyvellosimine (**5**),[17] (+)-lochnerine (**6**),[18] (+)-sarpagine (**7**),[19] *O*-acetylsarpagine (**8**),[20] lochvinerine (**9**),[21] (+)-episarpagine (**10**),[20] (+)-lochneram (**11**),[18c,22] and (+)-lochnerine $N_b$-oxide (**12**)[23] have also been reported (Figure 2). Lochnerine (**6**), which itself has no antitumor activity, when combined with vincristine or daunorubicin (not shown) at subcytotoxic concentrations induced complete inhibition of the vincristine-resistant P388 leukemic cells in vitro.[24] Additionally, **6** is known to exhibit promising vasorelaxant actvity.[25] Most recently, **6** and **7** were found to be present in some of the new *macroline-sarpagine* bisindoles (**13−15**, Figure 2) isolated from *Alstonia angustifolia* by Kam et al.[26] The promising bioactivity of some of the members of these ring-A oxygenated group of indole alkaloids combined with their complex architecture made them very attractive targets.

The total synthesis of *P*-(+)-dispegatrine (**1**) and four other monomeric indole alkaloids was recently reported via a general approach for the synthesis of ring-A oxygenated *sarpagine* alkaloids.[27] Such a doubly convergent route could also be employed for the potential synthesis of the complex bisindoles **4**, **13−15**; the biological activities of which have not yet been fully investigated. In this report, the full details of the development of this general route including the first total synthesis of alkaloids **9** and **11** are reported.

## ■ RESULTS AND DISCUSSION

Although dispegatrine (**1**) was isolated as a single atropodiastereomer and its structure established on the basis of spectroscopic analysis ($^1$H NMR, $^{13}$C NMR, and mass spectrum comparison to monomer **2**),[10] the apparent axial chirality at the C9−C9′ biaryl axis in **1** was not determined.

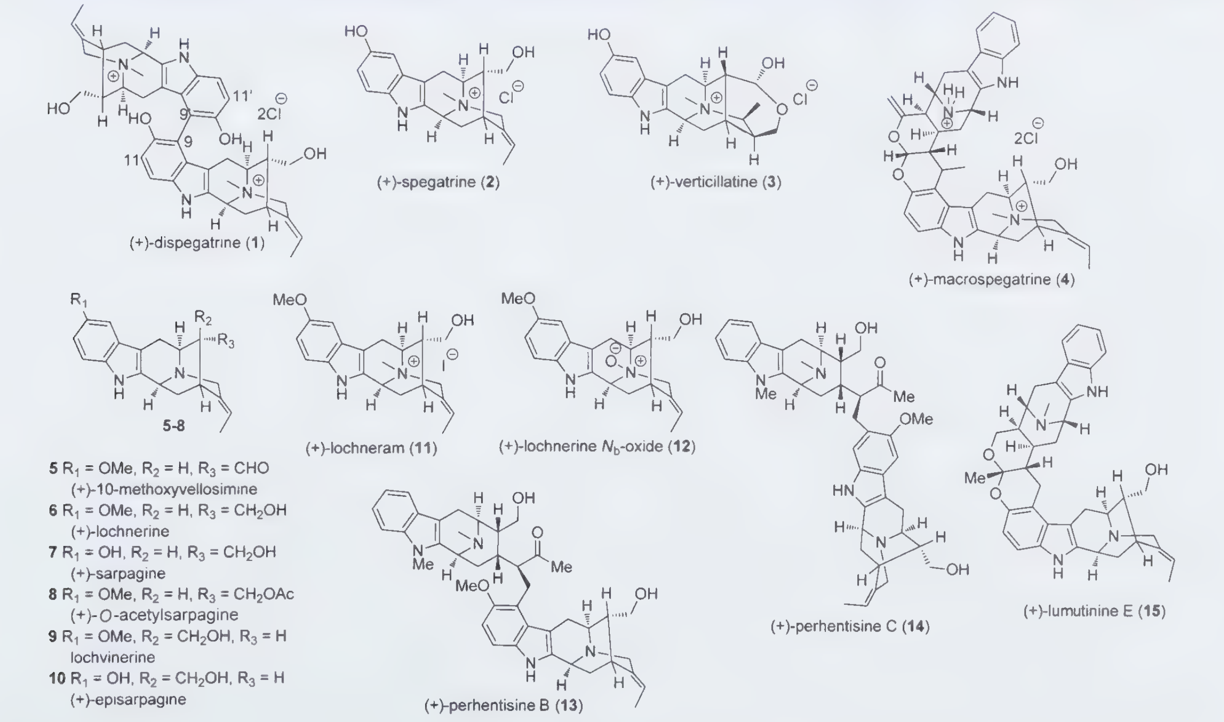
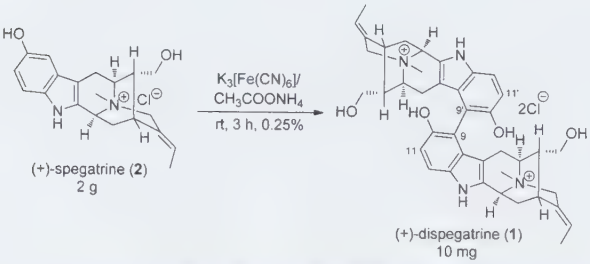


**Figure 2.** Ring-A oxygenated *sarpagine* (**1−12**) indole alkaloids and *macroline-sarpagine* (**4**, **13−15**) bisindole alkaloids.

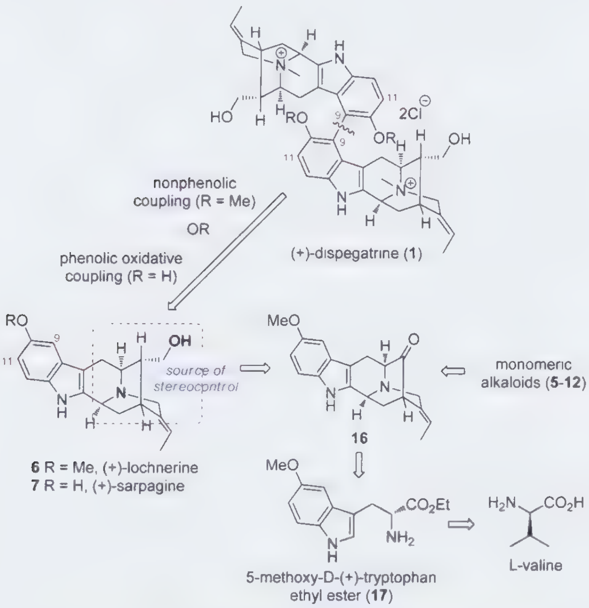
The isolation chemists also reported a semisynthesis of **1** in an almost negligible yield of 0.25% (Scheme 1), obtained by an oxidative phenolic dehydrodimerization of **2** in aqueous ammonium acetate with $K_3Fe(CN)_6$.[10] Since only one atropodiastereomer was reportedly formed, it can be assumed that the complete atropselectivity observed in this coupling is a result of internal asymmetric induction by the natural *sarpagine* configuration of the monomer **2**.

**Scheme 1. Partial Biomimetic Synthesis of (+)-Dispegatrine (1) by Yu et al.[10]**



The retrosynthetic strategy was based on these reports (Scheme 2). A potentially biomimetic intermolecular biaryl coupling could be employed to construct the C9−C9′ bond in **1** via a nonphenolic coupling of **6** or by a phenolic oxidative coupling of **7** or **2**. In contrast to the extremely low yield of phenolic coupling of **2**,[10] a nonphenolic Scholl type oxidative coupling of the methoxy analogue lochnerine (**6**) could be employed to this end.[27] By performing such a late stage biaryl coupling, one could not only avoid the potential formation of atropodiastereomeric intermediates throughout the synthesis but also take advantage of the existing chiral centers in the *sarpagine* unit **6** for maximum stereoinduction. The 5-methoxy-D-(+)-tryptophan ethyl ester **17** could be employed as the starting material and the chiral transfer agent for the synthesis of the key pentacyclic framework **16** of the *sarpagine* alkaloids via the asymmetric Pictet-Spengler,[28] which on further functionalization would result in the total synthesis of the target alkaloids.

**Scheme 2. Retrosynthetic Analysis**

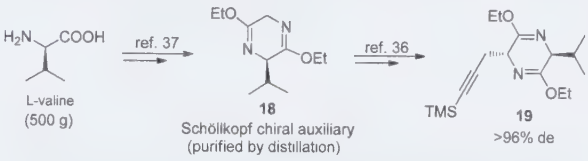


## Enantiospecific Synthesis of the 5-Methoxy-D-(+)-Tryptophan Ethyl Ester (17).

Although a number of synthetic routes to substituted tryptophans exist, principally asymmetric hydrogenation,[29] enzymatic synthesis,[30] and more recently Negishi coupling,[31] attempts to execute these in a practical sense in the laboratory met with only limited success. Eventually, two approaches, the regiospecific bromination[32] and the Larock heteroannulation previously employed[33] for the synthesis of 5-methoxy-D-tryptophan both utilizing the Schöllkopf chiral auxiliary **18**, were reinvestigated.

The palladium-catalyzed heteroannulation of internal alkynes with *o*-iodoanilines developed by Larock et al.[34] has been successfully employed in this research group for the synthesis of optically active 6- and 7-methoxy tryptophans on a multi-hundred gram scale which in turn have resulted in the total synthesis of a number of alkoxy substituted *sarpagine* indole alkaloids[35] via the asymmetric Pictet-Spengler reaction. Attempts to employ the Larock heteroannulation for the synthesis of **17** under similar conditions, however, resulted in lower yields.[32b,33] With the success reported in the synthesis of 4-methoxytryptophan[36] via use of the TMS substituted propargylic chiral auxiliary **19** (Scheme 3), it was decided to first test the effect of this alkyne on the regioselectivity of the Larock heteroannulation. If successful, it would provide a shorter and more efficient synthesis of 5-methoxytryptophan **17**. Since both regiospecific bromination and Larock heteroannulation employed the Schöllkopf chiral auxiliary, large scale preparation (500 g) of the Schöllkopf chiral auxiliary **18** from L-valine and glycine, based on the earlier procedure,[37] was undertaken. The TMS protected chiral auxiliary **19** was then prepared according to the modified procedure by Ma et al.[36] in 96−100% de (Scheme 3).

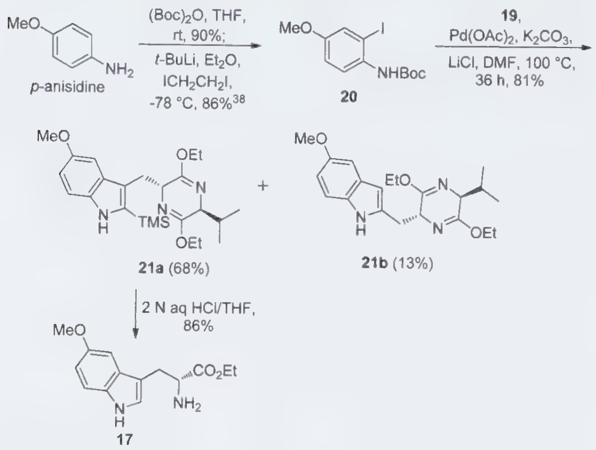
**Scheme 3. Synthesis of the Propargyl-Substituted Schöllkopf Chiral Auxiliary 19**



## Larock Heteroannulation.

In order to proceed with the Larock heteroannulation, Boc protected *o*-iodoaniline **20** was first synthesized based on a published procedure.[38] The amino group in *p*-anisidine was protected with a Boc group followed by a Snieckus ortho lithiation[39] with 2.2 equivalents of *tert*-butyllithium at −78 °C. Quenching the reaction with diiodoethane afforded the desired Boc protected iodo aniline **20** in 86% yield. With the TMS-substituted alkyne **19** and the iodoaniline **20** in hand, the annulation was carried out according to the recently developed conditions of Ma et al.[36] Gratifyingly, the starting aniline **20** was consumed entirely on continued stirring for 36 h, and the $N_a$-H protected indoles **21a** and **21b** were obtained in a combined yield of 81% (Scheme 4). Hydrolysis of the Schöllkopf chiral auxiliary in **21a** (separated by chromatographic separation) with aqueous 2 N HCl in THF, accompanied by concomitant loss of the silyl group,

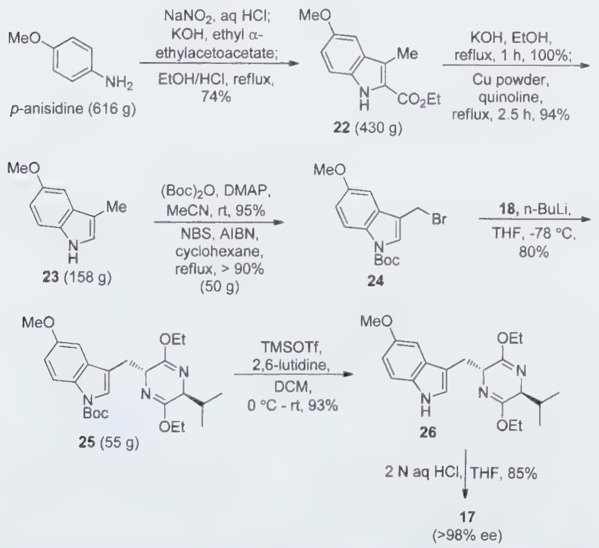
**Scheme 4. Larock Heteroannulation for the Synthesis of 5-Methoxy-D-tryptophan Ethyl Ester (17)**



provided the optically active 5-methoxy-D-tryptophan ethyl ester (**17**) in a single step in 86% yield. From a practical point of view, this approach to the synthesis of **17** was disappointing. In spite of replacement of the bulkier TES-substituted alkyne by the TMS alkyne **19**, the regioselectivity of this method did not improve. For this reason the earlier regiospecific bromination route[32] for the preparation of **17** was employed. The success of this sequence rested on the ability to scale up the first few steps to multihundred gram levels.

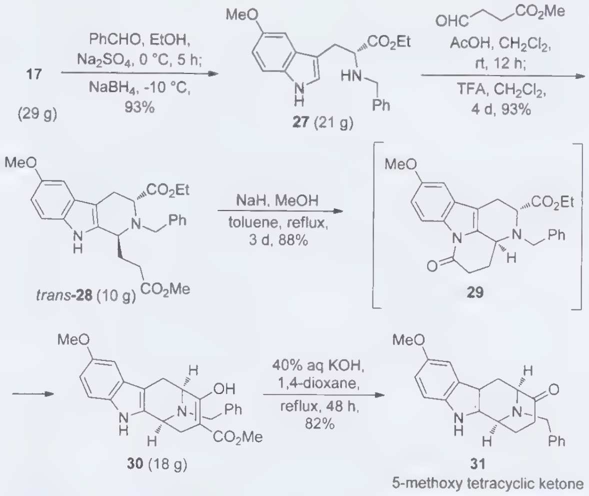
The commercially available 3-methyl-5-methoxyindole (**23**) was prepared on a 616 g scale via the Japp-Klingmann/Fischer indole protocol developed by Abramovitch and Shapiro[40,41] in two steps from *p*-anisidine (Scheme 5). Boc protection of the indole $N_a$-H function in **23**, followed by allylic bromination,[32,42] furnished the crude bromide **24** in greater than 90% yield, which was directly alkylated with the anion of the Schöllkopf chiral auxiliary (**18**) at −78 °C to provide the protected D-tryptophan analogue **25** in 80% yield. Earlier, the Boc group was removed in refluxing xylenes for 7 days;[32] however, the milder TMSOTf/2,6-lutidine system[43] was found to be much more effective. Deprotection of the Boc group in **25** was achieved on a 55 g scale at 0 °C in 12 h to furnish the Schöllkopf analog **26** in 93% yield. Hydrolysis of **26** under aqueous acidic conditions provided the desired optically active $N_a$-H-5-methoxy-D-tryptophan ethyl ester (**17**) in 85% yield in greater than 98% ee.

**Scheme 5. Improved Regiospecific Bromination Route for the Synthesis of 5-Methoxy Tryptophan Ethyl Ester (17) on a Large Scale**



**Synthesis of the 5-Methoxypentacyclic Ketone 16.** Analogous to the parent system, the transformation of tryptophan **17** into the desired *trans*-diester **28** (Scheme 6) should follow the well-documented *trans* transfer of chirality in the asymmetric Pictet-Spengler reaction[44] in a straightforward fashion; however, this was not the case. The electron-rich character of the 5-methoxy indole in **17** facilitated the undesired Pictet-Spengler reaction (with the benzaldehyde imine) as observed for the $N_a$-methyl series;[32a] moreover, the 5-methoxyindole system **27** was not stable in TFA/$CH_2Cl_2$ to effect a one pot Pictet-Spengler cyclization (from **17**). Consequently, modifications were made analogous to the work of Zhao et al.[32] to achieve optimum yield and very high diastereoselectivity in the Pictet-Spengler cyclization. As illustrated in Scheme 6, tryptophan **17**, on treatment with benzaldehyde at room temperature, followed by sodium borohydride reduction (at −10 °C) afforded the corresponding $N_b$-benzyltryptophan ethyl ester **27** in 93% yield. If the reaction was carried out at room temperature as in the parent system, a 1:1 mixture of **27** and the undesired Pictet-Spengler product 1-phenyl tetrahydro *β*-carboline (not shown) were observed as reported earlier by Zhao et al.[32] Pictet-Spengler reaction of tryptophan derivative **27** with methyl 3-formylpropanoate, in AcOH/$CH_2Cl_2$ afforded a mixture of *trans*- and *cis*-diesters in nearly quantitative yield. If TFA was employed in this step decomposition of much of the $N_b$-benzyl tryptophan **27** was observed. After completion of the Pictet-Spengler reaction, one equivalent of TFA was then added to epimerize all of the *cis* isomer into the desired *trans*-diester **28** in 93% yield. Dieckmann cyclization of **28** was followed by a base mediated hydrolysis/decarboxylation sequence to provide the optically pure tetracyclic ketone **31** (Scheme 6). Based on the work of

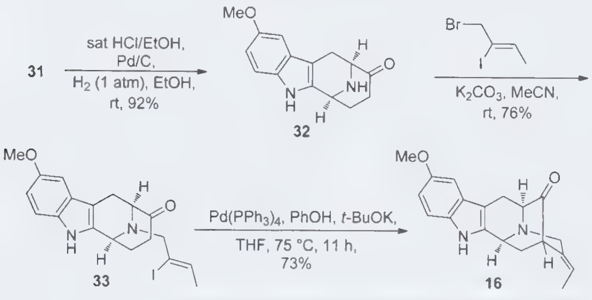
**Scheme 6. Synthesis of the 5-Methoxytetracyclic Ketone 31**



Wang,[45] in the presence of a large excess of sodium methoxide the $\delta$-lactam **29** was initially formed, which on continued reflux for an extended period of time (72 h), provided the Dieckmann product **30** in 88% yield (see Scheme 6). The key to success in the Dieckmann cyclization is the controlled stirring rate and temperature for 3 days. A base induced decarboxylation worked smoothly to provide the tetracyclic ketone **31** in 82% yield.

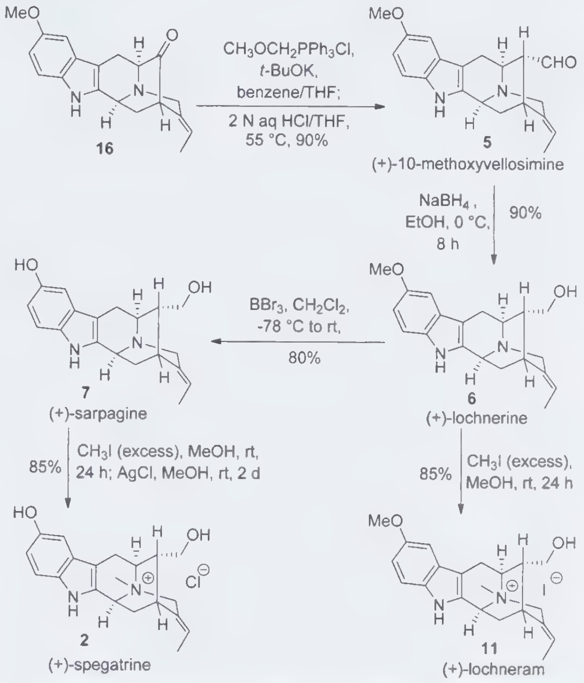
Catalytic debenzylation of **31**, under acidic conditions, furnished the 10-methoxy $N_b$-H tetracyclic ketone **32** in 92% yield (Scheme 7). $N_b$-alkylation of the secondary amine **32** with (Z)-1-bromo-2-iodo-2-butene[46] in dry THF/$K_2CO_3$/reflux[32,45] furnished the desired product **33**, but the reaction was very sluggish and led to the formation of a considerable amount of baseline impurities. Since substitution by amines on bromides was clearly an $S_N2$ type process and it is well-known that the nucleophilic strength is dependent on the solvent employed in the $S_N2$ reaction, it was decided to increase the nucleophilicity of the amine **32** by employing a more polar aprotic solvent. Dry acetonitrile proved to be the most suitable solvent for this process as the reaction went to completion at room temperature to give **33** in 76% yield. Attempts to increase the yield by adding excess (Z)-1-bromo-2-iodo-butene were not successful. Initial attempts at executing the key enolate mediated palladium-catalyzed cyclization of ketone **33** under the modified conditions[47] furnished the desired pentacyclic ketone **16**, albeit in lower yields (50%). The lower yields could be due to a combination of the stronger base (t-BuONa) and the electron-rich aromatic system in **33**, which led to a faster E2 elimination and formation of the unwanted acetylene by-product (not shown) before the oxidative addition of the vinyl iodide took place. This problem was circumvented by subjecting the vinyl iodide **33** to the much milder conditions [PhOK/Pd($PPh_3$)$_4$] of Bonjoch et al.[48] to furnish the desired pentacyclic ketone **16** in 73% yield.

**Scheme 7. Synthesis of the 5-Methoxypentacyclic Ketone 16**



**The Regiospecific, Stereospecific Total Synthesis of (+)-Spegatrine (2), (+)-10-Methoxyvellosimine (5), (+)-Lochnerine (6), (+)-Sarpagine (7), Lochvinerine (9), and (+)-Lochneram (11).** With the key E-ethylidene intermediate **16** in hand, conversion into the desired $\alpha$-aldehyde present in (+)-10-methoxyvellosimine (**5**) was accomplished by a Wittig-hydrolysis-epimerization sequence (Scheme 8). The one carbon homologation process was achieved by a Wittig reaction, followed by acidic hydrolysis of the corresponding two steroisomeric enol methyl ethers (not shown), to afford the theromodynamically stable $\alpha$-aldehyde in **5** in 90% yield. The aldehyde function of **5** was then reduced with sodium borohydride to provide (+)-lochnerine (**6**). As illustrated in Scheme 8, demethylation of (+)-lochnerine (**6**) was achieved with 5 equivalents of $BBr_3$ in dry $CH_2Cl_2$ at −78 °C for 1 h, after which the solution was allowed to warm to room temperature and stirred for an additional 4 h. Following work up, (+)-sarpagine (**7**) was obtained in 80% yield. Subsequent quaternization of the $N_b$-nitrogen function in **7** with excess methyl iodide provided the $N_b$-methiodide salt, which on stirring with silver chloride in ethanol[49] furnished (+)-spegatrine chloride (**2**). Lochnerine (**6**) on $N_b$-methylation under similar conditions provided (+)-lochneram (**11**) in 85% yield. The spectral data for the synthetic **2**, **5**−**7**, and **11** were in good agreement with that reported for the natural products[1a] and resulted in the first total synthesis of these alkaloids.

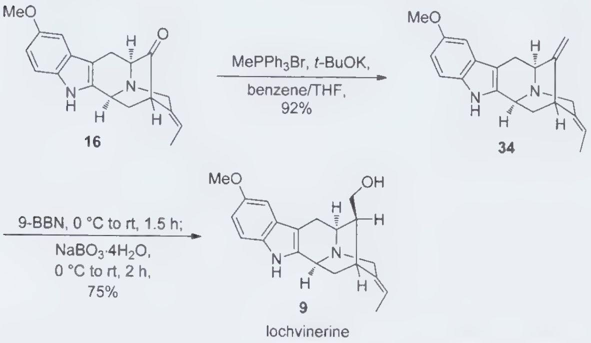
**Scheme 8. Completion of the Total Synthesis of (+)-Spegatrine (2), (+)-10-Methoxyvellosimine (5), (+)-Lochnerine (6), (+)-Sarpagine (7), and (+)-Lochneram (11)**



In order to synthesize the $\beta$-alcohol at C-16 in lochvinerine (**9**), the chemoselective hydroboration developed earlier[50] was employed. The Wittig reaction of the ketone **16** was then carried out with triphenylphosphonium bromide in benzene in the presence of potassium t-butoxide to afford the diene **34** in 92% yield (Scheme 9). Analogous to earlier reports, 9-BBN was chosen as the hydroborating agent to facilitate attack from the less hindered face of the C16−C17 double bond relative to the C19−C20 site.[50] Lochvinerine (**9**) was obtained as the only detectable diastereomer after the hydroboration-oxidation sequence. The proton NMR spectrum of **9** was in agreement with that of the natural product[21] although some difference was observed in chemical shifts of the reported and observed values of protons. This was mainly due to the presence of methanol in the synthetic sample. The synthetic sample retained methanol even after drying the compound under high vacuum for extended periods of time.

**Direct/Intermolecular Biaryl Coupling.** The biaryl core is an important subunit found in a large number of natural products such as alkaloids, coumarins, flavonoids, lignanes,

**Scheme 9. Completion of the Total Synthesis of Lochvinerine (9)**



polyketides, tannins, and terpenes. In particular, axially chiral biaryls are important as chiral ligands in asymmetric synthesis. Because of their interesting biological activity and complex architecture, natural and unnatural biaryls are considered as attractive synthetic targets.[51] For this reason considerable efforts have been made in recent decades for the efficient asymmetric synthesis of biaryls both in the intramolecular and the intermolecular mode.[51,52] Particularly noteworthy is the review by Bringmann et al.[51a] which focuses on enantioselective methods employed for the total synthesis of complex biaryl natural products.

Within the area of intermolecular biaryl synthesis, the two most common approaches employed are: (1) oxidative coupling[53] and (2) reductive coupling such as Ullmann,[52,54] Suzuki,[52,55] Stille[52,56] or C- H activation,[52,57] etc. Oxidative phenolic coupling is a powerful and economical method for the synthesis of biaryl compounds and is especially suited to natural product synthesis since many of the biosynthetic routes to biaryls involve such a coupling.[58] Although considerable progress has been made in carrying out the intramolecular oxidative couplings, in the absence of activating groups, the position of the newly formed C−C bond is determined by the electronic and steric preferences of the substrate and can lead to regioisomeric reaction products in complex substrates especially in the intermolecular mode.[52c,53c] The coupling mechanism is believed to involve either one two-electron or two one-electron oxidations to form an aryl−aryl coupled dimer through the *ortho* and/or *para* positions.[52c,59] In the case of phenols bearing no *ortho*- and *para*-substituents, the *ortho*−*ortho*, *ortho*−*para*, and *para*−*para* coupling reactions occur, giving rise to often unseparable mixtures. In some cases competing and/or subsequent oxidation to form quinones occurs, either from the coupled product or from the original substrate. Thus it is not always predictable which of the possible products will be formed predominantly, consequently, thorough optimization of the oxidizing agent/reaction conditions is required for successful transformations.

The Lewis-acid catalyzed direct oxidative nonphenolic coupling of two unfunctionalized arenes or the Scholl reaction[60] is one of the oldest C−C bond forming reactions and has been extensively used for the intramolecular oxidative dehydrodimerization of branched phenylene precursors to the corresponding polycyclic aromatic hydrocarbons (PAHs) such as triphenylenes, hexa-peri-hexabenzocoronenes (HBCs), etc.[61] and for the synthesis of hexaalkoxytriphenylenes.[62] Various strong acids (Brønsted acids/Lewis acids) and metal salts are generally used in combination with an oxidant ($O_2$, $KMnO_4$).[60] Variants of the reaction include oxidants such as: $FeCl_3$,[63] $CuCl_2$, or $Cu(OTf)_2$ with $AlCl_3$,[64] $Tl(O_2CCF_3)_3/BF_3{\cdot}OEt_2$,[65] $Pb(OAc)_4/BF_3{\cdot}OEt_2$,[66] $MoCl_5$,[67] $SbCl_5$,[68] and $(CF_3CO_2)_2I^{III}C_6H_5$ [phenyliodine(III) bis(trifluoroacetate): PIFA]/$BF_3{\cdot}OEt_2$.[69] Electrochemical oxidations of electron-rich aryl compounds have been reported but are not commonly used.[70] Based on the observations of King et al.[71] the outcome of the Scholl reaction of substituted substrates follows the directing group effects observed in electrophilic aromatic substitution. Alkoxy and alkyl groups are effective *o*,*p*-directors, whereas deactivating *m*-directors (e.g., $NO_2$) suppress the reaction rate. A variety of electron-rich substrates such as alkyl/alkoxy substituted aryl compounds have been successfully dimerized using the above-mentioned combinations. While a majority of these C−C bond forming reactions are reported in the intramolecular mode, very few cases are reported in the intermolecular mode, albeit in substrates with simpler systems, or in substrates with substitution patterns such as to prevent side reactions.

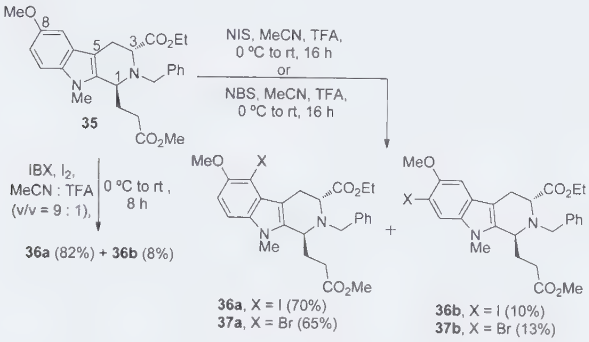
Among the reductive coupling processes, the Suzuki reaction is the most widely used method often affording good to high yields of the coupled products with predictable regioselectivity.[55] However, the advantages of employing preactivated aryl components can be offset by the requirement for their independent preparation, especially where multiple synthetic steps are required. Also since no standard procedures are available, each new catalyst and substrate requires time-consuming optimization of the particular reaction conditions.

**Reductive Coupling-Model Reaction.** As per the retrosynthetic plan, both oxidative (phenolic and Scholl-type) or reductive cross coupling could be employed to form the C9−C9′ bond in **1**. Although biomimetic oxidative phenolic coupling still stands as a practical method for the synthesis of many biaryls, the negligible yield obtained during the oxidative phenolic coupling of **2** by Lin et al.[10] made it the weakest method of choice. In order to avoid the potential problems associated with phenolic oxidative couplings it was thus decided to employ a nonphenolic coupling reaction for the construction of the biaryl axis in **1**. A nonphenolic oxidative coupling of the *sarpagine* alkaloid (+)-lochnerine (**6**), which contains all the chiral information required, could be attempted to this end. The quaternary alkaloid lochneram (**11**) could also serve the same purpose but could affect the isolation/purification process due to its polar nature. The nonphenolic coupling could either be a reductive cross-coupling or a Scholl type direct oxidative coupling.

Taking into consideration the pros and cons of both types of coupling reactions, it was decided to first study the biaryl coupling on a more robust model indole substrate. By doing so one would be able to compare the results of both reactions on the same substrate and then select the best method for coupling the *sarpagine* alkaloid **6**. It would also give one a chance to study the effect of oxidative dimerization conditions on the more sensitive 5-methoxy sarpagine substrate **6**, especially due to lack of literature precedent for such transformations. Additionally, the supposition that the natural *sarpagine* framework was indispensable for complete asymmetric induction in the formation of the biaryl axis could also be assessed. Tetrahydro *β*-carboline **35**, the $N_a$-methyl analogue of **28**,[32] was chosen as the model substrate for this purpose. In order to perform any type of reductive coupling reaction (such as the Ullmann, Suzuki, Stille, etc.) on **35**, it was necessary to first synthesize the corresponding aryl halide coupling partner.

**Synthesis of the Aryl Halide Coupling Partners 36a/37a.** Due to the moderate reactivity of iodine, electrophilic iodination of aromatic compounds requires the use of an appropriate oxidant for efficient transformation. Numerous methods employing iodonium donating agents have been developed over the years; many of which employ harsh reaction conditions and longer reaction times.[72] Initially, a milder method for iodination with N-iodosuccinimide (NIS) and catalytic TFA, reported by Colobert et al.,[73] was employed for iodination of the model substrate **35**. Although the reaction proceeded at room temperature in acetonitirile, longer reaction times (16 h) were required for complete conversion of **35**, and the regiosiosmers **36a** and **36b** were obtained in a combined yield of 80% (Scheme 10). For synthesis of the corresponding aryl bromide, an NBS/TFA system provided the optimum yield of the desired product **37a**. Recently Moorthy et al.[74] reported an expedient protocol for iodination of a variety of electron-rich and electron-poor aromatic compounds using an IBX-$I_2$ redox couple. The high yields and very short reaction times were attributed to the rapid generation of 4 equivalents of iodonium ions per equivalent of IBX, thereby increasing the rate of the reaction even for electron-poor substrates. As illustrated in Scheme 10, iodination of the model substrate **35** under these conditions resulted in a much faster (8 h) and a cleaner reaction, with the desired product **36a** formed in 82% yield. The regiochemistry of iodination in **36a** was also confirmed by X-ray analysis (see SI).

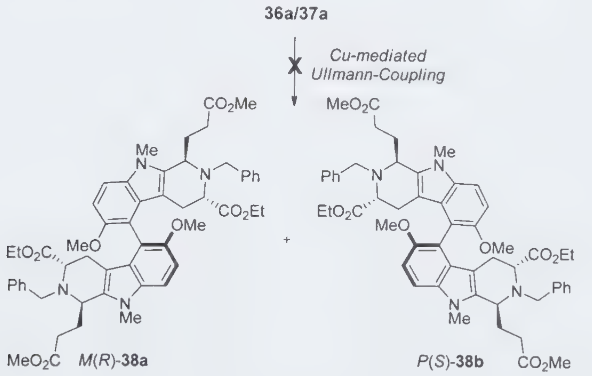
**Scheme 10. Electrophilic Halogenation of 35**



**Attempted Ullman Coupling Reaction.** With the appropriate aromatic halides **36a** and **37a** in hand, the Ullmann reductive coupling[54] to form the C7–C7′ bond was first investigated. Similar to other reductive coupling processes, various protocols of the Ullmann-type coupling have been developed; however, very few are suitable for atropselective synthesis of biaryls mainly due to the harsh conditions (multihour reactions at temperatures >100 °C) required to obtain high yields of the desired biaryl. Such harsher conditions could lead to racemization of the biaryls and are thus not useful.[55e] Illustrated in Table 1 are the various attempts to perform the Cu-mediated Ullmann coupling reaction of **36a** and **37a**. In spite of using up to 8 equivalents of activated Cu-powder at very high temperatures, either no conversion or complete decomposition of the starting materials **36a** and **37a** was observed (Table 1, entries 3–5). A copper(I)-thiophene-2-carboxylate (CuTC) protocol developed by Liebskind et al.[75] was also tested on both the aryl iodide **36a** and bromide **37a** (Table 1, entries 2 and 6) but failed to provide the desired product. After the failure of the Ullmann reaction to dimerize the model substrate **36a**/**37a**, the Suzuki reductive coupling process[55] was next attempted. To accomplish this, the aryl boronate ester coupling partner from the corresponding aryl halide had to be prepared.

**Synthesis of the Aryl Boronic Ester Coupling Partner.** The palladium-catalyzed cross coupling reaction of $(\mathrm{Bpin})_2$ with haloarenes developed by Miyaura et al.[55d,e] provides a direct procedure for the synthesis of aryl boronic esters from aryl halides. Application of these borylation conditions in the

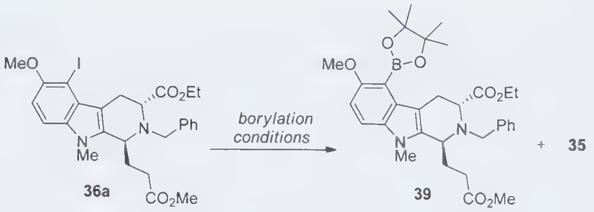
**Table 1. Attempted Copper-Mediated Ullmann Coupling Reaction of 36a and 37a**[a]



| entry | reaction conditions | results |
|---|---|---|
| 1. | Cu powder (2.5 equiv),[54b] DMF, 100 °C, 12 h | SM only |
| 2. | CuTC (3.0 equiv), *N*-methyl 2-pyrrolidine, 70 °C, 72 h | SM only |
| 3. | activated Cu powder (8 equiv), DMF, reflux, 72 h | SM only |
| 4. | activated Cu powder (8 equiv), *N*-methyl 2-pyrrolidine, sealed tube, sand bath, 140 °C, 26 h | SM only |
| 5. | activated Cu powder (8 equiv), *N*-methyl 2-pyrrolidine, sealed tube, sand bath, 140 °C, 72 h | decomposition |
| 6. | CuTC (8 equiv), *N*-methyl 2-pyrrolidine, sealed tube, sand bath, 140 °C, 26–72 h | decomposition |

[a] CuTC: copper(I)-thiophene-2-carboxylate; SM: starting materials **36a** or **37a**.

Table 2. Synthesis of the Aryl Boronic Ester Coupling Partner 39



| | boron source[a] | Pd source | ligand[b] | base[c] | solvent | temp (time) | results[d] |
|---|---|---|---|---|---|---|---|
| 1 | $(Bpin)_2$ (4 equiv) | $Pd(dppf)Cl_2$ (10 mol %) | - | KOAc | DMSO | 100 °C (10 h) | **39** (55%) + **35** (30%) |
| 2 | $(Bpin)_2$ (4 equiv) | $Pd(PPh_3)_4$ (10 mol %) | - | KOAc | DMSO | 80 °C (15 h) | **36a** + **39** + **35**[e] |
| 3 | HBpin (3 equiv) | $Pd(MeCN)_2Cl_2$ (5 mol %) | DCPB (20 mol %) | $Et_3N$ | dioxane | 110 °C (3 h) | **36a** + **39**[e] |
| 4 | HBpin (3 equiv) | $Pd(MeCN)_2Cl_2$ (10 mol %) | DCPB (40 mol %) | $Et_3N$ | dioxane | 110 °C (3 h) | **36a** +**39**[e] |
| 5 | HBpin (3 equiv) | $Pd(MeCN)_2Cl_2$ (5 mol %) | XPhos (20 mol %) | $Et_3N$ | dioxane | 100 °C (3 h) | **36a** + **39** + **35**[e] |
| 6 | HBpin (3 equiv) | $Pd(OAc)_2$ (5 mol %) | DPEPhos (10 mol %) | $Et_3N$ | dioxane | 100 °C (3 h) | **39** (78%) + **35** (15%) |
| 7 | HBpin (3 equiv) | $Pd(OAc)_2$ (5 mol %) | DCPB (20 mol %) | $Et_3N$ | dioxane | 110 °C (3 h) | **39** (80%) + **35** (10%) |
| 8 | HBpin (3 equiv) | $Pd(OAc)_2$ (5 mol %) | DCPB (20 mol %) | $Et_3N$ | dioxane | 100 °C (3 h) | **39** (93%) + **35** (3%) |

[a] $(Bpin)_2$: bis(pinacolato) diboron; HBpin: pinacol borane. [b] DCPB: 2-(dicyclohexylphosphanyl)biphenyl; DPEPhos: bis(2-phenylphosphinophenyl)ether; XPhos: 2-dicyclohexylphosphino-2′,4′,6′-triisopropylbiphenyl. [c] 3 equiv of base was employed. [d] Isolated yields. [e] Not separated.

Table 3. Suzuki-Miyaura Coupling (SMC)

$$\mathbf{36a} \text{ or } \mathbf{37a} + \mathbf{39} \xrightarrow{\text{SMC}} M(R)\text{-}\mathbf{38a} + P(S)\text{-}\mathbf{38b}$$

| | ArX | Pd source[a,b] | ligand[c,d] | base[e,f] | solvent[g] | temp (°C)/ time (h) | results |
|---|---|---|---|---|---|---|---|
| 1 | **36a** | $Pd(OAc)_2$ | DCPB | $K_3PO_4$ | dioxane:$H_2O$ | 100/24 | **35** + **36a** |
| 2 | **37a** | $Pd(OAc)_2$ | DCPB | $K_3PO_4$ | dioxane:$H_2O$ | 100/24 | **35** + **37a** |
| 3 | **36a** | $Pd(OAc)_2$ | DCPB | CsF | dioxane | 100/24 | **35** + **36a** |
| 4 | **36a** | $Pd(OAc)_2$ | XPhos | $K_3PO_4$ | Tol:$H_2O$ | 100/24 | **35** + **36a** |
| 5 | **36a** | $Pd(OAc)_2$ | DavePhos | $K_3PO_4$ | Tol:$H_2O$ | 100/24 | **35** + **36a** |
| 6 | **36a** | $Pd(OAc)_2$ | SPhos | $K_3PO_4$ | Tol:$H_2O$ | 100/24 | **35** + **36a** |
| 7 | **36a** | $Pd(OAc)_2$ | SPhos | $K_3PO_4$ | THF:$H_2O$ | 50/24 | **38a** (20%) + **38b** (10%) + **35** (15%) + **36a** (13%) |
| 8 | **36a** | $Pd(OAc)_2$ | SPhos | $K_3PO_4$ | THF:$H_2O$ | 50/48 | **38a** (37%) + **38b** (18%) + **35** (20%) |
| 9 | **36a** | $Pd_2(dba)_3$ | SPhos | $K_3PO_4$ | THF:$H_2O$ | 50/48 | **38a** (38%) + **38b** (19%) + **35** (20%) |

[a] 5 mol % of $Pd(OAc)_2$. [b] 2.5 mol % of $Pd_2(dba)_3$. [c] Ligands: DCPB: 2-(dicyclohexylphosphanyl)biphenyl; XPhos: 2-dicyclohexylphosphino-2′,4′,6′-triisopropylbiphenyl; DavePhos: 2-dicyclohexylphosphino-2′-(N,N-dimethylamino)biphenyl; SPhos: 2-dicyclohexylphosphino-2′,6′-dimethoxybiphenyl. [d] 20 mol % of ligand. [e] 2 equiv of $K_3PO_4$. [f] 8 equiv of CsF. [g] Solvent:$H_2O$/10:1.

system under study here furnished the desired aryl boronate **39** in 55% yield, accompanied by a large amount of the hydrodehalogenation species **35** (Table 2, entry1). Performing the reaction at a lower temperature with $Pd(PPh_3)_4$ as the catalyst did decrease the amount of the byproduct **35** but also left some starting material (**36a**) unreacted (as observed on TLC). Based on the initial findings of Masuda et al.[76] and reports by Buchwald et al.[77] and Baudoin et al.,[78] it was found that a palladium-catalyzed coupling of pinacolborane with aryl halides in the presence of a tertiary amine as a base, especially $Et_3N$, prevented the pinacolborane from acting as a hydride donor and thus avoided formation of the undesirable Ar–H byproduct (**35** in this case). As illustrated in Table 2 (entries 3–8), a careful optimization of the reaction by varying the palladium source and the ligand finally led to a combination of $Pd(OAc)_2$ with the more electron-rich and bulkier ligand 2-(dicyclohexylphosphanyl)biphenyl (DCPB) to provide 93% yield of the arylboronate **39** (Table 2, entry 8).

**Suzuki –Miyaura Coupling (SMC).** With the appropriate aromatic halides (**36a** and **37a**) and aryl boronate ester **39** in hand, the Suzuki coupling reaction of these diortho substituted coupling partners was next attempted. The synthesis of hindered biaryls via the Suzuki reaction, especially of substrates containing large *ortho* substituents, and/or *ortho*, *ortho′* substituents has been shown to be a challenging task.[73,77] The difficulty in such transformations can be increased in cases where the substrate has electron-donating groups thereby slowing down the oxidative-addition process. More recently the bulky and electron-rich, monodentate dialkylbiarylphosphine ligands, synthesized by Buchwald et al.,[77] were shown to improve the efficiency of such couplings. The superior activity of the catalysts derived from the biarylphosphine ligands was attributed to a combination of electronic and steric properties that enhanced the rates of oxidative addition, transmetalation, and reductive elimination steps in the catalytic cycle.

Outlined in Table 3 are the different catalytic systems that were employed to carry out the Suzuki-coupling reactions of the aryl halides **36a** and **37a** with the boronate ester **39**. Based on the various synthetic applications[79] a general reaction system of $Pd(OAc)_2$/dialkylbiarylphosphine ligand in a 1:4 ratio was employed with different solvents and bases (Table 3). Initial couplings with 20 mol % of the DCPB, XPhos, and DavePhos ligands, in the presence of a milder base ($K_3PO_4$), resulted in mixtures of hydrodehalogenation byproduct **35** and unreacted starting material **36a**/**37a** (Table 3, entries 1–5). Employment of the more efficient, electron-rich and bulkier

**Table 4. Oxidative Dehydrodimerization of the Model Substrate 35**

$$\mathbf{35} \xrightarrow[\text{dehydrodimerization}]{\text{oxidative}} M(R)\text{-}\mathbf{38a} + P(S)\text{-}\mathbf{38b}$$

| | | | | | results | |
|---|---|---|---|---|---|---|
| | oxidant (equiv) | Lewis acid (equiv) | temp (time) | solvent | % yield | M:P |
| 1 | PIFA (0.6) | $BF_3{\cdot}Et_2O$ (2.5 equiv) | 0 °C – rt (2 h) | DCM | nd | nd |
| 2 | PIFA (1.02) | $BF_3{\cdot}Et_2O$ (4 equiv) | 0 °C – rt (8 h) | DCM | 11 | 3:2 |
| 3 | PIFA (1.02) | $BF_3{\cdot}Et_2O$ (4 equiv) | −40 °C – rt (1.5 h) | DCM | 20 | 3:2 |
| 4 | PIFA (0.8) | $BF_3{\cdot}Et_2O$ (3 equiv) | −40 °C (0.5 h) | DCM | 30 | 4:1 |
| 5 | PIFA (0.8) | $BF_3{\cdot}Et_2O$ (3 equiv) | −78 °C (0.5 h) | DCM | 25[a] | 4:1 |
| 6 | PIDA (0.8) | $BF_3{\cdot}Et_2O$ (3 equiv) | −40 °C (2.5 h) | DCM | nd | nd |
| 7 | $Tl(OCOCF_3)_3$ (0.8) | $BF_3{\cdot}Et_2O$ (3 equiv) | rt (15 min) | MeCN | nd | nd |
| 8 | $Tl(OCOCF_3)_3$ (0.8) | $BF_3{\cdot}Et_2O$ (3 equiv) | −40 °C (20 min) | MeCN | 38 | 2:3 |
| 9 | $Tl(OCOCF_3)_3$ (0.5) | $BF_3{\cdot}Et_2O$ (2.5 equiv) | −78 °C (40 min) | MeCN | 30 | 3:7 |
| 10 | $Tl(OCOCH_3)_3$ (0.7) | $BF_3{\cdot}Et_2O$ (3 equiv) | −40 °C (1.25 h) | MeCN | 67[a] | 3:7 |

[a] The yield is based on recovered starting material **35**. % yield is based on isolation of both the diasteromers. nd: not determined. PIFA: phenyliodine(III) bis(trifluoroacetate); PIDA: phenyliodine(III) diacetate.

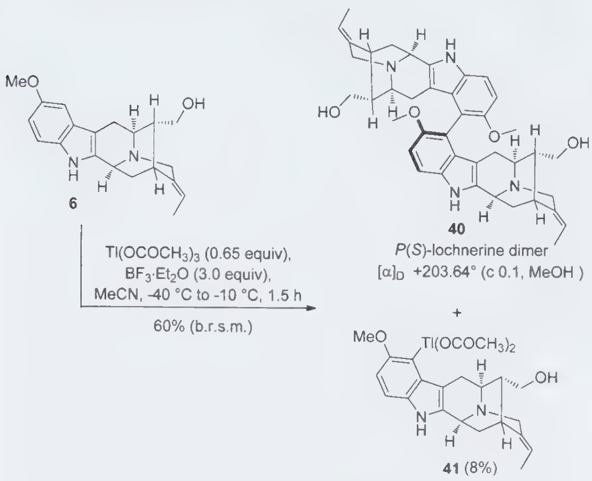
SPhos[79] ligand also yielded similar results (Table 3, entry 6). It was possible that a combination of basic reaction conditions at higher temperature was responsible for the extensive hydrodehalogenation. In order to circumvent this it was decided to employ THF as the cosolvent. The low boiling point and higher dielectric constant of THF provided a more homogeneous reaction medium at a lower temperature. This change reduced the excessive hydrodehalogenation taking place, and a combined yield of 30% was obtained in favor of the *M*(*R*)-atropodiastereomer (Table 3, entry 7). Stirring the reaction mixture for a longer time led to complete conversion of the starting material **36a**, and a 55% combined yield of the atropodiastereomers was observed (Table 3, entry 8). Use of $Pd_2(dba)_3$ also provided similar results (Table 3, entry 9). At this point no further optimization was performed. Subsequently, the more direct Scholl-type oxidative dehydrodimerization of the model substrate **35** was attempted.

**Scholl Type Oxidative Dehydrodimerization-Model Reaction.** With samples of the atropodiastereomeric biaryls (**38a** and **38b**) obtained from the Suzuki-Miyaura coupling on the model substrate **35** in hand, the desired products could now be identified from a potential mixture of regioisomers which could arise during the oxidative coupling of the model substrate. Since one was examining the effect of existing chiral centers on the atropselectivity, it was decided to use achiral catalysts for this process. Of the various protocols of the Scholl type oxidation discussed earlier, it was decided to carry out a hypervalent iodine(III) mediated protocol developed by Kita et al.[69,80] and a thallium(III) mediated oxidative dehydrodimerization approach developed by Taylor et al.[65,81] Both methods employ a combination of a two-electron oxidant and a Lewis acid ($BF_3{\cdot}Et_2O$) in solvents such as $CH_2Cl_2$ or MeCN, at temperatures ranging from −78 °C to room temperature. Although hypervalent iodine(III) has been extensively used for intramolecular coupling reactions,[69,82] there has been little progress made in the intermolecular mode.[78,83] Thallium(III) has also been successfully employed intramolecularly for the synthesis of isoquinoline alkaloids,[84] lignans,[85] and colchinol derivatives[86] as well as aporphine alkaloids.[87] Effective oxidative dimerizations of 2-substituted indoles[88] and indolocarbazoles[89] by thallium(III) trifluoroacetate have also been reported. The intermolecular oxidative dimerization of a polysubstituted indole core by Keller et al.[90] provided a suitable precedent for which to effect the oxidative dimerization in the system under study here.

Illustrated in Table 4 are the results of the intermolecular oxidative dehydrodimerization reaction on the model tetrahydro *β*-carboline **35**. Addition of PIFA (0.6 to 1.02 equiv) at 0 °C provided very little formation of the desired dimers **38a** and **38b** (Table 4, entries 1 and 2). The same trend was observed for the thallium trifluoroacetate mediated oxidation (Table 4, entry 7), although all the PIFA-oxidations seemed to produce a lot of baseline and colored impurities. A lower reaction temperature of −40 °C (both the reagents and the substrate added at the same temperature) seemed to have an immediate effect on the reaction, and higher yields were obtained in both PIFA (Table 4, entry 4) and the thallium mediated oxidations (Table 4, entry 8), more so in the latter case. A decrease in the reaction temperature to −78 °C (Table 4, entry 5) or replacing PIFA with phenyliodine(III) diacetate [PIDA (−40 °C)] resulted in a considerable amount of starting material **35** (Table 4, entry 6) remaining unreacted. A similar effect was observed upon the use of the milder Tl(III) acetate as the oxidant (Table 4, entry 10). Although some starting material **35** (11%) remained unreacted, a combined yield of 67% was obtained in favor of **38b**, the axial chirality of which was determined to be *P*(*S*) by X-ray analysis.[27] Importantly, the model oxidative dehydrodimerization was completely regioselective (without any preactivation), and the combination of the milder Tl(III) acetate with $BF_3{\cdot}Et_2O$, which provided the optimum yield (Table 4, entry 10), could now be attempted to construct the desired C9–C9′ bond in **1**. It was also clear that an oxidative biaryl coupling at a later stage in the synthesis, especially on the natural *sarpagine* framework, was essential for ensuring complete atropselectivity in the process. This was a key finding from the lack of stereospecificity in the model work.

**Thallium(III) Mediated Oxidative Coupling of (+)-Lochnerine (6).** As illustrated in Scheme 11, the monomeric *sarpagine* alkaloid lochnerine (**6**) was subjected to the modified conditions of the Tl(III) mediated oxidative dimerization. A combination of $Tl(O_2CCH_3)_3$ (0.65 equiv) and $BF_3{\cdot}Et_2O$ (3.0 equiv) in acetonitrile at −40 °C afforded the key C9–C9′ biaryl **40** as the sole atropdiastereomer in 60% yield (based on 12% recovered starting material) with complete regioselectivity. The free indole $N_a$-H, highly basic $N_b$-nitrogen and the primary hydroxyl function at C-17 remained unaffected.

**Scheme 11. Thallium(III) Mediated Oxidative Coupling of (+)-Lochnerine (6)**[a]



[a] b.r.s.m: based on recovered starting material.

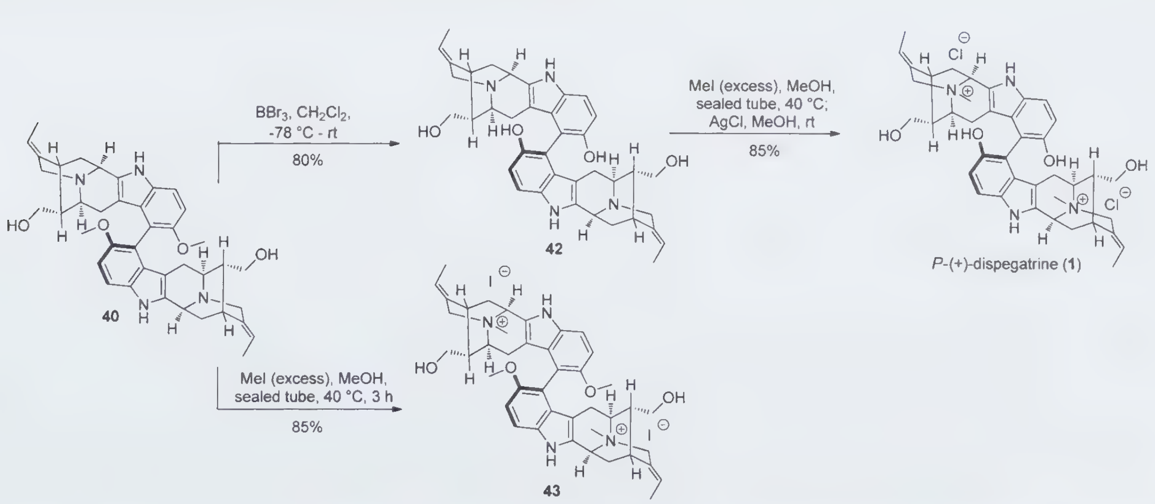
The formation of the biaryl **40**, accompanied by the competing electrophilic aromatic thallation byproduct **41** at C-9, is in complete agreement with the detailed mechanistic studies by Kochi et al.[91] Increasing the equivalents of $Tl(O_2CCH_3)_3$ led to increased conversion of indole **6** to the organothallium byproduct **41** and baseline impurities. X-ray crystallographic analysis of **40** established the axial chirality at the C9−C9′ bond as *P*(*S*).[27] The natural *sarpagine* configuration in indole **6** imparted complete stereocontrol in the key biaryl coupling step thereby forming a single atropodiastereomer **40**. This would be in agreement with a potential biomimetic coupling in the plant since none of the other atropodiastereomers was reported during isolation and semisynthesis by Yu et al.[10]

**The Regiospecific, Stereospecific Total Synthesis of *P*-(+)-Dispegtarine (1).** Completion of the total synthesis of (+)-dispegatrine (**1**) was then achieved in two more steps. As illustrated in Scheme 12, the C10−C10′ methoxy groups in **40** were demethylated with 9 equivalents of $BBr_3/CH_2Cl_2$ at −78 °C to furnish the sarpagine dimer **42** in 80% yield. The highly zwitterionic nature of **42** was evident from the $^1H$ NMR of the compound which showed a large downfield shift of the C-3 and C-21 protons as is generally observed in $N_b$-quaternary *sarpagine* compounds. Due to this reason, the $N_b$-methylation of the highly polar dimer **42** was sluggish, and very little formation of **1** was observed at room temperature. Eventually, heating the reaction mixture in a sealed tube at 40 °C led to complete conversion of the starting material **42** into *P*-(+)-dispegatrine (**1**). A LRMS (FAB) of the sample at this stage was taken to confirm the formation of the desired product **1**. Further treatment with AgCl/MeOH at room temperature completed the total synthesis of *P*-(+)-dispegatrine (**1**). The synthetic material **1** exhibited $^1H$ NMR spectrum that compared favorably with the reported values.[10] The coupling constants and splitting pattern were in excellent agreement with the literature values,[10] except for the chemical shifts of protons H-3,3′ and 5,5′ which were observed for the natural material in $D_2O$.[27] To obtain better spectroscopic data, it was decided to synthesize the bismethyl ether of **1**, by subjecting the dimer **40** to $N_b$-quaternization first. Complete conversion to the bisquaternary salt **43** was achieved with a large excess of MeI/MeOH, both at room temperature or 40 °C. Analogous to blumeanine (isolated as its diacetate),[13] chromatographic purification and isolation of this bisquaternary salt **43** was much easier in comparison to **1**. The 2D NMR correlation experiments were then carried out on the dimer **43** to establish the position of the H-3,3′ and H-5,5′ protons.[27] These NMR experiments were in complete agreement with the assigned positions of H-3,3′ and H-5,5′ in *P*-(+)-**1**.[27] In the absence of an authentic sample[92] [for circular dichroism (CD) analysis or thin layer chromatography (TLC) comparison], it is impossible to unequivocally report that synthetic **1** is identical to the natural product even though the $^1H$ NMR is in good agreement.[93] However, the fact that the biomimetic coupling by Yu et al.[10] gave only the natural isomer and our oxidative coupling gave the *P*-atropodiastereomer from similar scaffolds strongly suggests that they are the same.

## ■ CONCLUSION

In conclusion, the regio- and diastereospecific doubly convergent first total synthesis of the *P*-atropodiastereomer of

**Scheme 12. Completion of the Total Synthesis of *P*-(+)-Dispegatrine (1)**



the dimeric indole alkaloid (+)-dispegatrine (**1**) has been accomplished from 5-methoxy-D-tryptophan methyl ester (**17**). *p*-Anisidine was converted into **17** on a large scale by employing the modified regiospecific bromination procedure. Stereospecific conversion of **17** into the optically active *sarpagine* framework **16** was achieved by the asymmetric Pictet-Spengler reaction. The ketone **16** was then employed to complete the first total synthesis of the monomeric 10-oxysubstituted alkaloids (+)-spegatrine (**2**), (+)-10-methoxyvellosimine (**5**), (+)-lochnerine (**6**), (+)-sarpagine (**7**), lochvinerine (**9**), and (+)-lochneram (**11**). Intermolecular nonphenolic oxidative dimerizations of highly functionalized substrates are very rare, and the work described in this paper provides an efficient method to carry out such couplings, thereby providing an alternative to the phenolic oxidative couplings which oftentimes produces complex mixtures with sensitive substrates. Both reductive cross coupling (Suzuki) and direct oxidative coupling were first studied on the electron-rich indole model substrate **35** and provided excellent insight into the regioselectivity and atropselectivity of the process. Based on the results of the model study, advantage was taken of the natural *sarpagine* configuration in lochnerine (**6**), a thallium(III)acetate mediated oxidative dimerization of which provided the atropodiastereomer *P*-**40** exclusively. Completion of the total synthesis of **1** was then achieved in two more steps from **40**. The total synthesis of the bisquaternary alkaloid **1** is thus notable for its brevity, principally because it employed lochnerine (**6**) as the substrate for the key biaryl coupling, inspite of the presence of the free indole $N_a$-H, free hydroxyl group at C-17 and a highly basic $N_b$-nitrogen function. In addition, the use of thallium(III) acetate as the oxidant for direct oxidative dehydrodimerization of electron-rich substrates such as **6** and **35** has expanded the scope of this oxidant in intermolecular heterobiaryl synthesis.

## EXPERIMENTAL SECTION

The experimental details for the synthesis of alkaloids **1**, **2**, **5**–**7** and compounds **16**, **38a**, **38b**, and **40**–**43** are contained in the SI of reference 27b. General procedures for borylation (entries 1–7, Table 2) and SMC (entries 1–8, Table 3) are analogous to the preparation for **39** and **38a**,**b** respectively. For general experimental considerations see SI.

**3-(((2*R*,5*S*)-3,6-Diethoxy-5-isopropyl-2,5-dihydropyrazin-2-yl)methyl)-5-methoxy-2-(trimethylsilyl)-1*H*-indole (21a) and the Regioisomer 2-(((2*R*,5*S*)-3,6-Diethoxy-5-isopropyl-2,5-dihydropyrazin-2-yl)methyl)-5-methoxy-1*H*-indole (21b).** In a round-bottom flask (2 L) equipped with a magnetic stirrer were added *tert*-butyl (2-iodo-4-methoxyphenyl)carbamate **20** (1 g, 2.86 mmol), the internal alkyne **19** (1.016 g, 3.15 mmol), palladium(II) acetate (38.5 mg, 0.171 mmol), potassium carbonate (989 mg, 7.16 mmol), lithium chloride (133 mg, 3.150 mmol), and DMF (20 mL). The reaction mixture was degassed under vacuum (argon) and then heated at 100 °C under a slow stream of argon for 36 h. The mixture was cooled to rt, and then EtOAc (400 mL) was added to the solution, after which it was then filtered through Celite to remove the Pd black and inorganic salts. The solution which resulted was diluted with additional EtOAc (20 mL), and it was then washed with water (5 × 15 mL) and brine (15 mL) and dried ($Na_2SO_4$). The solvent was removed under reduced pressure, and the residue was purified (short flash column) to give the 5-methoxy indole **21a**, accompanied by the byproduct **21b**. Column chromatography of the crude mixture in EtOAc/hexanes provided the desired indole **21a** (873 mg, 68%) and the regioisomer **21b** (140 mg, 13%).

***21a***. $^1$H NMR (300 MHz, $CDCl_3$) $\delta$ 7.85 (s, 1H), 7.24 (d, 1H, $J$ = 8.8 Hz), 7.17 (d, 1H, $J$ = 2.3 Hz), 6.85 (dd, 1H, $J$ = 8.8, 2.4 Hz), 4.31–3.97 (m, 5H), 3.91 (t, 1H, $J$ = 3.4 Hz), 3.86 (s, 3H), 3.52 (dd, 1H, $J$ = 14.2, 3.7 Hz), 2.87 (dd, 1H, $J$ = 14.2, 9.4 Hz), 2.35–2.25 (m, 1H), 1.31 (t, 3H, $J$ = 7.1 Hz), 1.19 (t, 3H, $J$ = 7.1 Hz), 1.06 (d, 3H, $J$ = 6.8 Hz), 0.70 (d, 3H, $J$ = 6.8 Hz), 0.42 (s, 9H); $^{13}$C NMR (75 MHz, $CDCl_3$) $\delta$ 163.7 (C), 162.8 (C), 153.5 (C), 134.8 (C), 133.5 (C), 129.9 (C), 122.5 (C), 112.5 (CH), 111.1 (CH), 102.0 (CH), 60.6 ($CH_2$), 60.5 ($CH_2$), 60.4 (CH), 58.5 (CH), 55.9 ($CH_3$), 31.9 ($CH_2$), 31.5 (CH), 19.1 ($CH_3$), 16.5 ($CH_3$), 14.2 (2 × $CH_3$), −0.6 (3 × $CH_3$); EIMS (*m*/*e*, relative intensity) 443 ($M^{\bullet+}$, 26), 232 (100), 212 (39), 190 (13), 169 (34), 73 (20); HRMS (EI-trisector) *m*/*z*: Calcd for $C_{24}H_{37}N_3O_3Si$ 443.2604, Found 443.2590.

***21b***. $^1$H NMR (300 MHz, $CDCl_3$) $\delta$ 9.08 (s, 1H), 7.18 (d, 1H, $J$ = 8.7 Hz), 7.03 (d, 1H, $J$ = 2.4), 6.79 (dd, 1H, $J$ = 8.7, 2.4 Hz), 6.22 (br,s, 1H), 4.30–4.14 (m, 5H), 3.89 (t, 1H, $J$ = 5.6 Hz), 3.86 (s, 3H), 3.42 (dd, 1H, $J$ = 14.7, 3.2 Hz), 3.01 (dd, 1H, $J$ = 14.7, 8.7 Hz), 2.30–2.19 (m, 1H), 1.41–1.34 (m, 6H), 1.02 (d, 3H, $J$ = 6.9 Hz), 0.75 (d, 3H, $J$ = 6.8 Hz); $^{13}$C NMR (75 MHz, $CDCl_3$) $\delta$ 197.8 (C), 161.9 (C), 153.8 (C), 137.9 (C), 131.0 (C), 128.7 (C), 111.0 (CH), 110.8 (CH), 101.9 (CH), 100.6 (CH), 61.0 (CH), 60.9 ($CH_2$), 60.8 ($CH_2$), 55.8 (CH), 55.7 ($CH_3$), 32.7 ($CH_2$), 32.2 (CH), 18.9 ($CH_3$), 16.9 ($CH_3$), 14.3 ($CH_3$), 14.2 ($CH_3$); EIMS (*m*/*e*, relative intensity) 371 ($M^{\bullet+}$, 32), 342 (7), 211 (36), 169 (38), 160 (100), 145 (13), 117 (26); HRMS (EI-trisector) *m*/*z*: Calcd for $C_{21}H_{29}N_3O_3$ 371.2209, Found 371.2200.

**3-(((2*R*,5*S*)-3,6-Diethoxy-5-isopropyl-2,5-dihydropyrazin-2-yl)methyl)-5-methoxy-1*H*-indole (26).** To a solution of **25** (55 g, 0.116 mol) in dry $CH_2Cl_2$ (536 mL) under nitrogen was added 2,6-lutidine (38 g, 0.353 mol) and TMSOTf (31.4 g, 0.141 mol) dropwise at 0 °C. The solution which resulted was stirred at 0 °C for 30 min and then allowed to warm to rt (12 h). The reaction mixture was then poured into a cold saturated aq solution of $NaHCO_3$ (300 mL). The organic layer was separated, and the combined organic layers were washed with brine (240 mL) and dried ($Na_2SO_4$). After removal of solvent under reduced pressure, the residue was purified by chromatography (hexanes/ethyl acetate, 6/1) to afford **26** as a colorless oil (38 g, 93%). The $^1$H NMR spectra was in excellent agreement with the literature values.[32]

**(*R*)-Ethyl-2-(benzylamino)-3-(5-methoxy-1*H*-indol-3-yl)-propanoate (27).** To a solution of tryptophan ethyl ester **17** (29 g, 110.6 mmol) in dry ethanol (500 mL) at 0 °C under nitrogen was added benzaldehyde (24.07 g, 226.89 mmol) and anhydrous $Na_2SO_4$ (78.6 g, 553.4 mmol). The solution was stirred at 0 °C for 5 h, cooled to −10 °C, and treated portionwise with $NaBH_4$ (4.44 g, 117.2 mmol) over a period of 3 h keeping the temperature below −5 °C to prevent epimerization at C-3 and the formation of unwanted tetrahydro $\beta$-carboline. After the mixture was allowed to stir for an additional 1 h, ice water (15 mL) was added, and the mixture was allowed to warm to room temperature. The methanol was removed under reduced pressure, and the aq residue was extracted with EtOAc (3 × 360 mL). The combined organic layers were washed with brine and dried ($Na_2SO_4$). After removal of the solvent under reduced pressure the residue was purified by flash chromatography (EtOAc:hexanes, 3:1) to afford the $N_a$-H, $N_b$-benzyl-7-methoxy-D-tryptophan ethyl ester **27** as an oil in 90% (35 g) yield. FTIR ($CHCl_3$) 3405, 2930, 1725 cm$^{-1}$; $^1$H NMR (300 MHz, $CDCl_3$) $\delta$ 7.98 (br, 1H), 7.32–7.22 (m, 6H), 7.04 (dd, 2H, $J$ = 15.1, 2.2 Hz), 6.86 (dd, 1H, $J$ = 8.8, 2.3 Hz), 4.12 (q, 2H, $J$ = 7.1 Hz), 3.87 (d, 1H, $J$ = 14.6 Hz), 3.85 (s, 3H), 3.69 (dd, 2H, $J$ = 13.4, 7.2 Hz), 3.16 (dd, 1H, $J$ = 13.5, 6.0 Hz), 3.09 (dd, 1H, $J$ = 13.5, 6.0 Hz), 1.95 (br, 1H), 1.18 (t, 3H, $J$ = 7.2 Hz); $^{13}$C NMR (75.5 MHz, $CDCl_3$) $\delta$ 174.9, 154.0, 139.8, 131.4, 128.3, 128.2, 128.0, 127.0, 123.6, 112.4, 111.8, 111.2, 100.7, 61.3, 60.6, 55.9, 52.2, 29.5, 14.2; EIMS (*m*/*e*, relative intensity) 352 ($M^{\bullet+}$, 100), 279 (50), 236 (11); HRMS (ESI-TOF) *m*/*z*: $(M + H)^+$ Calcd for $C_{21}H_{25}N_2O_3$ 353.1865, Found 353.1856.

**(1*S*,3*R*)-Ethyl-2-benzyl-6-methoxy-1-(3-methoxy-3-oxopropyl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate (28).** To a round-bottom flask (500 mL) that contained a solution of optically active $N_a$-H, $N_b$-benzyl-D-tryptophan ethyl ester **27** (21 g, 59.6 mmol) in dry $CH_2Cl_2$ (300 mL) was added the aldehyde, 4-oxobutyric acid methyl ester (17.23 g, 148.4 mmol), and AcOH (3.6 g, 59.9 mmol) at 0 °C. The reaction mixture which resulted was stirred at rt overnight. TFA (6.8 g, 59.6 mmol) in dry $CH_2Cl_2$ (75 mL) was then

added at 0 °C. The reaction mixture which resulted was stirred at rt for 4 days and then cooled in an ice bath and brought to pH 8 with an aq solution of $NH_4OH$ (14%). The aq layer was separated and extracted with $CH_2Cl_2$ (3 × 200 mL). The combined organic layers were washed with brine and dried ($K_2CO_3$), and the solvent was removed under reduced pressure. The residue which resulted was purified by flash chromatography (silica gel, EtOAc:hexanes, 1:4) to provide **28** (25 g, 93%) as a white crystalline solid. $[\alpha]_D^{20}$ −41.08 (*c* 2.6, MeOH); $^1$H NMR (600 MHz, $CDCl_3$) $\delta$ 7.92 (s, 1H), 7.38 (d, 2H, *J* = 7.2 Hz), 7.33 (t, 2H, *J* = 7.2 Hz), 7.28 (d, 1H, *J* = 7.8 Hz), 7.24 (d, 1H, *J* = 8.4 Hz), 7.02 (d, 1H, *J* = 2.4 Hz), 6.86 (dd, 1H, *J* = 9.0, 2.4 Hz), 4.33–4.27 (m, 1H), 4.26–4.20 (m, 1H), 4.01 (dd, 1H, *J* = 9.0, 4.8 Hz), 3.90 (s, 3H), 3.88 (d, 2H, *J* = 13.8 Hz), 3.59 (d, 1H, *J* = 13.8 Hz), 3.53 (s, 3H), 3.13 (dd, 1H, *J* = 15.6, 9.6 Hz), 3.02 (dd, 1H, *J* = 15.6, 4.8 Hz), 2.45 (dt, 1H, *J* = 16.8, 7.2 Hz), 2.34 (dt, 1H, *J* = 16.8, 6.6 Hz), 2.11–2.06 (m, 1H), 2.01–1.95 (m, 1H), 1.34 (t, 3H, *J* = 7.2 Hz); $^{13}$C NMR (150 MHz, $CDCl_3$) $\delta$ 174.3 (C), 173.0 (C), 154.1 (C), 139.4 (C), 135.1 (C), 131.3 (C), 129.2 (2 × CH), 128.2 (2 × CH), 127.4 (C), 127.1 (CH), 111.6 (2 × CH), 107.3 (C), 100.4 (CH), 60.8 ($CH_2$), 56.7 (CH), 56.0 ($CH_3$), 54.6 (CH), 53.3 ($CH_2$), 51.5 ($CH_3$), 29.6 ($CH_2$), 29.0 ($CH_2$), 21.1 ($CH_2$), 14.4 ($CH_3$); EIMS (*m/e*, relative intensity) 450 ($M^{\bullet+}$, 59), 418 (26), 377 (51), 363 (100), 327 (50), 285 (22), 227 (13); HRMS (ESI-TOF) *m/z*: $(M + H)^+$ Calcd for $C_{26}H_{31}N_2O_5$ 451.2233, Found 451.2222; Anal. Calcd for $C_{26}H_{30}N_2O_5$: C, 69.31; H, 6.71; N, 6.22. Found: C, 69.87; H, 6.74; N, 6.98.

**(6*S*,10*S*)-Methyl-12-benzyl-9-hydroxy-2-methoxy-6,7,10,11-tetrahydro-5*H*-6,10-epimino-cycloocta[*b*]indole-8-carboxylate (30).** To a solution of the *trans* diester **28** (10 g, 22.1 mmol) in dry toluene (400 mL), which had been predried by azeotropic removal of $H_2O$ by a Dean–Stark Trap (refluxed 6 h) under argon, was added sodium hydride (8.8 g of 60% NaH dispersion in mineral oil, 221.9 mmol) at 0 °C. Dry methanol (18.0 mL, 443.9 mmol) was added carefully to the above mixture dropwise at 0 °C (a large amount of $H_2$ was evolved at this point). The mixture which resulted was allowed to warm to rt for 0.5 h and then heated to reflux for an additional 72 h (Note: The top of the flask was covered with aluminum foil to prevent carbonization of the intermediate lactam **29**.). The reaction mixture was then allowed to cool to rt and quenched with ice cold $H_2O$ (200 mL). The organic layer was separated, and the aq layer was then extracted with $CH_2Cl_2$ (3 × 400 mL). The organic layers were combined, washed with brine, and dried ($Na_2SO_4$). The solvent was removed under reduced pressure, and the mineral oil was separated by decantation. The residue which resulted was purified by flash chromatography (silica gel, EtOAc/hexanes, 1:4) to provide the $N_a$-H, $\beta$-ketoester **30** (7.9 g, 88%) as a yellow colored solid. FTIR ($CHCl_3$) 3398, 2922, 1659, 1621, 1441 cm$^{-1}$; $^1$H NMR (600 MHz, $CDCl_3$) $\delta$ 12.03 (s, 1H), 7.58 (s, 1H), 7.40 (d, 2H, *J* = 7.2 Hz), 7.36 (t, 2H, *J* = 7.8 Hz), 7.32 (d, 1H, *J* = 7.2 Hz), 7.22 (d, 1H, *J* = 8.4 Hz) 6.99 (d, 1H, *J* = 2.4 Hz), 6.85 (dd, 1H, *J* = 9.0, 2.4 Hz), 4.02 (d, 1H, *J* = 5.4 Hz), 3.89 (s, 3H), 3.86 (d, 1H, *J* = 13.2 Hz), 3.81 (d, 1H, *J* = 6.0 Hz), 3.76 (d, 1H, *J* = 13.8 Hz), 3.70 (s, 3H), 3.19 (dd, 1H, *J* = 15.6, 6.0 Hz), 2.91 (d, 1H, *J* = 15.6 Hz), 2.85 (dd, 1H, *J* = 15.6, 5.4 Hz), 2.35 (d, 1H, *J* = 15 Hz); $^{13}$C NMR (150 MHz, $CDCl_3$) $\delta$ 172.6 (C), 171.7 (C). 154.2 (C), 138.3 (C), 134.3 (C), 130.7 (C), 128.8 (2 × CH), 128.5 (2 × CH), 127.5 (C), 127.3 (CH), 111.7 (CH), 111.6 (CH), 106.3 (C), 100.4 (CH), 94.4 (C), 56.0 ($CH_3$), 56.0 ($CH_2$), 55.2 (CH), 51.5 ($CH_3$), 49.8 (CH), 28.9 ($CH_2$), 22.1 ($CH_2$); EIMS (*m/e*, relative intensity) 404 ($M^{\bullet+}$, 62), 372 (28), 289 (100), 199 (66), 156 (45); HRMS (ESI-TOF) *m/z*: $[M + H]^+$ Calcd for $C_{24}H_{25}N_2O_4$ 405.1814, Found 405.1788.

**(6*S*,10*S*)-2-Methoxy-7,8,10,11-tetrahydro-5*H*-6,10-epiminocycloocta[*b*]indol-9(6*H*)-one (32).** To a solution of the $\beta$-ketoester **30** (18 g, 0.045 mol) in 1,4-dioxane (350 mL) was added 33% aq KOH (350 mL). The reaction mixture which resulted was heated to reflux for 48 h. The solution was allowed to cool to rt, and the 1,4-dioxane was removed under reduced pressure. The mixture that remained was extracted with $CH_2Cl_2$ (3 × 20 mL). The organic layer was separated, washed with brine, and dried ($Na_2SO_4$). The solvent was removed under reduced pressure, and the residue was purified by flash chromatography (hexanes:EtOAc, 3:1) to afford the $N_b$-benzyl tetracyclic ketone **31** (12.6 g, 82%) which was taken forward to the next step without subjecting it to any analytical characterization.

To a solution of the tetracyclic ketone **31** (8.94 g, 25.8 mmol) in dry EtOH (50 mL) was added a saturated solution of EtOH/HCl(g) dropwise until the solid completely dissolved. The solvent was removed under reduced pressure to furnish an HCl salt of the $N_b$-benzyl tetracyclic ketone **31**. Then EtOH was added to the salt and removed under reduced pressure. This process was repeated 3 times to remove excess hydrogen chloride. The HCl salt of **31** was degassed under reduced pressure at rt and backfilled with argon (2 times). Dry Pd/C (10% by wt, 1.99 g, 1.54 mmol) was added to the above HCl salt followed by slow addition of dry ethanol (100 mL). The mixture was degassed under reduced pressure at rt and backfilled with argon (2 times) and then with $H_2$. The mixture which resulted was allowed to stir at rt under an atmosphere of hydrogen (1 atm) for 12 h. After analysis by TLC (silica gel plate was exposed to $NH_3$ vapors) indicated the absence of starting material **31**, the catalyst was removed by filtration through Celite, and the solid was washed with EtOH (3 × 15 mL). The organic layers were combined, and the solvent was removed under reduced pressure to give a yellow residue, which was dissolved in a mixture of $CHCl_3$ (200 mL) and ice water, after which the solution was brought to pH 8 by addition of a solution of aq $NH_4OH$ (14%). The aq layer was extracted with $CHCl_3$ (3 × 100 mL). The combined organic layers were washed with brine (200 mL) and dried ($K_2CO_3$). The solvent was removed under reduced pressure to afford the crude product, which was purified by chromatography on silica gel (EtOAc:hexanes, 5:1) to provide the $N_b$-H tetracyclic ketone **32** (6.1 g, 92% yield) as a yellow colored oil. $^1$H NMR (600 MHz, $CDCl_3$) $\delta$ 7.87 (br, 1H), 7.29 (s, 1H), 7.23 (d, 1H, *J* = 9.0 Hz), 6.93 (d, 1H, *J* = 2.4 Hz), 6.86 (dd, 1H, *J* = 9.0, 2.4 Hz), 4.33 (m, 1H), 3.98 (d, 1H, *J* = 6.6 Hz), 3.88 (s, 3H), 3.12 (dd, 1H, *J* = 16.2, 6.6 Hz), 2.82 (d, 1H, *J* = 16.8 Hz), 2.54–2.44 (m, 2H), 2.21–2.14 (m, 2H); $^{13}$C NMR (150 MHz, $CDCl_3$) $\delta$ 211.0 (C), 154.3 (C), 134.9 (C), 130.7 (C), 127.4 (C), 112.0 (CH), 111.6 (CH), 107.5 (C), 100.3 (CH), 59.9 (CH), 55.9 ($CH_3$), 46.3 (CH), 35.2 ($CH_2$), 32.2 ($CH_2$), 26.0 ($CH_2$); HRMS (ESI-TOF) *m/z*: $[M + H]^+$ Calcd for $C_{15}H_{17}N_2O_2$ 257.1290, Found 257.1302.

**(6*S*,10*S*)-12-((*Z*)-2-Iodobut-2-en-1-yl)-2-methoxy-7,8,10,11-tetrahydro-5*H*-6,10-epimino cycloocta[*b*]indol-9(6*H*)-one (33).** To a solution of the $N_a$-H, $N_b$-H tetracyclic ketone **32** (6.0 g, 23.4 mmol) and molecular sieves (5.0 g) in anhydrous acetonitrile (250 mL) under an inert atmosphere was added $K_2CO_3$ (12.9 g, 93.7 mmol) and *Z*-1-bromo-2-iodo-2-butene[46] (7.9 g, 30.4 mmol), and the mixture which resulted was stirred at rt for 8 h. Analysis by TLC (silica gel, $CHCl_3$:EtOH, 4:1) indicated the absence of tetracyclic ketone **32**. The solids were removed by filtration and washed with EtOAc (3 × 100 mL). The combined organic layers were concentrated under reduced pressure to provide a light yellow residue. Purification of the crude product by flash chromatography (silica gel, EtOAc/hexanes, 1:9) provided the $N_b$-*Z*-2′-iodo-2′-butenyl, tetracyclic ketone **33** (7.76 g, 76%) as a yellow colored solid. FTIR ($CHCl_3$) 2929, 1707 cm$^{-1}$; $^1$H NMR (300 MHz, $CDCl_3$) $\delta$ 7.89 (s, 1H), 7.24 (d, 1H, *J* = 8.7 Hz), 6.94 (d, 1H, *J* = 2.3 Hz), 6.86 (dd, 1H, *J* = 8.7, 2.4 Hz), 5.85 (q, 1H, *J* = 6.3 Hz), 4.03 (d, 1H, *J* = 2.6 Hz), 3.88 (s, 3H), 3.72 (d, 1H, *J* = 6.5 Hz), 3.39 (dd, 2H, *J* = 17.5, 13.9 Hz), 3.11 (dd, 1H, *J* = 16.7, 6.6 Hz), 2.69 (d, 1H, *J* = 16.7 Hz), 2.56–2.46 (m, 2H), 2.16–1.99 (m, 2H), 1.82 (d, 3H, *J* = 6.4 Hz); $^{13}$C NMR (75 MHz, $CDCl_3$) $\delta$ 210.2 (C), 154.2 (C), 133.0 (C), 132.7 (CH), 130.8 (C), 127.2 (C), 111.9 (CH), 111.6 (CH), 108.5 (C), 106.7 (C), 100.3 (CH), 64.1 (CH), 63.4 ($CH_2$), 55.9 ($CH_3$), 49.9 (CH), 34.5 ($CH_2$), 30.4 ($CH_2$), 21.7 ($CH_3$), 20.6 ($CH_2$); EIMS (*m/e*, relative intensity) 436 ($M^{\bullet+}$, 52), 408 (6), 379 (100), 309 (10), 281 (23); HRMS (EI-trisector) *m/z*: Calcd for $C_{19}H_{21}IN_2O_2$ 436.0648, Found 436.0663.

**(+)-Lochneram (11).** To a stirred solution of **6** (100 mg, 0.308 mmol) in freshly distilled MeOH (2 mL) at 0 °C was added MeI (2 mL), and the reaction was allowed to warm to rt in the dark (24 h) until disappearance of the starting material **6** (TLC, silica gel). The solvent and excess MeI was removed under reduced pressure to provide the crude $N_b$-methiodide salt. The solvent was removed under reduced pressure, and the residue passed through a short column of

activated neutral alumina using $CHCl_3$/MeOH (16:1) as eluant to provide (+)-lochneram (**11**, 122 mg) in 85% yield as a clear oil. $^1$H NMR (600 MHz, $CD_3OD$) δ 7.31 (d, 1H, *J* = 9.0 Hz), 7.04 (br, s, 1H), 6.87 (d, 1H, *J* = 8.4 Hz), 5.68 (q, 1H, *J* = 6.6 Hz), 4.91 (1H, peak is embedded in $CD_3OD$ peak), 4.46 (d, 1H, *J* = 15.6 Hz), 4.25 (d, 1H, *J* = 15.6 Hz), 3.85 (s, 3H), 3.58 (d, 3H, *J* = 7.8 Hz), 3.31 (d, 1H, *J* = 4.8 Hz, part of the peak is embedded in $CD_3OD$ peak), 3.15−3.10 (m, 5H), 2.55 (t, 1H, *J* = 12.0 Hz), 2.21−2.17 (m, 2H), 1.74 (d, 3H, *J* = 6.6 Hz); $^{13}$C NMR (150 MHz) δ 154.5 (C), 132.4 (C), 131.7 (C), 127.7 (C), 126.5 (C), 120.7 (CH), 112.6 (CH), 112.0 (CH), 100.3 (C), 99.8 (CH), 65.4 (CH), 64.4 ($CH_2$), 62.4 (CH), 61.0 ($CH_2$), 54.8 ($CH_3$), 46.7 ($CH_3$), 43.6 (CH), 32.0 ($CH_2$), 26.0 (CH), 23.9 ($CH_2$), 11.6 ($CH_3$); HRMS (ESI-TOF) *m*/*z*: Calcd for $C_{21}H_{27}N_2O_2$ $(M)^+$ 339.2073; Found 339.2057. The spectral data for **11** were identical to those reported in the literature.[1a,22]

**Lochvinerine (9).** A mixture of anhydrous potassium *tert*-butoxide (313 mg, 0.279 mmol) and methyl-triphenylphosphonium bromide (911 mg, 0.25 mmol) in dry benzene (14 mL) was allowed to stir at rt for 1 h. The pentacyclic ketone **16** (124 mg, 0.40 mmol) in THF (5 mL) was then added into the above orange-colored solution dropwise at rt. The mixture which resulted was stirred at rt for 4 h. The mixture was diluted with EtOAc (50 mL), washed with $H_2O$ (3 × 10 mL) as well as brine (25 mL), and dried ($K_2CO_3$). The solvent was removed under reduced pressure, and the oil that resulted was chromatographed (silica gel, $CHCl_3$/MeOH; 15:1) to provide the olefin **34** (111 mg, 92%). $^1$H NMR (300 MHz, $CDCl_3$) δ 7.81 (s, 1H), 7.18 (d, 1H, *J* = 8.7 Hz), 6.95 (d, 1H, *J* = 2.4 Hz), 6.79 (dd, 1H, *J* = 8.7, 2.5 Hz), 5.27 (q, 1H, *J* = 6.7 Hz), 4.86−4.84 (m, 2H), 4.15 (dd, 1H, *J* = 9.8, 2.2 Hz), 3.87−3.85 (s, 4H), 3.70 (br, s, 2H), 3.31 (d, 1H, *J* = 2.5 Hz), 3.13 (dd, 1H, *J* = 15.3, 5.4 Hz), 2.96 (dd, 1H, *J* = 15.3, 1.5 Hz), 2.14 (ddd, 1H, *J* = 12.0, 10.1, 1.7 Hz), 1.93−1.85 (m, 1H), 1.66 (d, 3H, *J* = 6.8 Hz); $^{13}$C NMR (75 MHz, $CDCl_3$) δ 153.9 (C), 152.8 (C), 138.6 (C), 137.6 (C), 131.3 (C), 127.9 (C), 114.6 (CH), 111.4 (CH), 110.9 (CH), 105.1 ($CH_2$), 104.7 (C), 100.5 (CH), 56.6 (CH), 55.9 ($CH_2$), 55.9 ($CH_3$), 50.5 (CH), 36.7 (CH), 36.3 ($CH_2$), 26.3 ($CH_2$), 12.3 ($CH_3$); EIMS (*m*/*e*, relative intensity) 306 ($M^{\bullet+}$, 100), 291 (16), 265 (12), 251 (10), 198 (40), 183 (16), 156 (10), 77 (10). This material was employed directly in the next step without any further characterization.

To a solution of olefin **34** (124 mg, 0.40 mmol) in THF (12 mL) was added 9-BBN (0.5 M in THF, 5 mL, 2.43 mmol) dropwise at 0 °C. The solution was allowed to warm to rt and stirred for 1.5 h. The reaction mixture was then cooled to 0 °C, $NaBO_3{\cdot}4H_2O$ (1.1 g, 7.28 mmol) was added, and the reaction temperature was allowed to warm to rt. The mixture that resulted was stirred for 2 h at rt, diluted with $CH_2Cl_2$ (200 mL), washed with $H_2O$ (3 × 50 mL) as well as brine (100 mL), and dried ($K_2CO_3$). The solvent was removed under reduced pressure, and the residue was chromatographed (silica gel, $CHCl_3$/MeOH; 9:1) to provide lochvinerine **9** (98 mg, 75%) as a clear oil. $^1$H NMR (300 MHz, $CDCl_3$) 10.2 (br, s, 1H), 7.30 (d, 1H, part of the peak is embedded in $CDCl_3$ peak), 6.87 (d, 1H, *J* = 2.2 Hz), 6.80 (dd, 1H, *J* = 8.8, 2.3 Hz), 5.16 (q, 1H, *J* = 6.8 Hz), 4.43 (d, 1H, *J* = 5.8 Hz), 3.88−3.84 (m, 4H), 3.71 (d, 1H, *J* = 17.6 Hz), 3.52 (dd, 1H, $J_2$ = 7.2 Hz, part of the peak is embedded in MeOH peak), 3.50 (1H is embedded in MeOH peak), 3.11 (d, 1H, *J* = 16.6 Hz), 3.36−3.24 (m, 2H), 2.93 (br, s, 1H), 2.35−2.33 (m, 1H), 2.19 (s, 1H), 2.03−1.95 (m, 2H), 1.63 (d, 3H, *J* = 6.5 Hz); $^{13}$C NMR (75 MHz, $CDCl_3$) δ 154.0 (C), 140−132 (2 quaternary carbons not observed), 131.7 (C), 125.7 (C), 117.3 (CH), 112.5 (CH), 111.9 (CH), 104.2 (C), 100.2 (CH), 60.3 ($CH_2$), 55.7 ($CH_3$), 54.9 ($CH_2$), 53.9 (CH), 50.6 (CH), 40.9 (CH), 26.5 ($CH_2$), 25.7 (CH), 21.4 ($CH_2$), 12.7 ($CH_3$); HRMS (ESI-TOF) *m*/*z*: $(M + H)^+$ Calcd for $C_{20}H_{25}N_2O_2$ 325.1916; Found 325.1920. The spectral data for **9** were identical to those reported in the literature.[21]

**(1*S*,3*R*)-Ethyl-2-benzyl-5-iodo-6-methoxy-1-(3-methoxy-3-oxopropyl)-9-methyl-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate (36a).** Procedure with NIS: To a solution of indole **35** (100 mg, 0.22 mmol) in acetonitrile (8 mL), cooled to 0 °C, TFA (24.7 μL, 0.32 mmol) was added dropwise and this was followed by NIS (34 mg, 0.26 mmol). The reaction mixture was stirred at 0 °C for 30 min and then allowed to warm to rt (16 h). The reaction mixture was diluted with ethyl acetate (13 mL), cooled in an ice bath and adjusted to pH 8 with cold aqueous $NH_4OH$ solution (10%). The organic layer was separated, washed with brine (3 × 10 mL), dried ($Na_2SO_4$) and concentrated under reduced pressure to give a yellow color oil. Column chromatography (silica gel, ethyl acetate/hexanes; 1 : 4) provided the 9-iodoindole **36a** (89 mg, 70%) and the C-11 iodo regioisomer **36b** (13 mg, 10%). Procedure with IBX: To a solution of **35** (750 mg, 1.61 mol) in acetonitrile (20.7 mL), cooled to 0 °C, was added dropwise TFA (2.3 mL), followed by IBX (226 mg, 0.807 mol), and $I_2$ (497 mg, 1.77 mol). The reaction mixture was stirred at 0 °C for 30 min and then allowed to warm to rt (8 h). The reaction mixture was diluted with ethyl acetate (30 mL), cooled in an ice bath, and adjusted to pH 8 with a solution of cold aq $NH_4OH$ (10%), followed by treatment with a saturated aq solution of $Na_2S_2O_3$ (35 mL) to remove excess iodine. The organic layer was separated, washed with brine (3 × 10 mL), dried ($Na_2SO_4$), and concentrated under reduced pressure to give a reddish brown oil. Flash column chromatography (silica gel, ethyl acetate/hexanes; 2:8) provided **36a** (780 mg, 82%) as a white crystalline solid and the regioisomer **36b** (76 mg, 8%) as a light yellow colored oil.

***36a*.** $^1$H NMR (300 MHz, $CDCl_3$) δ 7.38−7.34 (m, 3H), 7.32 (br,s, 1H), 7.30−7.28 (m, 1H), 7.22 (d, 1H, *J* = 8.7 Hz), 6.90 (d, 1H, *J* = 8.7 Hz), 4.40−4.23 (m, 2H), 4.02 (dd, 1H, *J* = 11.2, 4.8 Hz), 3.94 (s, 3H), 3.89 (d, 1H, *J* = 13.4 Hz), 3.80 (dd, 1H, *J* = 10.6, 3.1 Hz), 3.74−3.63 (m, 4H), 3.49−3.44 (m, 4H), 3.38 (d, 1H, *J* = 13.2 Hz), 2.65 (ddd, 1H, *J* = 17.5, 9.5, 5.4 Hz), 2.40 (dt, 1H, *J* = 17.5, 5.3 Hz), 2.06−1.95 (m, 1H), 1.93−1.81 (m, 1H), 1.39 (t, 3H, *J* = 7.1 Hz); $^{13}$C NMR (75 MHz, $CDCl_3$) δ 173.8 (C), 172.7 (C), 152.3 (C), 139.2 (C), 137.8 (C), 133.9 (C), 129.2 (2 × CH), 128.9 (C), 128.1 (2 × CH), 126.9 (CH), 109.2 (CH), 107.9 (CH), 107.7 (C), 60.8 ($CH_2$), 58.3 ($CH_3$), 55.8 (CH), 53.3 (CH), 52.6 ($CH_2$), 51.2 ($CH_3$), 29.8 ($CH_3$), 29.6 ($CH_2$), 29.3 ($CH_2$), 22.2 ($CH_2$), 14.3 ($CH_3$) (One of the quaternary carbon atoms is embedded in the above carbons.); EIMS (*m*/*e*, relative intensity) 590 ($M^{\bullet+}$, 14), 517 (55), 503 (100), 377 (20), 339 (22), 303 (14); HRMS (ESI-TOF) *m*/*z*: $[M + H]^+$ Calcd for $C_{27}H_{32}IN_2O_5$ 591.1356, Found 591.1332.

The structure was confirmed by X-ray analysis (see SI).

***36b*.** EIMS (*m*/*e*, relative intensity) 590 ($M^{\bullet+}$, 14), 517 (55), 503 (100), 377 (20), 339 (22), 303 (14); HRMS (ESI-TOF) *m*/*z*: $(M + H)^+$ Calcd for $C_{27}H_{32}IN_2O_5$ 591.1356, Found 591.1254. The identity of the regioisomer **36b** was confirmed by comparison of the crude $^1$H NMR with **36a**. HRMS was also performed on the same sample. No further characterization was carried out.

**(1*S*,3*R*)-Ethyl-2-benzyl-5-bromo-6-methoxy-1-(3-methoxy-3-oxopropyl)-9-methyl-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate (37a).** To a solution of indole 35 (500 mg, 1.07 mol) in acetonitrile (40 mL), cooled to 0 °C, was added dropwise TFA (0.12 mL, 1.61 mol), and this was followed by NBS (229 mg, 1.29 mol). The reaction mixture was stirred at 0 °C for 30 min and then allowed to warm to rt (16 h). The reaction mixture was diluted with ethyl acetate (30 mL), cooled in an ice bath, and adjusted to pH 8 with cold aq $NH_4OH$ solution (10%). The organic layer was separated, washed with brine (3 × 10 mL), dried ($Na_2SO_4$) and concentrated under reduced pressure to give a reddish brown oil. Column chromatography (silica gel, ethyl acetate/hexanes; 1:4) provided the 9-bromoindole **37a** (380 mg, 65%) and the regioisomer **37b** (68 mg, 13%).

***37a*.** $^1$H NMR (300 MHz, $CDCl_3$) δ 7.40−7.24 (m, 5H), 7.19 (d, 1H, *J* = 8.7 Hz), 6.94 (d, 1H, *J* = 8.8), 4.41−4.22 (m, 2H), 4.02 (dd, 1H, *J* = 11.2, 4.9 Hz), 3.95 (s, 3H), 3.89 (d, 1H, *J* = 13.2 Hz), 3.79 (dd, 1H, *J* = 10.8, 3.1 Hz), 3.62 (s, 3H), 3.57 (d, 1H, *J* = 4.9 Hz), 3.48−3.36 (m, 5H), 2.64 (ddd, 1H, *J* = 17.4, 9.5, 5.3 Hz), 2.40 (dt, 1H, *J* = 17.5, 5.3 Hz), 2.06−1.95 (m, 1H), 1.93−1.80 (m, 1H), 1.39 (t, 3H, *J* = 7.1 Hz); $^{13}$C NMR (75 MHz, $CDCl_3$) δ 173.8 (C), 172.7 (C), 150.0 (C), 139.2 (C), 137.7 (C), 134.0 (C), 129.2 (2 × CH), 128.1 (2 × CH), 126.9 (CH), 126.3 (C), 108.9 (CH), 108.1 (CH), 107.0 (C), 103.0 (C), 60.8 ($CH_2$), 58.2 ($CH_3$), 56.0 (CH), 53.2 (CH), 52.6 ($CH_2$), 51.2 ($CH_3$), 29.8 ($CH_3$), 29.3 ($CH_2$), 27.7 ($CH_2$), 22.1 ($CH_2$), 14.3 ($CH_3$); EIMS (*m*/*e*, relative intensity) 544 ($M^{\bullet+}$, 5), 542 ($M^{\bullet+}$, 5), 471

(14), 469 (17), 457 (99), 455 (100), 377 (36); HRMS (ESI-TOF) *m*/*z*: $(M + H)^+$ Calcd for $C_{27}H_{32}BrN_2O_5$ 543.1488, Found 543.1503.

***37b***. The identity of the regioisomer **37b** was confirmed by comparison of the crude $^1H$ NMR to that of **36b**. No further characterization was carried out.

**(1*S*,3*R*)-Ethyl-2-benzyl-6-methoxy-1-(3-methoxy-3-oxopropyl)-9-methyl-5-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-2,3,4,9-tetrahydro-1*H*-pyrido[3,4-*b*]indole-3-carboxylate (39) [Entry 8, Table 2]**. General procedure for entries 1−7 is the same as described below.

To a resealable Schlenk tube possessing a Teflon screw valve were added **36a** (118 mg, 0.2 mmol), $Pd(OAc)_2$ (2.2 mg, 0.01 mmol), and 2-(dicyclohexylphosphanyl)biphenyl (DCPB, 14 mg, 0.04 mmol). The Schlenk tube was capped with a rubber septum and then evacuated and backfilled with argon (this sequence was carried out a total of three times). Freshly degassed 1,4-dioxane (2.5 mL) was added via a syringe through the septum, followed by the addition of dry $Et_3N$ (0.11 mL, 80 mg, 0.80 mmol) and pinacol borane (0.09 mL, 77 mg, 0.6 mmol). The septum was then replaced with a Teflon screw valve under a positive argon pressure, and the Schlenk tube was sealed. The reaction mixture was heated to 100 °C and stirred at that temperature for 3 h. At the end of this period the reaction mixture was cooled to rt, diluted with EtOAc (10 mL), and passed through a short pad of Celite. The Celite pad was further washed with EtOAc (20 mL), and the combined filtrates were washed with water (20 mL) and brine (20 mL). The organic extracts were dried ($Na_2SO_4$) and concentrated under reduced pressure. The crude residue thus obtained was purified by flash chromatography on a silica gel column, eluted with 4:1 hexanes/EtOAc to afford **39** as a white solid (110 mg, 93%). mp: 182.6−183.8 °C; $^1H$ NMR (300 MHz, $CDCl_3$) $\delta$ 7.39 (d, 2H, $J = 6.6$ Hz), 7.32 (d, 2H, $J = 6.6$ Hz), 7.26 (m, 2H), 6.89 (d, 1H, $J = 8.7$ Hz), 4.29 (m, 2H), 4.06 (dd, 1H, $J = 10.5, 6.0$ Hz), 3.88 (s, 3H), 3.81 (d, 1H, $J = 13.2$ Hz), 3.75 (dd, 1H, $J = 10.8, 3.0$ Hz), 3.60 (s, 3H), 3.49 (s, 3H), 3.40 (d, 1H, $J = 13.2$ Hz), 3.15 (m, 2H), 2.62 (m, 1H), 2.42 (m, 1H), 1.97 (m, 1H), 1.84 (m, 1H), 1.49 (s, 12H), 1.37 (t, 3H, $J = 7.2$ Hz); $^{13}C$ NMR (75 MHz, $CDCl_3$) $\delta$ 173.9 (C), 172.9 (C), 157.8 (C), 139.4 (2 × C), 136.8 (C), 133.1 (C), 129.5 (C), 129.3 (2 × CH), 128.0 (2 × CH), 126.8 (CH), 110.4 (CH), 107.8 (CH), 106.5 (C), 83.9 (2 × C), 60.7 ($CH_2$), 58.3 ($CH_3$), 56.3 (CH), 53.2 (CH), 52.7 ($CH_2$), 51.2 ($CH_3$), 29.6 ($CH_2$), 29.6 ($CH_3$), 27.9 ($CH_2$), 25.1 (4 × $CH_3$), 21.8 ($CH_2$), 14.3 ($CH_3$); HRMS (ESI-TOF) *m*/*z*: $(M + H)^+$ Calcd for $C_{33}H_{44}BN_2O_7$ 591.3236, Found 591.3265; Anal. Calcd for $C_{33}H_{43}BN_2O_7$: C, 67.12; H, 7.34; N, 4.74. Found: C, 66.91; H, 7.53; N, 4.60.

**(1*R*,1′*R*,3*S*,3′*S*)-Diethyl-2,2′-dibenzyl-6,6′-dimethoxy-1,1′-bis(3-methoxy-3-oxopropyl)-9,9′-dimethyl-2,2′,3,3′,4,4′,9,9′-octahydro-1*H*,1′*H*-[5,5′-bipyrido[3,4-*b*]indole]-3,3′-dicarboxylate (38a) and Its Atropodiastereomer (1*S*,1′*S*,3*R*,3′*R*)-Diethyl 2,2′-dibenzyl-6,6′-dimethoxy-1,1′-bis(3-methoxy-3-oxopropyl)-9,9′-dimethyl-2,2′,3,3′,4,4′,9,9′-octahydro-1*H*,1′*H*-[5,5′-bipyrido[3,4-*b*]indole]-3,3′-dicarboxylate (38b) [Entry 9, Table 3]**. General procedure for entries 1−8 is the same as described below.

To a resealable Schlenk tube possessing a Teflon screw valve were added **36a** (11.8 mg, 0.02 mmol), **39** (17.6 mg, 0.03 mmol), $Pd(OAc)_2$ (0.44 mg, 0.002 mmol), S-Phos (1.6 mg, 0.004 mmol), and $K_3PO_4$ (8.4 mg, 0.04 mmol). The Schlenk tube was capped with a rubber septum and then evacuated and backfilled with argon (this sequence was carried out a total of three times). Freshly degassed THF (1 mL) and water (0.1 mL) were added via syringe through the septum. The septum was then replaced with a Teflon screw valve under a positive argon pressure, and the Schlenk tube was sealed. The reaction mixture was heated to 50 °C and stirred at that temperature for 48 h. At the end of this period, the reaction mixture was cooled to rt and was passed through a short pad of Celite. The Celite pad was further washed with EtOAc (10 mL), and the combined filtrate was washed with water (5 mL) and brine (5 mL). The organic extracts were dried ($Na_2SO_4$) and concentrated under reduced pressure. The crude residue thus obtained was purified by flash chromatography on a silica gel column, eluted with 1:1 hexanes/EtOAc to afford **38a** as an off-white solid (6.8 mg, 38%), **38b** (3.3 mg, 19%) as a light yellow solid, and recovered **35** (20%).

The $^1H$ NMR spectras for **38a** and **38b** were identical to that reported in the communication.[27b]

### Oxidative Dehydrodimerization of the Model Substrate 35.

*Entry 1.* To a stirred solution of the $\beta$-carboline **35** (150 mg, 0.32 mmol) in dry $CH_2Cl_2$ (25 mL) at 0 °C was added solid PIFA (84 mg, 0.194 mmol) and boron trifluoride diethyl etherate dropwise (114.5 mg, 0.807 mmol), after which the reaction mixture was allowed to warm to rt and stirred for 2 h. Analysis of the reaction mixture by TLC [silica gel, $CHCl_3$/MeOH (v/v, 9:1)] indicated the presence of the starting material **35**, and atropodiastereomers **38a** and **38b**, with a considerable amount of colored impurities formed at the baseline. No further purification for the separation of the diastereomers was attempted.

*Entry 2.* To a stirred solution of the $\beta$-carboline **35** (100 mg, 0.215 mmol) in dry $CH_2Cl_2$ (2.0 mL) at 0 °C was added solid PIFA (95 mg, 0.219 mmol) and boron trifluoride diethyl etherate dropwise (122.2 mg, 0.861 mmol), after which the reaction mixture was allowed to warm to rt and stirred for 8 h. Analysis of the reaction mixture by TLC [silica gel, $CHCl_3$/MeOH (v/v, 9:1)] indicated complete conversion of the starting material **35**. The reaction mixture was diluted $CH_2Cl_2$ (25 mL) and cooled to 0 °C, after which it was brought to pH = 8 with a cold aq solution of saturated $NaHCO_3$. The aq layer which resulted was extracted with $CH_2Cl_2$ (3 × 15 mL), and the combined organic layers were washed with a saturated aq solution of $NaHSO_3$ (2 × 15 mL) and dried ($Na_2SO_4$). The solvent was removed under reduced pressure to afford a dark oil. The crude diastereomeric mixture was purified by flash chromatography on silica gel (hexanes/ethyl acetate) to provide a combined yield of **38a** + **38b**: 21 mg (11%), with a diastereomeric ratio of 3:2 in favor of **38a**.

*Entry 3.* To a stirred solution of the $\beta$-carboline **35** (100 mg, 0.215 mmol) in dry $CH_2Cl_2$ (2.0 mL) at −40 °C was added solid PIFA (95 mg, 0.219 mmol) and boron trifluoride diethyl etherate (122.2 mg, 0.861 mmol) dropwise, after which the reaction mixture was allowed to warm to rt and stirred for 1.5 h. Analysis of the reaction mixture by TLC [silica gel, $CHCl_3$/MeOH (v/v, 9:1)] indicated complete conversion of the starting material **35**. Fewer baseline impurities were observed as a result of lowering the reaction temperature in this case. The workup and purification procedure were the same as entry 2: combined yield of **38a** + **38b**: 39 mg (20%) with a diastereomeric ratio of 3:2 in favor of **38a**.

*Entry 4.* To a stirred solution of the $\beta$-carboline **35** (55 mg, 0.118 mmol) in dry $CH_2Cl_2$ (1.0 mL) under an inert atmosphere at −40 °C was added a solution of PIFA (40 mg, 0.094 mmol) and boron trifluoride diethyl etherate (50.41 mg, 0.355 mmol) in $CH_2Cl_2$ (2.0 mL), which had been precooled to −40 °C via a double ended needle transfer. The reaction mixture which resulted was stirred at −40 °C for 0.5 h. Analysis of the reaction mixture by TLC [silica gel, $CHCl_3$/MeOH (v/v, 9:1)] indicated complete conversion of the starting material **35** and a much cleaner reaction. The workup and purification procedure were the same as entry 2: combined yield of **38a** + **38b**: 33 mg (30%) with a diastereomeric ratio of 4:1 in favor of **38a** via analysis of the integration values of the $^1H$ NMR spectrum.

*Entry 5.* To a stirred solution of the $\beta$-carboline **35** (63 mg, 0.135 mmol) in dry $CH_2Cl_2$ (1.0 mL) under an inert atmosphere at −78 °C was added a solution of PIFA (47 mg, 0.108 mmol) and boron trifluoride diethyl etherate (57.5 mg, 0.405 mmol) in $CH_2Cl_2$ (2.0 mL) precooled to −78 °C via a double ended transfer needle. The reaction mixture which resulted was stirred at −78 °C for 0.5 h. Analysis of the reaction mixture by TLC [silica gel, $CHCl_3$/ MeOH (v/v, 9:1)] indicated the presence of unreacted starting material **35** along with the diastereomers **38a** and **38b**. The workup and purification procedure were the same as entry 2: combined yield of **38a** + **38b**: 31.4 mg (25%, based on recovered starting material) with a diastereomeric ratio of 4:1 in favor of **38a**.

*Entry 6.* To a stirred solution of the $\beta$-carboline **35** (50 mg, 0.107 mmol) in dry $CH_2Cl_2$ (1.0 mL) under an inert atmosphere at −40 °C was added a solution of PIDA (27.7 mg, 0.086 mmol) and boron trifluoride diethyl etherate (45.8 mg, 0.322 mmol) in $CH_2Cl_2$ (2.0 mL) precooled to −40 °C via a double ended transfer needle. The reaction mixture which resulted was stirred at −40 °C for 2.5 h. Analysis of the

reaction mixture by TLC [silica gel, $CHCl_3$/ MeOH (v/v, 9:1)] indicated very little formation of the diastereomers **38a** and **38b** with a considerable amount of starting material **35** remaining. The workup and purification procedure were the same as entry 2. No further purification for the separation of the diastereomers (**38a** and **38b**) was attempted.

*Entry 7.* To a stirred solution of the $\beta$-carboline **35** (50 mg, 0.107 mmol) in dry MeCN (2.0 mL) under an inert atmosphere at rt was added solid thallium(III) trifluoroacetate (46.7 mg, 0.086 mmol) and boron trifluoride diethyl etherate (45.8 mg, 0.322 mmol) dropwise, and the solution which resulted was allowed to stir at rt for 15 min. Analysis of the reaction mixture by TLC [silica gel, $CHCl_3$/MeOH (v/v, 9:1)] indicated the absence of starting material **35** and formation of traces of atropdiastereomers **38a** and **38b**. No further purification for the separation of the diastereomers was attempted.

**Note: Thallium compounds are toxic. Do not breathe, ingest, or get on skin: Use Caution.**

*Entry 8.* To a stirred solution of the $\beta$-carboline **35** (50 mg, 0.108 mmol) in dry acetonitrile (2.0 mL) under an inert atmosphere at −40 °C was added a solution of thallium(III) trifluoroacetate (46.7 mg, 0.086 mmol) and boron trifluoride diethyl etherate dropwise (45.8 mg, 0.322 mmol) in MeCN (2.0 mL), which was precooled to −40 °C, via a double ended transfer needle. The reaction mixture which resulted was stirred at −40 °C for 20 min. Analysis of the reaction mixture by TLC [silica gel, $CHCl_3$/MeOH (v/v, 9:1)] indicated a cleaner reaction had occurred with complete conversion of the starting material **35** and formation of the two atropodiastereomers (**38a** and **38b**). The cold reaction mixture was diluted with $CH_2Cl_2$ (25 mL), and the solvent was removed under reduced pressure to give a brown residue. The residue was dissolved in fresh $CH_2Cl_2$ (25 mL) and cooled to 0 °C after which it was brought to pH = 8 with a cold aq solution of saturated $NaHCO_3$. The aq layer which resulted was extracted with $CH_2Cl_2$ (3 × 15 mL), and the combined organic layers were washed with brine (2 × 15 mL) and dried ($Na_2SO_4$). The solvent was removed under reduced pressure to afford a dark brown oil. The crude diastereomeric mixture was purified by flash chromatography on silica gel (hexanes/ethyl acetate) to provide a combined yield of **38a** + **38b**: 37.9 mg (38%) with a diastereomeric ratio of 2:3 in favor of **38b**.

*Entry 9.* To a stirred solution of the $\beta$-carboline **35** (50 mg, 0.108 mmol) in dry acetonitrile (2.0 mL) under an inert atmosphere at −78 °C was added a solution of thallium(III) trifluoroacetate (29.2 mg, 0.054 mmol) and boron trifluoride diethyl etherate (38.2 mg. 0.269 mmol) in MeCN (2.0 mL) precooled to −78 °C via a double ended transfer needle. The reaction mixture which resulted was stirred at −78 °C for 40 min. Analysis of the reaction mixture by TLC [silica gel, $CHCl_3$/MeOH (v/v, 9:1)] indicated formation of the two atropdiastereomers (**38a** and **38b**), and complete conversion of the starting material **35** with a considerable amount of impurities formed at the baseline. The workup and purification procedure were the same as entry **8**: combined yield of **38a** + **38b**: 29.9 mg (30%) with a diastereomeric ratio of 3:7 in favor of **38b**.

*Entry 10.* To a stirred solution of the $\beta$-carboline **35** (200 mg, 0.430 mmol) in dry acetonitrile (10 mL) under an inert atmosphere at −40 °C was added a solution of thallium(III) acetate (115.0 mg, 0.301 mmol) and boron trifluoride diethyl etherate (183.0 mg, 1.29 mmol) in MeCN (10 mL) precooled to −40 °C via a double ended transfer needle. The reaction mixture which resulted was stirred at −40 °C for 1.25 h. Analysis of the reaction mixture by TLC [silica gel, $CHCl_3$/ MeOH (v/v, 9:1)] indicated the presence of starting material **37** and formation of the two atropdiastereomers (**38a** and **38b**). The workup and purification procedure were the same as entry **8**: combined yield of **38a** + **38b**: 227 mg (67%) with a diastereomeric ratio of 3:7 in favor of **38b**; recovered starting material **35** (28 mg, 14%). Recrystallization of **38b** from ethanol gave light brown crystals. X-ray analysis of **38b** established the axial chirality (at the C9−C9′) as *P*(*S*).

## ■ ASSOCIATED CONTENT

### Ⓢ Supporting Information

ORTEP drawings for compounds **16** and **36a**, $^1H$ and $^{13}C$ NMR spectra for all new compounds **9**, **11**, **21a/b**, **27**, **28**, **30**−**34**, **36a/b**, **37a**, **39** and X-ray data for compounds **16** and **36a** in CIF format. This material is available free of charge via the Internet at http://pubs.acs.org.

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### Notes

The authors declare no competing financial interest.

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Paper Dedicated to Dr. Alfred Bader
for his years of service to the organic
chemistry community worldwide, for his
friendship, support and interest in Chemistry
at UW-Milwaukee

Jim
Jim Cook

To: Dr. Alfred Bader and Isabella
2505 East Bradford Ave
Appt 2201
Milwaukee, WI.
53211

414-962-5169

Thanks!

UNIVERSITY of WISCONSIN
**UWMILWAUKEE**

**Date** 7-16-15 **To**

For Your **Approval** ☐

For Your **Action** ☐

For Your **Information** ☐

Investigate **Report Back** ☐

Prepare **Reply** ☐

Note & **File** ☐

Note & **Return** ☐

See Me **Concerning** ☐

Hi Ann -

I hope you are well! Thank you for all your help with the Sullivan-Spaights Scholarship. I'm so pleased we can provide this good news to Isabel and Alfred!

Take care -

Gretchen

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July 16, 2015

Drs. Isabel and Alfred Bader
Alfred Bader Fine Arts Gallery
924 E. Juneau, Suite 622
Milwaukee WI 53202

***Re: Sullivan Spaights Scholars at UWM***

Dear Isabel and Alfred,

It is my pleasure to share good news of your Sullivan Spaights Scholars at UWM. As you will see from the attached spreadsheet, all of your scholars had a very successful conclusion to the 2014-15 academic year.

You have made it possible for two students to become college graduates! Keji Kujjo and Norma Reyes both received their degrees in May. All of your continuing students achieved the academic credentials necessary to renew their scholarships in 2015-16. Three scholars were named to the Dean's List.

Please note that one of your students, Shayla Jackson, has received the scholarship for eight consecutive semesters, and under the terms of our scholarship agreement with you, she is no longer eligible for additional support. We will encourage her to seek other scholarship assistance so that she is able to graduate as planned in December 2015.

Godson Mollel, for whom you authorized a partial scholarship this year, continues to demonstrate success in completing his architecture classes. He anticipates graduation in December 2015, and will receive his final partial scholarship ($2,000) next fall.

Your last gift of $96,000, made in October 2014, permits UWM to continue offering your scholarship in 2015-16. We are in the process of selecting four new outstanding graduates of the Milwaukee Public Schools to begin your program. As in the past, we hope to be able to offer these students the hope for a renewable scholarship. We know that renewable scholarships provide strong financial and psychological incentives to succeed.

All of us at UWM welcome your guidance about whether UWM's requests for funding for the Sullivan Spaights Scholars, for 2016-17 and beyond, should be directed to you personally, or to Bader Philanthropies. We are so very grateful for all your years of loyal support for this group of student leaders, and we want to be sensitive to your wishes about how your future philanthropy will be managed.

Thank you again for everything you have done for UWM!

With all best wishes,

Gretchen Miller

Gretchen Miller
Director, Gift Planning & Agreements

I hope you are enjoying a wonderful summer! Thank you!

Enclosure
Cc: Daniel Bader, President and CEO, Bader Philanthropies
Mark Mone, Chancellor
Patricia A. Borger, J.D., Vice Chancellor for Development & Alumni Relations

## UWM Sullivan Spaights Scholars 2014-2015 and 2015-16

*Progress Report for Drs. Isabel and Alfred Bader*
*July 2015*

| ***Name*** | ***Ethnicity*** | ***2015-16 Year*** | ***Major*** | ***2014-15 Cum GPA*** | ***2015-16 Scholarship Amount*** | ***Additional Notes*** |
|---|---|---|---|---|---|---|
| Keji Kujjo | African-American | **GRADUATED** | Education | 3.767 | none | |
| Norma Reyes | Hispanic | **GRADUATED** | Crim Justice/Psych | 3.623 | none | |
| Shayla Jackson | African-American | Senior | Education | 3.469 | none | ***Received scholarship for 8 terms***<br>***Expected graduation Dec 2015*** |
| Pahoua Vang | Hmong | Senior | Chemistry | 3.31 | $8,000 | |
| Robert Larry | African-American | Senior | Music/Jazz Studies | 3.438 | $8,000 | |
| Sergio Moran | Hispanic | Senior | Bio Sci/Psychology | 3.925 | $8,000 | ***Dean's List*** |
| Alma Navarro Suarez | Mexican | Senior | Psychology | 3.366 | $8,000 | ***Dean's List*** |
| Christina Broughton | African-American | Junior | Nursing | 3.78 | $8,000 | |
| Giselle Irankunda | African-American | Junior | Civil Engineering | 3.521 | $8,000 | ***Dean's List*** |
| Brianna Jackson | African-American | Junior | Biomedical Sci | 3.559 | $8,000 | |
| Pally Lor | Hmong | Sophomore | Biology | 3.301 | $8,000 | |
| To be named | | | | | $8,000 | ***New Recipient*** |
| To be named | | | | | $8,000 | ***New Recipient*** |
| To be named | | | | | $8,000 | ***New Recipient*** |
| To be named | | | | | $8,000 | ***New Recipient*** |
| | | | | Total | $96,000 | |
| *Godson Mollel* | *African-American* | *Senior* | *Architecture* | *2.889* | *$2,000* | ***Partial Scholarship***<br>*Expected Graduation Dec 2015* |

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February 6, 2017

Drs. Isabel L. and Alfred R. Bader
c/o Alfred Bader Fine Arts
924 E. Juneau Ave., Unit 622
Milwaukee, WI 53202-6827

***Re: Sullivan Spaights Scholars at UWM***

Dear Isabel and Alfred,

Happy New Year 2017! I hope this finds you both in good health. It is my pleasure to share a mid-year update on your Sullivan Spaights scholars at UW-Milwaukee.

Collectively, the Sullivan Spaights scholars earned an average Fall Term GPA of 3.405, and the group's average cumulative GPA is now 3.535. We are grateful for your continued support, both financial and emotional, which inspires these students and motivates them to be their best - in the classroom and in the community.

## The Renewing Scholars

***Christiana Broughton*** has maintained an impressive 3.688 cumulative GPA in Nursing in this, her final year of undergraduate studies. From Rufus King High School through UWM, Christiana has been motivated to serve her community, and she looks forward to her future working as a nurse in Milwaukee.

***Giselle Irankunda*** continues toward the successful completion of her undergraduate degrees in Civil Engineering and in French. She maintains a 3.405 cumulative GPA and is on track to fulfill her dream of becoming an engineer.

***Brianna Jackson*** had an outstanding semester, earning a 3.723 term GPA (and a 3.541 cumulative GPA) in Biological Sciences. After graduation this year, she plans to work in the healthcare field.

***Xee Lor*** completed the semester with a 3.918 term GPA. She continues to excel in Art Education, and now has a 3.486 cumulative GPA. She is on track to fulfill her dream of studying abroad this summer in South Korea & Japan, where she will learn papermaking.

***Sergio Moran*** completed an ambitious 17 credit hours this semester, and is on track to graduate in Spring, 2017. Following a very successful term, he holds a 3.771 cumulative GPA in Biological Sciences.

***Bee Yang*** is back on track in his desired field, Information Science and Technology. He had a very strong term, his cumulative GPA has risen to 3.15 and he plans to complete his undergraduate degree in Spring, 2017.

***Pally Lor*** has a solid 3.303 cumulative GPA in Biological Sciences, and has enjoyed working as an OD Technician at Vision Works to earn valuable experience in the field of Optometry. Pally is on track to graduate in Fall, 2017.

***Long Vang*** continues his studies in the College of Health Sciences and maintains a 3.624 cumulative GPA in Radiologic Technology.

## The New Scholars

***Jasmine Edwards*** is non-traditional college student; she is a wife, mother, and together with her husband, a youth pastor serving in Milwaukee. While enrolled for the Fall Term, Jasmine unfortunately experienced a health set-back, and has withdrawn from UWM for the Spring Term. She intends to return to her cohort in Exceptional Education in September, 2017 and to graduate from UWM in Spring, 2018.

***Mai Nkao Yang*** is a senior studying Diagnostic Medical Sonography, and has maintained a 3.533 cumulative GPA while actively participating in the Hmong Student Association on campus. She is very inspired and grateful to receive the Sullivan Spaights scholarship this year.

***Kiana Ayala*** is also a first time Sullivan Spaights scholar, and she currently has a 3.286 cumulative GPA. Kiana plans to practice social work after graduating from the Helen Bader School of Social Welfare next year.

***Ana Cortes**,* a sophomore Art Education major, has an impressive 3.535 cumulative GPA. Ana is active with a number of arts groups on campus, and is inspired by her wonderful professors.

***Iris Cruz*** has enjoyed her new major in Business, earning a 3.667 cumulative GPA, and is considering a double major in Chemistry.

***Dahkai Paasewe***, a sophomore Psychology student, had a strong semester and holds a 3.62 cumulative GPA. He has a career goal of becoming a Psychiatrist.

Your gift allowed us to provide these 14 students with scholarships valued at $8,000 each (total $112,000) in 2016-17. We are eager to introduce you to your students in the spring, and remain inspired by your generous gift of opportunity.

Thank you again for everything you have done for UWM!

With all best wishes,

Gretchen Miller

Gretchen Miller
Director, Gift Planning & Agreements

Best wishes to
both of you, &
thank you again!
Gretchen

cc: Daniel Bader, President/CEO, Bader Philanthropies
Robert Tobon, Program Officer, Bader Philanthropies
Mark Mone, Chancellor, UWM
Patricia Borger, Vice Chancellor for Development & Alumni Relations, UWM
Joseph Maddalena, Director of Foundation Relations, UWM

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**To:** Dr Alfred Bader
**Fax:** 001-414-277-0709
**Re:** UWM

**From:** BILL MCGATCHIE
**Date:** OCT 18, 2002
**Pages:** 1
(including this one)

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Alfred:

This is wonderful news. I will alert the people at Queen's so that the files are handled expeditiously. Thank you.

Regards
Bill

PS. Gillie is on holiday this week.

FAX FROM:

*Alfred Bader Fine Arts*
924 East Juneau Avenue
Astor Hotel -Suite 622
Milwaukee, WI 53202
Ph: 277-0730
Fax: 277-0709 - 001 414
e-mail: baderfa@execpc.com

*A Chemist Helping Chemists*

October 17, 2002

TO: Mrs. Gillie Arnell
Herstmonceux Castle

Page 1 of 1

FAX #: 011 44 1323 834499

Dear Gillie,

Dr. Richard Meadows, the Dean of UWM, and Dr. Jennifer McKenzie-Flynn, the Director of International Studies there just visited me and told me that with our help UWM will be sending four students, two men and two women, to be at the ISC in January. There is a chance that two other students may also want to come.

With all good wishes I am

Yours sincerely,

Alfred Bader
AB/az

## DRAFT 8/11/04
MEMORANDUM OF AGREEMENT
OPERATING SCHOLARSHIP FUND

## Sullivan Spaights Scholarship
## (Alfred and Isabel Bader)

This Memorandum of Agreement is made by and between Alfred and Isabel Bader (the "Donors"), the UWM Foundation, Inc., a Wisconsin nonprofit corporation (the "Foundation"), and the Board of Regents of the University of Wisconsin System on behalf of the University of Wisconsin-Milwaukee ("UWM").

WHEREAS, the Donors, the Foundation, and UWM are desirous of instituting a fund to be held by the Foundation for the benefit of undergraduate students at UWM to be named the Sullivan-Spaights Scholarship Fund (the "Fund"), and

WHEREAS, the Donors wish to honor the legacies of the Reverend Leon Howard Sullivan, founder of the Opportunity Industrialization Center in Milwaukee, who focused on job training and placement for members of minority communities, and Dr. Earnest Spaights, former Professor of Information Sciences at UWM, who established a model mentoring program for minority men at UWM,

WHEREAS, the Donors, the Foundation, and UWM are desirous of establishing a Fund to support educational diversity at UWM, consistent with the University's mission and admissions policy, and seek to establish annual scholarships to be supported by the Fund, which promote the recruitment and retention of a diverse student body, which prepare students for success in a diverse workforce, and which enrich the activities of UWM and the life of our community, and

WHEREAS, the Donors wish to institute and maintain the Fund by annual gifts to the Foundation of varying amounts,

NOW, THEREFORE, the Foundation agrees to receive, hold, administer, and distribute any and all monies received for and constituting the Fund as hereinafter set forth:

1. The primary purpose of the Fund is to provide scholarships for full-time undergraduate students who meet the following criteria:

    Academic achievement (minimum 3.0 cumulative GPA)
    Financial need
    Demonstrated community leadership
    Graduate of Milwaukee Public Schools
    Member of minority groups underrepresented at UWM, including African American, Hispanic/Latino, Native American, and Southeast Asian students

2. The Vice Chancellor for Student Affairs, or his/her designees, shall determine the recipients of the scholarship to be supported with the monies provided by the Fund. The Vice Chancellor for Student Affairs shall submit a written request to the Foundation detailing the proposed expenditures from the fund, with approval of the Chancellor or his/her designee, for the academic year commencing with the fall semester following the establishment of the Fund. The Donor shall be provided with an annual report of the Fund and its activities.

3. Donors intend to give four scholarships valued at $8,000.00 annually. The number and value of the scholarships may be amended at the Donors' discretion. Recipients of the scholarships shall agree to participate in mentoring or academic support programs at UWM, and to continue to exemplify leadership at UWM and in their home community.

4. Scholarships provided through the Fund shall be renewable to past scholarship recipients, for a maximum of four years, provided they continue to meet all of the eligibility criteria described in paragraph 1 above, and provided that Donors contribute to the Fund in amounts sufficient to cover the cost of such scholarships.

5. All monies distributed from the Fund shall be described as having been made available by Alfred and Isabel Bader, and any scholarship shall be known as the Sullivan-Spaights Scholarship.

6. Additional contributions to the Fund, whether by gift, bequest or devise, will be accepted at any time with the prior approval of the Foundation.

7. The Donors recognize that the Fund shall be subject to the investment, operation and disbursement policies established from time to time by the Board of Directors of the Foundation.

8. The Donors understand and agree that should the purposes for which the Fund is instituted cease to the reasonably capable of accomplishment, the Foundation may devote the Fund for uses as close to the original purposes of the Donors as expressed in this Agreement as the Board of Directors of the Foundation shall at such time determine.

9. It is further agreed that this Agreement imposes only contractual obligations on the use of the Fund and shall not be deemed to impose any additional fiduciary duties or responsibilities upon the Foundation or its officers than otherwise required.

10. The Foundation agrees to use its best efforts to retain its status and qualifications as an organization exempt from federal income tax under the provisions of Section 501 (c) (3) of the Internal Revenue Code of 1986, as amended.

Executed this 20 day of August, 2004.

Donors

Alfred Bader
Alfred Bader

Isabel Bader

The UWM Foundation, Inc.
By Lucia Petrie
Lucia Petrie, Executive Director

The University of Wisconsin-Milwaukee
By John Wanat
John Wanat, Provost

*MOA 3 5/04*

UNIVERSITY of WISCONSIN
UWMILWAUKEE

**Office of the Chancellor**

Chapman Hall
PO Box 413
Milwaukee, WI
53201-0413
414 229-4331 *phone*

December 13, 1999

Drs. Alfred and Isabel Bader
2961 N Shepard Ave
Milwaukee, WI 53211

Dear Alfred and Isabel:

It is my pleasure to share with you a copy of the 1999 UWM Foundation Annual Report. The report highlights some of the many partnerships benefiting students, faculty and alumni. With more than $10.5 million in gifts and pledges, donor support through the UWM Foundation increased over 56% from 1998, creating a record breaking year. Nearly 25,000 gifts are included in the total.

The increase in support represents an engaged institution. During the year, friends throughout the campus and Milwaukee gathered to develop major new initiatives to enhance partnerships within the university community. The opportunity generated excitement. Ask our faculty, students, alumni, friends, and community leaders why they chose to support UWM and they'll tell you about a future that distinguishes us in Wisconsin and the nation.

The University of Wisconsin – Milwaukee is in the midst of a great renewal. As we position ourselves as "Milwaukee's University", we are increasingly dependent on alumni and friends to help us boldly build on the university's strong history of commitment to research, teaching and service, and principles of diversity, collaboration and engaged learning.

On behalf of the UWM, I thank you for your involvement and support during the past year. I look forward to hearing your comments and insights on this report or university initiatives and partnerships.

Best wishes to you and your family for a happy holiday season and a healthy 2000!

Sincerely,

Nancy Zimpher

Nancy L. Zimpher
Chancellor,
University of Wisconsin-Milwaukee

NLZ/vah

UNIVERSITY of WISCONSIN
UWMILWAUKEE
Office of Development

Hefter Center
3271 N. Lake Drive
Milwaukee, WI
53211-3460
414 229-3044 *phone*
414 229-6930 *fax*

January 28, 2004

Dr. Alfred Bader
Dr. Isabelle Bader
2961 N. Shepard Ave.
Milwaukee WI 53211

Re: Sullivan-Spaights Scholars

Dear Dr. and Dr. Bader,

On behalf of the University of Wisconsin-Milwaukee and the UWM Foundation, I would like to introduce myself as the recently hired Scholarship Coordinator. I am writing to provide you with information concerning the academic progress of the Sullivan-Spaights scholars supported by your generous gifts.

I am very pleased to report that all three scholars had very successful Fall semesters, and are making excellent progress toward their educational goals. Zachary Correa, Thomas Foster, and Twanna Watson met or exceeded the scholarship criteria, and have had their scholarships renewed for Spring Term 2004.

It is my understanding that in the past, this office has provided specific grade point average (GPA) and credit information for each student for each semester. However, I have been advised by our Enrollment Services that in order to comply with the requirements of the federal Family Educational Rights & Privacy Act (FERPA), I need to obtain specific written consent for disclosure from each student, each semester. You should also understand that under FERPA, student academic information may only be used by the recipient for the purpose for which it is disclosed: monitoring the progress and ongoing eligibility of these students for the scholarships you have funded.

The FERPA disclosure form requires us to identify the specific party to whom the educational records are released. Because you have previously desired anonymity in your gifts, I am seeking your guidance on how you would like to proceed. You may want to consider whether you need more information than is already included in this letter.

Please let me know whether you would like to continue to receive GPA and credit information. If so, I will begin the process of obtaining written consent from each student, and will disclose your names on the FERPA form. (I have enclosed a copy of the form, for your information.) Please call me at 229-3067 if you would like to discuss this further.

Finally, you will be receiving an invitation to the UWM Foundation's Spring 2004 MAASP Awards Reception within the next two weeks. The reception will be held on Thursday, February 26, from 5:00 – 6:30 p.m., and the scholars and their families will be invited to attend. While we respect your wish to have your donations remain anonymous, your presence at the reception would obviously be very welcome.

As I become more familiar with UWM's scholarship programs, I will be striving to improve our service to both the donors and the student recipients of these scholarships. I would welcome the opportunity to exchange ideas with you about how this office can provide the best stewardship of your generous gifts. Your continuing generosity in providing scholarships and internships for UWM's minority students has been an integral piece of their education. All of us in the UWM community appreciate your loyal support for these students.

Sincerely,

Gretchen Miller

Gretchen Miller
Scholarship Coordinator

Cc: Twyla McGee, Sullivan-Spaights Scholarships Coordinator

UNIVERSITY OF WISCONSIN MILWAUKEE

College of Letters and Science
Department of German

UWM

April 30, 1993

Dr. and Mrs. Bader
2961 N. Shepard Avenue
Milwaukee, WI 53211

Dear Dr. and Mrs. Bader:

I would like to thank you both for your contribution to 'Bridging the Abyss: German Voices, Jewish Voices' the conference held just a week ago.

Your financial support allowed us to embrace a theological and historical component that greatly enhanced the conference. I am, of course, speaking of the contribution of your friend Professor Wittstadt. Several people have already expressed a very positive response to his paper. Professor Wittstadt's passionate commitment to the study of the German-Jewish relationship has given us at UWM an important ally in Germany and we would like to foster this friendship. Thank you for introducing us to him.

'Bridging the Abyss' was an important foundational stone in the establishment of a larger enterprise that will embrace many facets of the German-Jewish experience. Thank you both for helping us take these first steps.

Yours sincerely,

Ruth Schwertfeger

Ruth Schwertfeger
Associate Professor

cc: Jessica Wirth

Curtin Hall • PO Box 413 • Milwaukee, WI 53201 414 229-4630

*Draft Nov 23, 2005*

## Sullivan Spaights Scholarships

### Donors: Drs. Alfred and Isabel Bader

Drs. Alfred and Isabel Bader established the Sullivan-Spaights Scholarships in 1999, to provide support for tuition, books and other educational expenses to high achieving and minority students at UWM. Recipients must graduate from the Milwaukee Public Schools, and must demonstrate community leadership and financial need. The scholarships honor the legacies of two leaders in Milwaukee's African-American community: the Reverend Leon Howard Sullivan, founder of the Opportunity Industrialization Center (OIC) in Milwaukee, who focused on job training and placement for members of minority communities, and Dr. Earnest Spaights, former Professor of Information Sciences at UWM, who established a model mentoring program for minority men at UWM.

Alfred Bader is a world renowned chemist, art historian and dealer, lecturer, and philanthropist. An Austrian Jew of Czech descent, Alfred Bader was born in Vienna in 1924. He fled from Europe to England at age 14 to escape Nazis persecution. Finding refuge for only a year in Brighton, he became wrongfully imprisoned as an "enemy alien" and ~~eventually uprooted again~~ sent to a prisoner-of-war camp in Canada. Released to a family in Montreal 15 months later, Alfred Bader worked towards furthering his schooling. He was accepted at Queen's University in Kingston, Ontario where, in 1945, he completed a degree in engineering chemistry. He completed his education at Harvard, earning his Ph.D. in chemistry in 1950. He then joined the Pittsburgh Plate Glass company as a research chemist in its Milwaukee paint division. In 1951 he founded the Aldrich Chemical Company, which merged with the Sigma Chemical Company of St. Louis in 1975. Sigma-Aldrich is now the world's largest supplier of research chemicals.

Since leaving Sigma-Aldrich in 1992, Bader has dedicated himself ~~full time~~ in part to his great passion, ~~the collection of~~ Old Master paintings, through Alfred Bader Fine Arts located in East Town Milwaukee. Throughout his scientific and business career, Alfred Bader has gained many honors, among them nine honorary doctorates, including one from the University of Wisconsin-Milwaukee in May of 1980.

Ontario

Isabel Bader comes from Kirkland Lake in northern Ontario. Her father, Herbert Overton, was a cabinet maker who emigrated from England to Canada in 1906. Her mother, Stella Sirr, comes from a large family in New Liskeard. Isabel won a scholarship to Victoria ~~College~~ University in Toronto and graduated from there with a B.A. in history and modern languages. She received her ~~Ph.D.~~ DSL. in ___ from ____ in 1995 From 1949 until her marriage with Alfred Bader in the 1980s, Isabel Bader lived in Bexhill in East Sussex where she taught English, Spanish and History.

More can be learned about the Baders in Dr. Alfred Bader's autobiography, *Adventures of a Chemist Collector*. UWM is very grateful to Drs. Alfred and Isabel Bader for their generous creation of the Sullivan Spaights Scholarship.

Doctor of Sacred Letters from Emmanuel College of Victoria University in Toronto

Dr. Alfred Bader
2961 North Shepard Avenue
Milwaukee, Wisconsin 53211

(414) 962-5169

January 9, 2006

Ms. Gretchen Miller, Scholarship Coordinator
Office of Development
UWM
Hefter Center
3271 N. Lake Drive
Milwaukee, WI 53211-3460

Dear Ms. Miller,

Isabel and I returned from England just a few days ago and that will explain my being so slow responding to your letter of November 23rd.

As you will see from the enclosed I have made some changes to the description of Isabel and myself.

Looking at ¶3, please note that I really have four jobs, only one of which deals with old master paintings.

Isabel received an honorary Doctor of Sacred Letters from Emmanuel College of Victoria University in Toronto in 1995.

To turn to a much more serious matter, I think that many in Milwaukee will be concerned by the enclosed article written by Spivak & Bice headed "$1 million gift to UWM unwanted". To an outsider it seems that Nancy Zimpher signed a contract which UWM now does not wish to honor. The key question of course is whether UWM really has an out of this contract, as stated by Tom Luljak.

Of course I have read only one side of the story and hope that UWM has a good legal and moral case.

With best wishes I remain

Yours sincerely,

Alfred Bader
AB/az
Enc. - 2

# 1994
# 1995
## ANNUAL REPORT

## School of Business Entrepreneur Program

## UW-Eau Claire

*With the compliments of*

Dr. Richard D. Lorentz
Professor
*Entrepreneur Program Director &*
*Dennis L. Heyde Chair of*
*Entrepreneurship*

For further information about the Entrepreneur Program, write or call:
The Entrepreneur Program
School of Business
UW-Eau Claire, P.O. Box 4004
Eau Claire, WI 54702-4004
(715) 836-5509

UW-Eau Claire Entrepreneur Program

# mission

To provide students with a conceptual understanding of entrepreneurship

To introduce them to the methods and practical applications of creating, developing and maintaining entrepreneurial/intrapreneurial ventures

To stimulate in students an interest and desire to be entrepreneurs in the future

# The Year We Built the (Entrepreneur) Ship While Sailing It Too

During the 1994-95 academic year the School of Business launched the Entrepreneur Program. Students affectionately christened it the Entrepreneur*ship* in honor of the program's maiden voyage. This pun seemed to capture the spirit of the year. Because *everything* connected to the program was new and unproven, faculty and students at times felt as if they were navigating through unknown waters. After all, the curriculum and format of the program were different. The program was divided into team-taught modules. There were no textbooks and no examinations. The faculty discovered that team-teaching was exciting and, at times, frustrating. Students, likewise, found working with 29 different professors to be both interesting and challenging. But, despite occasional rough weather, the voyage proved to be a good one. Everyone involved with the program agreed that this was one trip worth taking.

### An Overview of The Curriculum.

The Entrepreneur Program, under the direction of Richard Lorentz, provided a unique learning experience for 15 UW-Eau Claire business students who aspire to manage family businesses, start their own companies, or work in existing grow-oriented organizations.

The 24-credit Entrepreneur Program consisted of two, 12-credit courses that were team-taught by faculty members. Students went through the program as a class, taking Management 401, the first course in the sequence, in the Fall, and Management 402, the second course, in the Spring.

The curriculum of the Entrepreneur Program was based on the new business model developed by the faculty. The model's six stages—creation, evaluation, start-up, growth, maturity, and harvest—provided the program with continuity.

In Management 401, students studied the history of entrepreneurship, discussed marketplace ethics, and learned how to create and evaluate a new business idea for local and international markets. They discussed why businesses need a competitive advantage and learned how to write a business plan. Students participated in a semester-long computer simulation that let them role play decisions. As a class, they conducted a feasibility study for a local bed and breakfast business.

## Program Field Trips

Banbury Place
Chippewa Valley Incubation Center
Eau Claire Leader-Telegram
Indianhead Foods
Pioneering Refinishing
W L Gore
XMI Corporation (shown above)

## Program Guest Speakers

Dan Lyksett, Eau Claire Leader-Telegram
(shown above)

Owen Ayres, Ayres Associates
Chris DeBruyckere, Effective Media
Jim Erickson, Software Management
Jim Hamilton, Greene Manufacturing
Dennis Heyde, Heyde Companies
Mike Huggins, City of Eau Claire
Bob Javurek, Javurek Insurance
Kevin Koehn, Kemper Investments
Chris Lindberg, Norwest Bank
Ernie McClellan, Plast-O-Meric

In the Management 402 course, classroom discussion focused on how to start a business and manage its growth. Students learned how to develop strategy, plan for the financial and human needs of the firm, use computer technology to manage the business' information systems, and identify marketing opportunities for maturing organizations. They toured area businesses and incubation centers and listened to local entrepreneurs talk about their companies. Students also spent a significant amount of time developing a business plan for a venture they would like to start one day. At the end of the semester, students presented their plans to a select group of faculty and business people. To prepare for this presentation, students were coached on effective communication techniques by Business Communication faculty.

**Highlights for the Year.** Perhaps one of the most exciting developments for the program was the creation of the Dennis L. Heyde Chair of Entrepreneurship. The chair, which was established by Dennis and Carol Heyde, is the university's first endowed chair. The Heyde gift will be used to fund student scholarships, program development, and other initiatives for the Entrepreneur Program. The first recipient of the Dennis L. Heyde Chair of Entrepreneurship was Dr. Richard D. Lorentz, director of the UW-Eau Claire School of Business Entrepreneur Program.

Other Entrepreneur Program highlights for the year included:

**Regional and national recognition for the program.** Because of its innovative curriculum, the UW-Eau Claire School of Business Entrepreneur Program generated much interest and excitement within academic circles outside the university. As a result, members of the faculty were asked to present information about the program at several conferences across the country.

**The Development of promotional materials for the program.** Business school staff developed a brochure, poster, awards and annual report for the program. These materials, have been widely distributed throughout the university and business communities. Entrepreneur program students also helped market the program by developing a video and the Entrepreneur*ship* logo.

**The Establishment of the Entrepreneur Program Advisory Committee and the Entrepreneur Mentor program.** In November, a special get-acquainted reception for advisory board members, mentors, students and faculty was held at Draganetti's Ristorante. In January, the Entrepreneur Program Advisory Committee met for the first time. Dennis Heyde of the Heyde Companies was appointed the chair of the group.

**The Establishment of the Industrial Development Corporation/UWEC Business School Best Business Plan Competition.** The program encourages graduates of the UW-Eau Claire School of Business Entrepreneur Program to establish new businesses in the City of Eau Claire, and the Counties of Eau Claire or Chippewa Falls.

**The Creation of the Outstanding Chippewa Valley Entrepreneur and the Outstanding UW-Eau Claire Alumnus Entrepreneur Awards.** Both awards recognize individuals for their outstanding achievements in new ventures and small businesses, and their contributions to the community at-large.

Looking back over this past year, the 1994-95 academic year was a crazy yet exciting time. It was the year faculty and students built the ship—the Entrepreneur*ship*—while sailing it too. Students and faculty alike, learned much because of their participation in this new program. And, if this year's accomplishments are a predictor of what is to come, it appears that there is nothing but smooth sailing ahead for the Entrepreneur Program.

## Program Guest Speakers

Alfred Bader, Entrepreneur (shown above)

Tom Mihajlov, Firstar Bank
Jon Munger, Hardee's/DORO
Eric Nelson, Coffee Grounds
Mike O'Meara, Hayward Bancshares
Bud Perkins, American Leasing
Bob Rowan, Retired, UW-EC
Mike Schatz, City of Eau Claire
Bill Scobie, Mason Shoe Mfr. Co.
Steve Senn, Senn Blacktop, Inc.
John Tessendorf, D.D.S.
Jim Theisen, Theisen Real Estate
Sue Tietz, McDonough Mfr. Co.

## Patricia Bowe

**Hometown:** Chippewa Falls, WI
**Business Idea:** The construction of fine-furniture quality display cabinets. The product is designed to meet the specific needs of model railroading enthusiasts and other collectors.

## Jeffrey Crary

**Hometown:** Hillpoint, WI
**Business Idea:** The development of a landscaping design and consulting service that uses a high quality, computer-aided design and imagery database.

## Mike Goodenough

**Hometown:** Mindoro, WI
**Business Idea:** The growing of hops on two family farms near La Crosse, Wisconsin. At present, hops are only grown within the United States in the Pacific Northwest.

# 1994-95 Entrepreneur Program Faculty

**Program Director, Richard Lorentz**

SCHOOL OF BUSINESS

*Department of Accounting & Finance*
Babu Baradwaj
Richard Helleloid
William Ogden

*Department of Business Communication*
Ronald Schlattman

*Department of Management & Marketing*
Jamal Al-Khatib
Thomas Bergmann
John Close
Kenneth De Meuse
Ronald Decker
Harvey Gunderson
William Hannaford
Todd Hostager
Erwin Steiner
D. Wallace Weil

*Management Information Systems*
Dale Johnson
James LaBarre

*Small Business Development Center*
Kevin Jones

SCHOOL OF ARTS & SCIENCES

*Department of Economics*
Wayne Carroll
Maria DaCosta
Jan Hansen
Kelvin Jasek-Rysdahl
Fredric Kolb
Keith Leitner
Darwin Wassink
Edward Young

*Department of Philosophy & Religious Studies*
Richard deGrood

*Department of Political Science*
Margaret Gilkison
Ernest Morgan

## 1994-95 Entrepreneur Program Advisory Board

**Chair, Dennis L. Heyde, Heyde Companies**

Owen Ayres, Chairman of the Board, Ayres Associates (retired)
Richard Cable, Emeritus Agent, Northwestern Mutual Life (retired)
Craig W. Carlson, Executive Director, Industrial Development Corp. of Eau Claire
Joanne E. Hintz, Owner, Draganetti's Ristorante
Thomas G. Larson, Vice President, Larson Management
Michael O'Meara, Owner, Hayward Bancshares
Robert Rowan, Lecturer, UW-Eau Claire,(retired)
John Tessendorf, D.D.S., Dentist
Susan Tietz, Chief Financial Officer, McDonough Manufacturing Company
D. Wallace Weil, Professor of Management, UW-Eau Claire

## 1994-95 Entrepreneur Program Mentors

Tom Ebbers, Senior Manager, Wipfli Ullrich Bertelson CPAs
Dick Freitag, Owner, Freitag Landscaping
Mark Gilbertson, Insurance Agent, Gilbertson Financial Services
Linda Helgesen, Manager, Farmer Management & Development
Ray K. Hughes, Attorney, Carroll Postlewaite Graham & Pendergast, SC
Peggy Irwin, Owner, Mary Kay Cosmetics
Alice Katz, Owner, Practice Enhancement Associates
Ed Losby, Owner, LATTE Cafe
Thomas Monson, General Agent, Mutual of Omaha
Timothy Olson, Vice President-Finance, Heyde Companies
Tim Owen, Northwestern Mutual Life
Mike Ritsch, Realtor/Owner, Century 21 Real Estate
Rodney Skoug, Owner, Appraisal Service
Sam Stagliano, Accountant, W.J. Bauman & Associates
Ken Vance, Owner, Ken Vance Motors

### Terryl Griffin

**Hometown:** Eau Claire, WI
**Business Idea:** The development of management software for owners and operators of bed and breakfast inns and tourist houses. The software features financial and marketing modules, and a database of B&B inns.

### Jason Haberman

**Hometown:** Eden Prairie, MN
**Business Idea:** The development of a service targeted to the gift/novelty industry that matches manufacturers with manufacturing representatives. The service uses a complex database coupled with a quality screening process to ensure the highest quality matches.

### Jim Hamilton, III

**Hometown:** Racine, WI
**Business Idea:** A service business that utilizes the Robert Morris Associates database and a need-based software program to compare a given company's financial statements with the industry standards in its SIC code.

**Paul Harbaugh**

**Hometown:** Jamestown, ND

**Business Idea:** The purchase of an existing business that manufactures fiberglass canoes.

**Jeffrey Leonard**

**Hometown:** Solon Springs, WI

**Business Idea:** The development of a home-based advertising specialties distributorship. The company targets small niche markets with unique promotional products.

**Thomas Mastin**

**Hometown:** Hayward, WI

**Business Idea:** The design and manufacture of a recycling bin. The bin features six, removable containers that stack vertically on a cart with wheels.

## Faculty Presentations about the Entrepreneur Program

*Title:* Cognitive Apprenticeships Based Upon the Six Stages of Entrepreneurship: The UWEC Model for Entrepreneurship Education
*Conference:* The Annual Conference of the Project for Excellence in Entrepreneurship Education, San Antonio, TX, February 1994.

*Title:* New Innovations in Teaching Entrepreneurship: The Modular Approach
*Conference:* The 20th Annual Conference of the Great Lakes Small Business Institute Director's Association, Glenview, IL, September 1994.

*Title:* The UW-Eau Claire Entrepreneur Program
*Conference:* The American Assembly of Collegiate Schools of Business 1994 Undergraduate Programs Seminar, Orlando, FL, November 3-4, 1994.

*Title:* Cognitive Apprenticeships and Situated Learning: New Developments in the UWEC Program for Entrepreneurship Education
*Conference:* The 9th Annual Conference of the United States Association for Small Business and Entrepreneurship, Boulder, CO, January 1995.

*Title:* The UWEC Entrepreneur Program
*Conference:* Annual National Conference of the Small Business Institute Director's Association, Nashville, TN, February 1995.

*Title:* Management Team Formation for Large Scale Simulations
*Conference:* The 1995 Conference for the Association for Business Simulation and Experiential Learning, San Antonio, TX, March 29-31, 1995.

## Special Awards, Grants and Recognitions

### The Dennis L. Heyde Chair of Entrepreneurship

The endowment fund created by Dennis and Carol Heyde, both alumni of UW-Eau Claire, was established to fund student scholarships, program development, and other initiatives for the Entrepreneur Program. A successful Wisconsin entrepreneur, Mr. Heyde is the founder and CEO of 17 businesses, including Heyde Health Systems, Chippewa Valley Travel, Fanny Hill, and Northwest Wholesale. Together, these companies employ over 700 people in the Chippewa Valley. The first recipient of the Dennis L. Heyde Chair of Entrepreneurship is Dr. Richard D. Lorentz, director of the UW-Eau Claire School of Business Entrepreneur Program.

### The IDC/UWEC Business School Entrepreneur Program Best Business Plan Competition

The IDC/UWEC Business School Entrepreneur Program Best Business Plan Competition is a joint venture sponsored by the Industrial Development Corporation and the UW-Eau Claire School of Business. The program encourages graduates of the UW-Eau Claire School of Business Entrepreneur Program to establish new businesses in the City of Eau Claire, and the Counties of Eau Claire or Chippewa Falls. The winning plan conveys the most promising combination of job creation, growth potential, actual implementation, product and market knowledge and financial feasibility. The author of the winning plan receives a $5,000 cash stipend to be used for the purchase of equipment or as working capital for the start-up business. The award winner will also be given priority consideration for available space in the Incubation Center. All business plans are evaluated by June 15 by a panel of judges selected by the School of Business and the IDC. The name of the author of the winning plan is announced at a joint presentation hosted by the business school and the IDC.

### Michael Mitra

**Hometown:** Abbotsford, WI
**Business Idea:** The development of a privately-owned incubation center. The center offers tenants low rent and a full line of business services in exchange for a percentage of their gross income or a percentage ownership in their business.

### Benjamin Moody

**Hometown:** Hastings, MN
**Business Idea:** The development of a semi-private, 18-hole championship golf course and residential area.

### John Muenich

**Hometown:** Eau Claire, WI
**Business Idea:** The development of a retail and mail order business that sells premium grade hunting and fishing goods and collectibles. Products can be customized to meet the demands of each individual customer.

## Jamie Pankratz

**Hometown:** Stratford, WI
**Business Idea:** The development of a retail sporting goods outlet that sells high quality athletic sports equipment. Customers can test equipment before purchase in the store's batting and golfing cages.

## Anthony Shepler

**Hometown:** Eau Claire, WI
**Business Idea:** Design and manufacture of a two-piece, 28' by 30' modular cabin. The two bedroom cabin, which includes a bathroom, kitchen, combined dining/living room and porch, retails for approximately $25,000.

## Troy Winrich

**Hometown:** Eau Claire, WI
**Business Idea:** The refurbishing and assembling of ground support equipment used by the airline industry.

## The Outstanding Chippewa Valley Entrepreneur Award and the Outstanding UW-Eau Claire Alumnus Entrepreneur Award

Established in 1995 under the sponsorship of the School of Business and the Entrepreneur Program, each award is presented on an annual basis at the end-of-the-year Entrepreneur Program celebration banquet. Both awards recognize individuals for their outstanding achievements in new ventures and small businesses, and their contributions to the community at-large.

❋ THE 1995 ENTREPRENEUR PROGRAM GRADUATES ❋

*From left*, John Muenich, Michael Mitra, Thomas Mastin, Jeffrey Leonard, James Hamilton III, Jeffrey Crary, Jamie Pankratz, Troy Winrich, Anthony Shepler, Michael Goodenough, Jason Haberman, Terryl Griffin, Paul Harbaugh, Patricia Bowe. *Not pictured*, Benjamin Moody

The University of Wisconsin-Eau Claire is located in Eau Claire, Wisconsin, a city of 60,000 people approximately 90 miles east of Minneapolis/St. Paul, Minnesota. Approximately 10,000 students study at the university.

The UW-Eau Claire School of Business Entrepreneur Program is an undergraduate track within the general management major of the Department of Management and Marketing.

The Department of Management and Marketing is one of four departments within the School of Business. The other departments are Accounting and Finance, Business Communication, and Management Information Systems. Undergraduate programs are accredited by the American Assembly of Collegiate Schools of Business.

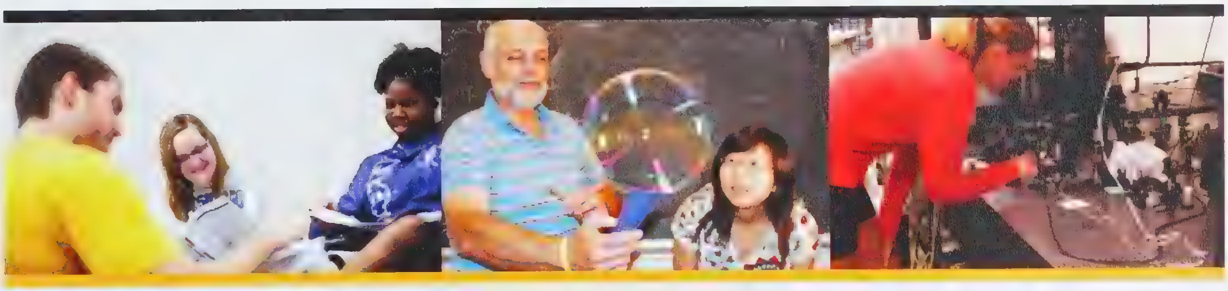
Additional information about the Entrepreneur Program, or other program and services offered by the School of Business can be found in the university's General Catalogue. The General Catalogue is available from the UW-Eau Claire Office of Admissions.

UW-Eau Claire is an affirmative action/equal opportunity employer and is in compliance with Title IX and Section 504.

Photos by Rick Mickelson.
Entrepreneur class photo courtesy of the Eau Claire Leader-Telegram.

# A Proposal
# to
# Dr. Alfred Bader

## This Is How
## We Build Wisconsin



KENWOOD INTERDISCIPLINARY RESEARCH COMPLEX
**UWM'S NEW FRONT DOOR**

UNIVERSITY of WISCONSIN
**UWMILWAUKEE**

POWERFUL IDEAS | **PROVEN RESULTS** SM

# Together we will build a prosperous Wisconsin

UWM is in the business of knowledge. Located in the state's population and industrial center, we already educate more Wisconsin residents than any other institution in our system. We have a long and proud history of linking higher education to the aspirations of our citizens, community leaders, and business entrepreneurs.

Now we are poised to expand our capacity to prepare Wisconsin for the knowledge age. At the center of this vision for Wisconsin is a complex that will aggregate at one campus location many working in science, technology, engineering, and mathematics. The KIRC will foster collaborations among university scientists and industry partners, generate knowledge with near-future applications, educate new generations of future scientist-leaders, and stimulate business development.

*Renderings by Flad Architects*

A stunning concourse at the corner of Maryland and Kenwood will signify UWM's ongoing commitment to education, research, and collaboration. Like the KIRC itself, the concourse will provide common space for diverse people to make connections and share ideas, welcoming students, parents, faculty, and community partners to campus. The KIRC will become the place where physics students might observe a chemist demonstrating medical applications of a new imaging technique, or entrepreneurs from a local high-tech company might seek ideas from an interdisciplinary group of scientists.

Phase one construction of the Kenwood Interdisciplinary Research Complex will be the first new building on the UWM campus in more than a decade. Located at the prominent campus corner of Kenwood Boulevard and Maryland Avenue, the KIRC embodies UWM's commitment to science, technology, engineering, and mathematics.

Phase one construction of the Kenwood Interdisciplinary Research Complex will require $90 million. The State of Wisconsin has appropriated $73.4 million. UWM is seeking the remaining $16.6 in private funding. We invite you to join us.

# UWM's New Front Door

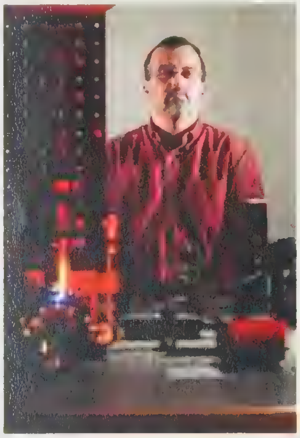
The development of the Kenwood Interdisciplinary Research Complex will proceed in three phases, each involving the construction of a building to be integrated into the KIRC. In the first phase we will construct a five-story building with a striking concourse that will serve as a front door not just for the KIRC, but for the entire university.

The concourse fronting the KIRC will become UWM's iconic building, an architecturally significant building that will serve not only as the front door to campus, but also as badly needed common space for social and educational activities. State funding is not available for this element, making private essential for us to create the open, airy, welcoming front door UWM deserves.

*"Building on our history of powerful ideas and proven results, the Kenwood Interdisciplinary Research Center will enhance our efforts in science education, research, innovation, and industry partnerships. This is the right investment in UWM — and in Wisconsin's future"*

*Michael R. Lovell, Chancellor, University of Wisconsin-Milwaukee*

*UWM physics professor Carol Hirschmugl has led a team of researchers in developing a new synchrotron-based imaging technique that offers pictures of tissue molecules a hundred times less pixilated than those obtained by conventional infrared imaging. The technique has market potential in medicine, pharmaceutical analysis, forensics, biofuel production, and art conservation. Dr. Hirschmugl's team includes faculty researchers from UWM, University of Wisconsin-Madison, University of Illinois at Urbana-Champaign, and University of Illinois at Chicago. Currently Dr. Hirschmugl's breakthrough imaging depends on the UW synchrotron, an electron accelerator the size of a baseball diamond. She hopes within five years to build a room-size imaging facility in the KIRC.*



*UWM physicist Valerica Raicu and his team have become the first scientists to image the molecular structure of a group of proteins interacting within a living cell. The technology invented by Dr. Raicu has widespread applications for other researchers, especially in healthcare. Dr. Raicu has partnered with Dr. Thomas Mozer, biotech entrepreneur, in co-founding Aurora Spectral Technologies, LLC. Their start-up company has already raised more than $500,000 from investors. Dr. Raicu plans to install a new generation of his instruments in the KIRC for use by UWM researchers in the biological sciences and chemistry, as well as by other U.S. and foreign researchers.*

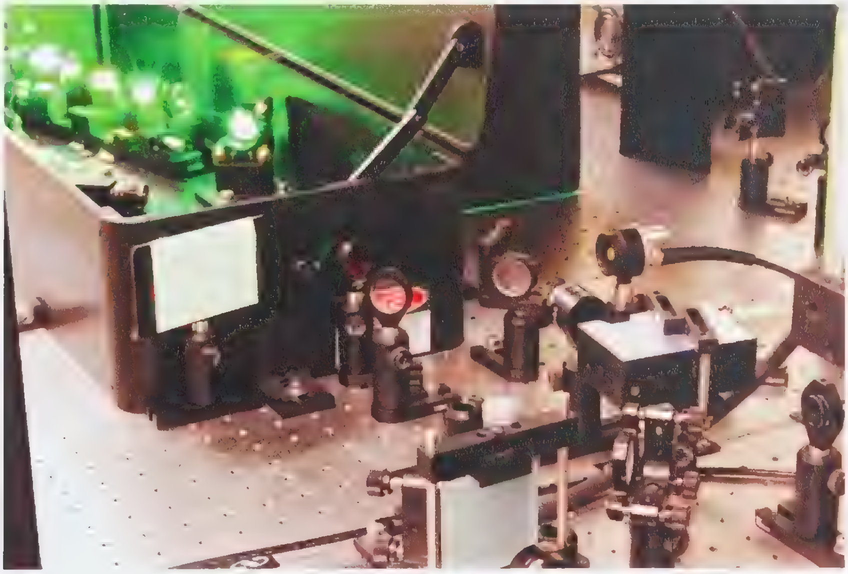
The UWM Department of Physics will be the anchor tenant of the first building of the KIRC. But the building itself will immediately provide shared facilities for many disciplines, including data centers, laboratories, imaging suites, advanced instrumentation, and teleconferencing technology necessary to create and share knowledge. The central placement of these facilities within the KIRC will make them widely accessible for teaching, research, and collaboration.

# It Begins with Physics

The discipline of physics offers us many windows on worlds beyond and within. Physics looks into space to understand our origins. Physics peers into matter itself to reveal the building blocks of all things, including ourselves. History has proven that research in physics leads to innovations that can define an age and dramatically improve the quality of human life.

Collaborating with national and international scholars, as well as local companies, UWM scientists are both creating knowledge and developing new applications for knowledge.

*UWM scientists have already proven that they can work together with interdisciplinary colleagues within the university, beyond the university, and throughout the world. Currently our scientists participate in dozens of well-funded research protects that are shaping the future. We need to enlarge these proven results to build momentum and economic progress, right here in Wisconsin.*



# Distinguished Professor Emeritus Leonard E. Parker

Professor Leonard Parker is the former Director of the Center for Gravitation and Cosmology at the University of Wisconsin-Milwaukee. For over a half century, he has been offering new glimpses of our cosmos, showing, for example, how particles are created in an expanding universe. During the late 1960s, Parker established a new area of physics – quantum field theory in curved space-time – and inspired a renewed effort to unify the laws of nature. During the 1970s and '80s, Parker pursued new problems at the forefront of relativity and quantum fields. His work led to research by hundreds of physicists around the world and has been cited in more than 2,000 research papers. Steven L. Adler, a professor of theoretical physics at the Institute for Advanced Study in Princeton, N.J., calls Parker simply, "a seminal figure."

*Xavier Siemens, assistant professor of physics, has assembled a diverse group for cutting-edge research in gravitational wave physics. The program, called ARCC@UWM, includes about twenty UWM faculty members, post-docs, grads, undergrads, and staff along with local high school and middle school teachers and their students. The work involves taking remote control of the world's largest radio telescope, Arecibo Observatory in Puerto Rico, to search for pulsars that can lead to the detection of gravitational waves. The UWM group works in partnership with a similar group from the University of Texas, Brownsville, where the Arecibo Remote Command Center (ARCC) was developed. Dr. Siemens' important pulsar research has recently attracted $7 million in National Science Foundation grants.*

### *The Center for Gravitation and Cosmology*

The Center for Gravitation and Cosmology at UWM is one of the nation's largest and most active research groups in cosmology, astronomy, and astrophysics. The group also maintains a close relationship with the Albert Einstein Institutes in Hannover and Golm.

The Center has a strong gravitational-wave astronomy group working on LIGO-related research, including searching for binary neutron star and black hole inspirals, continuous waves from isolated neutron stars, development and support of Einstein@Home, bursts, and stochastic background. The group is active in several grid computing collaborations with Open Science Grid (OSG). Other research activities in the Center include cosmic ray physics with the Pierre-Auger Collaboration, evolution and characterization of high redshift galaxies, neutron-star astrophysics, and radio astronomy. The Center also has a computational astrophysics effort.

*UWM chemist Peter Geissinger has patented optical fiber sensors for real-time remote detection of hazardous substances in industrial waste streams. Dr. Geissinger is collaborating with a Milwaukee water technology company, which intends to employ the sensors in its products. The partnership plans to establish southeast Wisconsin as a water-technology hub. "The shared user facilities of the KIRC are essential," says Dr. Geissinger. "Not just for research, but for attracting funds to pay for it. Having the KIRC will make our applications for research funding much more competitive — and allow us to dream bigger dreams.*

# A PROPOSAL TO DR. ALFRED BADER

The University of Wisconsin-Milwaukee respectfully requests your consideration of a leadership investment in honor of Distinguished Professor Emeritus Leonard E. Parker to support the construction of the Kenwood Interdisciplinary Research Complex.

The KIRC, fronted by a stunning concourse, will signify UWM's ongoing commitment to education, research, and collaboration in science, technology, engineering, and mathematics. The concourse will be UWM's iconic building, a welcoming and much needed front door to the diverse communities that gather at UWM. The Physics Department, Professor Parker's academic home, will be the anchor tenant of the first building of the KIRC, which will house the Center for Gravitation and Cosmology.

Your gift will transform the UWM campus through the construction of the first new building in a decade, pay tribute to an esteemed scientist, and provide a welcoming front door for the diverse population that UWM calls its own.

Your support will be invaluable at one of the following levels:

- Your leadership investment of $15 million will name the first two buildings in the Complex and will support construction of the Concourse ($8.4 million), KIRC ($1.6 million), and connecting space and walkway across Maryland Avenue ($5 million).
- Your leadership commitment of $10 million will name the Concourse and will support construction of the Concourse ($8.4 million) and the KIRC Phase One ($1.6 million).
- Your leadership gift of $4 million will name the Leonard E. Parker Center for Gravitation and Cosmology and will complete construction of the KIRC Phase One ($1.6 million) and establish a distinguished Chair in Physics ($2.4 million).
- Your significant commitment of $1.6 million will name the Leonard E. Parker Center for Gravitation and Cosmology and will complete construction of the KIRC Phase One.

Your generosity through this important investment will benefit the diverse students, faculty, and all those who seek their futures at the University of Wisconsin-Milwaukee.

Thank you for your consideration of this opportunity to honor a distinguished colleague and scholar, transform the UWM campus physically, and contribute to the creation and dissemination of knowledge in science, technology, engineering, and mathematics.

*"Collaborations in scientific research are always more likely than individual research to generate start-up companies or to solve problems in areas ranging from healthcare to transportation to energy."*

*Juan Carlos Campuzano, Ph.D., UWM Distinguished Alumnus;*
*Distinguished Fellow, Argonne National Laboratory; and*
*Distinguished Professor, Department of Physics, University of Illinois at Chicago.*

*Building Wisconsin's future begins with our students.*

*Photo Credit: Alan Magayne-Roshak*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Office for Development
& Alumni Relations

**Gretchen E. Miller**
*Director, Gift Planning & Agreements*

Hefter Conference Center, Room 225
3271 N. Lake Drive
Milwaukee, WI 53211-3125

414 229-3067 *office*
414 229-3013 *dept*
414 229-6930 *fax*
gemiller@uwm.edu

Alma J. Navarro
3640 S. 25th St.
Milwaukee WI 53221
08-10-15

Dear Dr. Alfred Bader and Dr. Isabel Bader,

My name is Alma J. Navarro. By awarding me the ***Sullivan Spaights Scholarship***, you have lightened my financial burden, which allows me to focus more on school and preparing for graduate school.

This year I was fortunate to continue participating as a Research Assistant (RA) for two graduate students, one working under the supervision of Dr. Bonnie Klein-Tasman and the other one working with Dr. Shawn Cahill. The project under the supervision of Dr. Klein-Tasman is a study that compares Behavioral Activation for depression versus treatment-as-usual (TAU) in Latinos. Working in a research project designated to Latinos gave me the opportunity to listen to different therapy sessions; and also to identify some of the skills that the therapist needs to have in order to have a strong therapeutic alliance with the client, and thus provide cultural competent care to the patient. While I was working with Dr. Bonnie Klein-Tasman I also had the chance to work in Dr. Shawn Cahill's Laboratory on a project examining multicultural psychology literature in the last 20 years in 5 hallmark psychology journals. With this opportunity, not only I gained research experience but also learned that the Clinical psychology field needs to conduct more research on multicultural issues.

This summer, I was honored to participate in the ***Ronald E. McNair Postbaccalaurate Achievement Program,*** where I worked closely with Dr. Shawn Cahill and conducted my own research project. My study examined how coping mechanism relate to depression, anxiety and stress among college students. It helped me to further improve my research skills. It also helped me to learn about graduate programs to pursue

Alma J. Navarro
3640 S. 25th St.
Milwaukee WI 53221
08-10-15

to continue my education in to a career where I can incorporate my research interest, and my passion.

Overall, this year and these experiences helped me to grow not only as a student but as a human being that is furthering her education and achieving the goal of getting a Doctoral degree in which I can make an impact in my community practicing psychology. I gain great knowledge from my colleagues, mentors, professor, and staff. I learned many great life lessons that I can carry with me throughout the rest of my life.

Your financial generosity has allowed me to be one step closer to my goal, becoming a counseling psychologist and has inspired me to help others by giving back to the community.

Sincerely,

Alma Navarro

Dear Drs. Alfred and Isabel Bader,

This will be my fourth and final year receiving the Sullivan Spaights Scholarship. I cannot thank the both of you enough for helping me financially through my years in college! I enjoyed the ups and downs of going to college and the struggles of pursuing an education. I am thankful that with your help, I won't be coming out of college with a huge debt. Having the scholarship motivates me to continue my education and graduate, no matter what the circumstances. I am thankful that the both of you were there along with me, supporting me financially along the way. My journey as an undergraduate student is ending, but that is only a chapter of my life. I will be graduating this year in the spring, with a bachelor degree in Biochemistry. My plan for the future is to take my MCAT and apply for medical school. That will be the next step I will fulfill in life. Although, I don't know specifically what field I want to go into as a physician, but I was thinking about becoming a general surgeon. As for my college activities, I was involved in a student organization called Conversational Partners, where I would converse with a foreign exchange student about our differences in culture, our languages, and customs. It was an exciting experience, as I was partnered up with a Korean student, who taught me about the Korean culture, customs, history, and language. I was also volunteering at an organization called Pathfinders, where they assist homeless children and teens with emotional support and basically help them get back on their feet. While volunteering there, I realized that the number of youth and young adults were mainly LGBTQ. While interacting with these young adults, I gained new perspectives on life and appreciate what I have more. Sometimes, the smallest thing such as having a roof over your head comes as a big blessing. I couldn't even imagine how I would live if I homeless, have no money, and was constantly in fear. Moreover, I started to learn a bit more about the large group of LGBTQ community in Milwaukee. I even took a class to learn more about the LGBTQ psychology; it was an interesting class that talks about how a LGBTQ person would think and do, their circumstances, and the stresses of growing up gay. That class taught me life lessons that could be applied to anyone's life, whether they are gay or straight.

I've learned a lot in this past year about myself and life in general. I have to say it was a hard year for me, juggling with school, work, family, and friends at the same time. Learning that the bad times will go away and the good times will come, was what kept me going. Never

quitting and always moving forward and along the way, there will be obstacles for you to overcome. Isn't that what life is all about? Like always, I am really grateful for your support. Without you both, I won't be able to accomplish one of my lifetime goals. You give to those who are in need because you are kind! Thus, there will be a response to your kindness. The cycle of giving will be return with giving. Thank you, you've created a ripple effect, and in time, I shall give back what you've given me.

Sincerely,

Pahoua Vang

Pahoua Vang

I am very honored to say that I will be a recipient of the Sullivan Spaights Scholarship for another year. I would like to thank Dr. Alfred Bader and Dr. Isabel Bader for giving me this opportunity. This scholarship has helped me so much with my tuition. I cannot express my gratitude enough because receiving this scholarship means so much to me. My parents were very proud and happy for me when I told them about how I would be receiving the Sullivan Spaights Scholarship for another year. I know how much weight it has lifted off their shoulders and mine as well.

I am very excited to start this Fall semester because I am very motivated to do my best in all of my classes. I felt that it was easy to have so much motivation once I knew what career path I wanted to pursue. I still plan to become an optometrist so as of right now I am still taking my prerequisite classes before I can apply for Optometry school. Unfortunately, there are not any Optometry schools in Wisconsin so I have been researching the schools in other states. Although I know it is still early, I want to have time to decide and know I am choosing the right school for me in the future.

Over the past year, I have been volunteering the best I could along with school and work. I volunteered at my local library when they have events and also at the YMCA. I have applied to be a volunteer for Habitat for Humanity. I am very excited about this because Habitat for Humanity does amazing things for other people such as rebuilding houses for families. I also plan to volunteer for an upcoming Special Olympics event. I would have to say that the Special Olympics is one of my favorite events to volunteer for because I love the environment around the athletes. I can truly be myself around them and I wouldn't be judged. It inspired me to volunteer more because I realized how much fun it is to meet and interact with new people. Volunteering has really made me become an open-minded person.

I would like to give another a big thank you to Dr. Alfred Bader and Dr. Isabel Bader for providing this opportunity for many others and me as well. Thank you.

Sincerely,

Pally Lor

Godson Mollel

3754 N. 51st Blvd

Milwaukee WI 53216

August 13, 2015

Gretchen Miller

UWM Office of Development and Alumni Relations

3271 N. Lake Drive

Milwaukee, WI 53211

Dear Dr.Alfred Bader and Dr. Isabel Bader,

Re-Thank you letter for Scholarship award

Hello, my name is Godson Mollel and I am a recipient of the Sullivan Spaights Scholarship. I would like to thank you for your kind consideration in awarding me the Sullivan Spaights Scholarship once again. I aspire to become an architect/philanthropist/CEO in the future and to use my education to make a difference in my community and globally. My heart is full of appreciation and I am truly overwhelmed by your generosity in helping me get closer to my dream as I go through my educational experience.

I am truly humbled by your continued investment in my education. I can cross the finish line with confidence knowing that one phase of my pedagogical experience is complete. These four years that have elapsed have challenged me academically but my resolve remains confident that I will graduate in December and go on to grad school. The beauty of knowledge and its endless journey compels me to work hard knowing that at my disposal is an amazing support team such as God, yourselves, family and an entire village all rooting for me to cross the finish line.

This past year at UWM I was afforded the opportunity to participate in the annual UW-Research symposium. It was an exciting experience to present my 2014 summer research that I did through the architecture school and BLC Field School(buildings, landscapes, cultures). The research focused on Washington Park, a racially, economically and culturally diverse neighborhood known for its artist communities and active neighborhood groups. A recent influx of Somali and Burmese refugees has added to an existing diverse group of white, African American and Hmong residents. For this research project we studied a variety of homes in this neighborhood- everyday residences, boarded up homes, refabricated and reused homes, homes transformed into stores and workplaces, homes as works of art, homes remembered in family histories and homes as domestic worlds. As cultural resources, saturated with diverse

values, memories, stories and imaginations, our homes matter, because they represent how we feel about our community and how we value our environment. This project seeks to employ the enduring creativity of storytelling, the power of digital humanities, and depth of local knowledge in order to galvanize Milwaukee residents to talk about their homes as repositories of community memory, spaces of caring and markers of civic pride. These are the skill sets we utilized for this research project-photography, measured drawings, documentation and technical drawings; oral history interviewing, digital ethnography, mapping and archival research.

Other campus activities that I took part in include a GRE prep-session and a business dinner etiquette event hosted by UWM alumni, both were great learning experiences. I was also very much involved in Big Brothers Big Sisters once again. My little and I enjoy working on homework after school and then doing some fun activities afterwards. I hope to inspire him to reach for his dreams as he gets older.

My plans this summer were to work more hours at Home Depot and to spend quality time with my family. I also got the chance to visit the University of Minnesota in Minneapolis's, it is on the list of my possible graduate schools that I would like to attend. Thus far my summer is going well and I am looking forward to another school year full of intellectual growth as well as personal growth.

I am truly grateful for being a Sullivan Spaights Scholar, you have opened a door of opportunity for me and I look to do the same for many others in my life journey as a result of the seed you planted in me.

Sincerely,

*Godson Mollel*

Godson Mollel, BSAS 2015

University of Wisconsin Milwaukee

School of Architecture and Urban Planning

July 26th, 2015

Long Vang

Dear Drs. Alfred Bader and Isabel Bader,

My deepest thanks to your generosity. My name is Long Vang, I am writing to the both of you to express my sincere gratitude. Thank you for selecting and awarding me the Sullivan Spaights Scholarship! I am truly grateful for receiving such an honor from such generous people. Through this blessing, I will definitely strive to prove my worth. I will surely pursue my eduction with all my effort with this newly found source of motivation. Your investment in me will definitely help me in succeeding in my education and acquiring the goals I have set out to pursue.

I am currently a Biomedical Science major, with a passion for science. As school nears, I have plans to accomplish a lot personally and educationally. My vision is to further reach out to my community and become a more active scholar on campus. Not only that, but I as well want to use this opportunity to also pursue my other passion in zoology and wildlife. I have always wanted to become more knowledgeable about the different kinds of life on this planet. Life as I know is quite fragile, but its brief existence is such a fascination. Life is such an amazing existence, and it has become something I have wanted to protect. My long term career goal is to emphasize this philosophy. I plan to become a spectacular doctor in the medical field, saving lives and allowing for those to further cherish the life of others. And maybe through zoology I can also come to save and protect the lives of not just human beings but animals of all kinds.

Upon reading about your own personal stories I truly feel honored that two amazing people with stories of great success chose me out of many for this scholarship. I have read about Dr. Bader's story in the Jewish Museum before, and I feel that your history in escaping Nazi persecution shares similar experiences of my family, who have come a long way from persecution in escaping the Vietnam War. Escaping genocide and leaving loved ones behind, my parents arrived in America with not a single penny in their pockets. Their stories of hardships pains me deeply, but at the same time inspires me greatly to work hard towards my education. Because my parents has never experienced education nor had the opportunities, I want to be able to support them and one day make them proud through my educational success and importance in the community.

Once again I would like to express my sincere gratitude, and thank you for awarding me the Sullivan Spaights scholarship. I will use this opportunity wisely and continue to put my best effort in school. I as a Hmong American, a minority in the crowd, am sincerely thankful for being selected as a recipient of the Sullivan Spaights Scholarship.

I am truly honored.

Sincerely,

Long Vang,
A committed Scholar

To the Sullivan Spaights Scholarship Committee,

I first want to say thank you all for allowing me to continue to receive this scholarship. I am so grateful for having people who believe in me and are willing to help me financially with my school tuition. This previous year was a bit academically challenging, as expected. I am proceeding further into my undergraduate years, and am going to be a junior this fall. Therefore I am taking as many of my sciences classes as possible, as a biology major. Sometimes the rigorous course work and tests have me on edge, but I was still able to work hard and earn a 3.6 gpa. Next year I only plan to do better than before! On top of school I also had to work. I now work at DSW shoe store and just received another position working as a Medical Scribe! I am very excited, seeing as though my ultimate goal is to become a physician. The scribe position will not only let me see the ins and outs, but also provide connections and possibly better opportunities. This year has definitely been a blessing to me. I am also very excited for the upcoming school year, and pray that I am still able to do great. Again, I just want to thank the entire scholarship committee and founders for helping me to reach my goals. You all are much appreciated!

Thank you,

Brianna Jackson

Scholarship Recipient

Dear Dr. Alfred and Isabel Bader,

My name is Robert Larry and I am Sullivan Spaights Scholarship recipient. I am a Bachelor's of Fine Arts major with a concentration in Jazz Studies at the University of Wisconsin-Milwaukee (UWM). I am extremely grateful to the both of you for providing the means for this scholarship. Your generosity and investment in education have allowed me to continue to perfect my craft and enrich the world with what I consider to be a critically essential aspect of human culture.

Ever since I was a young child, I have been fascinated by the phenomenon of music. The exhilarating and stimulating experience of listening to music and enjoying its harmonic and melodic surprises has always captivated me beyond comprehension. Music has always captured my interests very intensely. However, the defining moment of my music appreciation period was listening to my father practice his trumpet in our family living room.

Prior to that event, the circumstances where I found myself enjoying music had always been from a radio or television or some other type of reproduction device. However, this time the source was just mere feet away from me, literally surrounding me and stimulating my young senses. It was a visually and audible confirmation that this strange and euphoric phenomenon could just as easily be produced by any individual, opening the door to the exciting notion that I myself could also be a musician.

The combination of these scenarios gave me a very strong a vibrant passion for music that endures within me today and encourages me to study music at UWM. UWM is home to one of the finest Music Programs in all of the Midwestern Region of the United States. In particular, the UWM saxophone studio has a long history of training nationally acclaimed saxophonists. As a musician with a saxophone concentration, this program was very luring to me. In addition to that, the city of Milwaukee is also a comforting location as I am a Milwaukee native. These two factors were the reasons why I decided to attend UWM.

My educational short term goals are to maintain a grade point average of at least a 3.0 and graduate with a grade point average of a 3.5 to graduate with honors in the music BFA program. I not only want to continue to put myself in a position to earn proficient and advance grades but to also have as solid of a comprehension as I can possibly have on every course that I decide to take.

What a student really learns and takes away from a course is just as critical as or arguably more critical than the grades that are earned. If very little or perhaps no knowledge or comprehension of knowledge is obtained, then by definition the education process has failed. I

have no wish to lose any of the knowledge and life skills that I learn here as a student of UWM because I recognize the value that comes from a genuine quality education.

As a professional career, I expect to work as a music Instructor at a collegiate level. Throughout my years as a young aspiring musician, I have had many Instructors who have made a big impact on me. My teachers not only taught me how to play various instruments in various styles but also gave me the opportunity to collaborate with other young players, study intensely and progress at a high level of musicianship, and gave me the opportunity to travel the country using my talents and skills. Three years ago, I was presented with the opportunity to teach as a music intern at the music institution where I learned from during my adolescent years. I have been offered this position every summer of the last three years and I returned again this past summer.

Watching students grow and progress in such a short amount of time using the insight that I provided for them filled me with awe. In that moment, I saw in these individuals the same awestruck young child that was completely captivated by his father's trumpet. I saw the same excitement and joy that I felt as I progressed and became a more distinguished player. Essentially, I saw young players developing a passion for music just like I have and I am convinced that in one way or another, teaching music will be a part of my professional life and goals. The opportunity to impact people's lives in the same manner that mine was impacted is an opportunity that I intend to take full advantage of in my professional career.

In addition to my normal music internship, I have also taken advantage of other opportunities this summer. I was appointed to serve as a musical intern at my church. I help oversee administrative aspects of music preparation and performance, as well as help organize rehearsals and functions in my department. I have also learned valuable skills in various software programs such as Microsoft excel and Pro Presenter. I was also fortunate to travel to Northern California this summer as a member of the UWM Wind Ensemble as we were chosen to participate in the World Association for Symphonic Bands and Ensembles (WASBE) Conference last fall. We stayed in San Jose, California for five days, playing our concert as well as attending clinics and concerts of other clinicians and ensembles.

Many groups from around the world are invited such as Germany, Israel and Japan. Other American groups included Louisville, Kentucky; Dallas, Texas; and Brooklyn, New York. Our concert was very well received and enjoyed. I can now say that I performed with an internationally acclaimed ensemble at an international music event thanks to the opportunities that I have enjoyed here at UWM.

My parents and I have always respected the true value of a quality education. We know that the investment to earn a college degree in our modern day society is unquestionably

worthwhile. However, that cost of such an investment is considerably high. I am of modest means and earnings and have been for most of my life. My parents are elderly and ill and have not been able to work for some time now, and given my full time responsibilities as a student, I cannot work many hours either. Being fortunate enough to receive scholarships from generous donors has enabled me to continue my high level education despite my extremely modest means and has granted me the opportunity to follow my passion as a musician and educator.

As I am now in the final year of my program and have decided to move out of my parents' house to be closer to my students, my studies, and my commitments here at UWM, I am in greater need than ever before for financial assistance to grant me the ability to pay for my tuition and living expenses.

I am passionate to continue to make a positive impact on my life and the lives of the people around me through sharing my gift of music with them. Art is an essential part of our identity as human beings and I seek to continue to produce this noble and timeless profession. Your generosity has gone a long way in making all of this possible and for that, I am eternally grateful to you both.

July 22, 2015

Gretchen Miller
UWM Office of Development and Alumni Relations
Hefter Conference Center
3271 N. Lake Drive
Milwaukee, WI 53211

Dear Dr. Alfred Bader and Dr. Isabel Bader,

My name is Xee Lor and I am a recipient of the Sullivan Spaights Scholarship for the 2015-2016 academic year. I am writing to thank you for your generous Sullivan Spaights Scholarship. Upon receiving the acceptance letter, I was speechless, extremely excited and appreciative to learn that I was selected as a recipient of your scholarship.

I will be a fourth-year student at UW-Milwaukee this upcoming school year majoring in Art Education. When I was a student at Rufus King High School, I was involved with a lot extracurricular activities and sports, such as tennis and soccer, the National Honor Society, Link Crew Leader, Asian Club, Culinary Club, and secretary for the Key Club and Manga Club. In college, I didn't involve myself in as much school clubs as I wanted, too due to depression and confusion of which career I wanted. However, I am a Lawton Scholar, and it kept me busy and focus on school, and I've been using the school as a resource for studying and much more. By the end of my sophomore year, I figured and realized that Art Education is for me. I choose art education, because I personally love to teach arts and crafts to students, learn about their artworks, listen to their stories, and teach them that art is more than just a leisure activity. For this academic year, I want to participate in education and art clubs to expand my knowledge and interests in art education. I will also look for opportunities to be surrounded in classroom settings to gain more teaching skills from licensed educators and received more observation hours in completion towards my degree. After graduation, I wish to teach art at a public school as a full-time art teacher. Later in my years, I want to start a non-profit art organization to expand art in my community and give individuals access to art supplies and much more to expand their knowledge on art. I want to give the resources to individuals who have a desire for art, that I did not have while growing up or attending public schools.

By awarding me with the Sullivan Spaights Scholarship, you have helped me a lot with financial issues that I had for this academic year. It will help me with my tuition and textbooks a lot. Also, as an art education major, your scholarship will help me with any art materials I need for art lessons that I will conduct in Art Education 327 during Fall 2015. I was struggling and stressing a lot about school financially due to switching major, from mechanical engineering to art education, and it will take about two more years for me to complete my degree. Also, while growing up as the independent child in my family, I do not wish to burden my parents with any financial issue I have, particularly involving my education because they have done more than enough to help me get to

where I am today. Therefore, you have helped me so much for the 2015-2016 academic years with your scholarship and it really means a lot to me.

I appreciate your generosity and I am beyond happy upon receiving the acceptance letter. You have allowed me to focus more on continuing my education and completing my degree. I hope that one day I will be able to help individuals achieve their goals and continue their education like you have helped me today. Again, thank you so much for your generosity and I really appreciate it a lot.

Sincerely,

Xee Lor

6686 N. 55th St.
Milwaukee, WI 53223
(414)-708-4737

July 24, 2015

Dear Dr. Alfred Bader and Dr. Isabel Bader,

My name is Bee Yang and I am a recipient of the 2015-2016 Sullivan Spaights Scholarship. I am writing this letter to express my appreciation for the gift of this scholarship. I want to thank you and am grateful for the opportunities it will provide me. The Sullivan Spaights Scholarship will help me reach my goal of graduating with a Bachelor of Science in Nursing. I plan to pursue a career in Nursing upon graduating from the University of Wisconsin-Milwaukee because I want to take care of people who are in need. In addition, I want to take care of my parents when they get older because growing up they have always taken care of me.

I am Hmong and comes from a family of nine. My parents are refugees from Laos who came to the United States to escape communism after the Vietnam War. I was born in Oroville, California in the year 1994 and moved to Milwaukee, Wisconsin in 1997. My parents moved here in hope to find a good job to provide for the family as well as a better education for their children. As I got older, I realized that how important it is to help out one another. I am where I'm at because of the support I received from my family and my community. In high school, I took the opportunity to be involved with my school by joining school organizations. Some organizations I joined are Asian Club, National Honor Society, Sponsor-A-Scholar, and College Possible. Being involved in Asian Club and National Honor Society has helped me gain leadership skill throughout high school as well as volunteering experience. In addition, being a part in two pre-college program like Sponsor-A-Scholar and College Possible helped be prepared for college. Without the help of these two pre-college program, I would have struggled with my college applications. Now that I am going to my fourth year in college I continued to support my community by volunteering. One community service that I am proud of volunteering is the Southeast Asian Youth Education and Career Center held at UW-Milwaukee. I volunteered at this event because I wanted high school students to receive as much information about college by making this conference a success. Another volunteer activity that I am proud of is being a part of a college student panel for high school students. I am glad that I volunteered for this event because a college student panel is a simple thing to do and it can make a difference for soon to be college students. It proves to me that I can make a difference and be a positive influence in my community.

Again, thank you for your generosity and support. By awarding me the Sullivan Spaights Scholarship, you have lightened my financial burden which allows me to pursue my goal of becoming a Registered Nurse. I promise that I will continue to work hard and give back to the community.

Sincerely,

Bee Yang

UNIVERSITY of WISCONSIN
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# The Golden Peacock

Summer 2014

## *Contents*

*To learn more about these events and other Stahl Center news, visit www.uwm.edu/cjs, "like" us on Facebook, and follow us on Twitter @UWMJewish.*

# The Yiddish Theatre, in All Its Digital and Musical Glory

In late March, the Stahl Center hosted a landmark event in Yiddish Studies: a three-day workshop of the Digital Yiddish Theatre Project (DYTP), an international research consortium founded by Joel Berkowitz and Debra Caplan (Baruch College, CUNY). The group was created to explore the use of Digital Humanities tools and methods for the study and preservation of Yiddish theatre, drama, and performance.

Digital Humanities is one of the most important developments in humanities scholarship in recent years; indeed, it may be one of the most important changes ever to happen to the humanities. In practice, it means many things, including digitizing texts and other materials, coding and tagging those materials so they can be easily searched, conducting analyses of metadata, crowd-sourcing information, mapping, and any other ways that computer technology can help researchers preserve and analyze the raw materials of humanities disciplines.

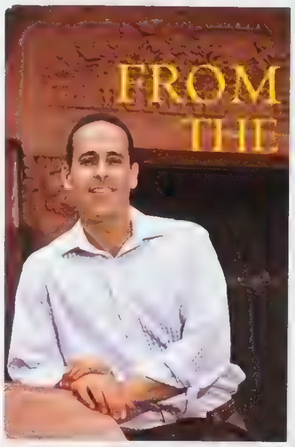
Digital Humanities is particularly well-suited to the study and preservation of the Yiddish theatre, a centuries-old phenomenon that, particularly in modern times, generated thousands of plays and songs, and countless productions in every corner of the world, from Europe to the Americas to Palestine/Israel to South Africa and Australia. New technologies allow us to digitize plays, songs, and photos for the sake of both preservation and greater accessibility; to map the movement of troupes and actors and link those maps to other materials, such as photographs, music, and posters; and to carry out many other activities that foster our understanding of Yiddish theatre and drama.

The Milwaukee workshop was the first full-scale meeting of the DYTP. Previously, the group "met" mostly in cyberspace, on a website designed to foster collaborative projects. While a great deal of preparation for the workshop was conducted online, the Milwaukee meetings were a reminder—not that one was needed—that regardless of the capabilities of online

*(cont'd on page 2)*

CLOCKWISE FROM LEFT:
**Hankus Netsky, Miryem-Khaye Seigel, Eden Macadam-Somer**

> *"It was a joy to work together, to learn from and be inspired by each other. It was honestly a miracle of creativity and passion. Years from now, Yiddish researchers will still be talking about the 'Milwaukee workshop,' where Yiddish theatre was given its digital foundation and structure."*
>
> *— Faith Jones (DYTP)*



# FROM THE DIRECTOR

The past year has been one involving transitions for the Stahl Center, and featuring forays into new types of endeavors. For the previous two academic years, most of our public programs were underwritten by a generous grant from the Asssociation for Jewish Studies. In our first year after the end of that grant cycle, our programming is just as ambitious as before, if not more so. Once again this year, our focus was on the arts; the themes of "Art & Conflict" seemed to select us rather than our selecting them. Our events explored a wide range of art forms: poetry, fiction, visual arts (painting, photography, mixed media), theatre, music, film, and television. Our audiences saw, heard, and learned about work created in Yiddish, Hebrew, Arabic, Spanish, Russian, German, French, and English. And every event brought one or more leading figures in their fields to Milwaukee: poets, filmmakers, TV producers, historians, literary scholars, musicians.

Since its founding, the Stahl Center has taken pride in bringing Milwaukee the very best that the field of Jewish Studies has to offer. This year we began not only showcasing scholarly and artistic accomplishments, but also helping to create them. In late March, the three-day meeting of the Digital Yiddish Theatre Workshop brought together a research group that is undertaking pioneering work in Yiddish theatre scholarship (see cover story for more details). Next year, in May 2015, we will host another conference in a very different field, when my colleague Lisa Silverman, along with Ben Baader (University of Manitoba) and Beth Berkowitz (Barnard College), will convene "Grammars of Coherence and Difference," described by the organizers as "a conversation about what Jewish Studies can learn from Gender Studies." I have no doubt that this conference will make its mark on subsequent research conducted by scholars working in a number of areas of specialization within Jewish Studies.

At the same time, we will never miss the opportunity to connect such events to our mission of outreach, so members of the UWM and wider Milwaukee communities can learn from them as well.

Speaking of outreach, I am pleased to announce a new theme for the 2014-15 programming year: the Milwaukee Jewish Idea. Wisconsinites will recognize the echo of a famous Progressive Era policy, the Wisconsin Idea, linking the state's university system to social legislation benefitting the entire citizenry, and summed up by the principle that "the boundaries of the university are the boundaries of the state." In that spirit, the Milwaukee Jewish Idea will:

- highlight work in Jewish Studies by Wisconsin-based scholars: particularly UWM faculty, but including the work of our colleagues elsewhere in Milwaukee and around the state;
- feature events exploring the history of Jews in Milwaukee and elsewhere in Wisconsin; and
- include programs pairing UWM faculty with colleagues from other Wisconsin colleges and universities whose research intersects with ours.

Details of next year's programs will be publicized in the coming months. To add your name to our mailing list, please contact us at cjsuwm@uwm.edu. And please follow us on social media for announcements, updates, and other information.

Have a wonderful summer. We look forward to seeing you again in September!

Joel Berkowitz

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*(cont'd from cover)*

collaboration, there is no substitute for working together in real space and time. The group consists of a mixture of academics, independent scholars, archivists, and librarians from across the United States, as well as from Canada, the UK, and the Netherlands.

Over the course of the workshop, DYTP members fine-tuned the project's rationale, discussed short- and medium-term plans, weighed possibilities and challenges, and interacted with others on campus who have a strong interest in Digital Humanities. By the time the workshop ended, the group had generated a list of specific follow-up tasks, some of which have since been taken care of, with others that are under way or yet to be tackled. The group now has a Facebook page: www.facebook.com/digitalyiddish. More ambitious projects are under way or in planning stages, including a blog covering a wide variety of topics related to the Yiddish stage, and an interactive timeline following the international career of one of the great stars of the Yiddish theatre.

**L to R: Lorin Sklamberg, Kurt Bjorling**

In conjunction with the workshop, the Stahl Center organized several public events. Four workshops were held in UWM's Digital Humanities Lab, housed in the Golda Meir Library. UWM staff members Ann Hanlon, Nathan Humpal, and Marcy Bidney gave presentations on broad DH subjects, while world-renowned musician, teacher, and composer—and DYTP member—Hankus Netsky took listeners on a fast-paced tour of the development of Yiddish theatre music.

The wider community was also treated to two public events, made possible (as was the entire workshop) by the generosity of the Baye Foundation. On March 27, the ten DYTP members in attendance each gave brief presentations on a variety of subjects that included music, mapping, textual analysis, genealogy, and theatre posters, and covered activity from Argentina to Zimbabwe, Warsaw to Winnipeg, and many points in between. Following the individual presentations, the group members participated in a lively question-and-answer session with the audience.

Two nights later, world-renowned bandleader, teacher, and composer Hankus Netsky led his ensemble, Hebrew National Salvage, in a concert tracing the evolution of Yiddish theatre music, from the earliest professional productions in the 1870s and 1880s to the post-WWII period, when performers like Mickey Katz and the Barry Sisters put their inimitable stamp on traditional materials. Netsky assembled an all-star gallery of talent for the event that included Klezmatics lead singer Lorin Sklamberg and the DYTP's own "singing librarian," Amanda (Miryem-Khaye) Seigel, whose diminutive size cleverly hid an outsized voice, and whose comic antics delighted the crowd.

The workshop, and the public events connected to it, were too successful not to repeat. Expect a reprise some time in the fall of 2015.

**Francesco Spagnolo exploring surprising connections among Yiddish, Hebrew, and contemporary Italian popular culture**

## Workshop Participants

**Zachary Baker** (Reinhard Family Curator of Judaica and Hebraica Collections, Stanford University Libraries)

**Joel Berkowitz** (Director, Sam & Helen Stahl Center and Professor, Foreign Languages & Literature, UWM)

**Debra Caplan** (Assistant Professor of Theater, Baruch College, City University of New York)

**Barbara Henry** (Associate Professor of Russian Literature, University of Washington)

**Faith Jones** (Graduate Student, University of British Columbia, Vancouver)

**David Mazower** (Independent Scholar; Senior Staff Journalist, BBC World Service, London)

**Aaron Rubinstein** (University and Digital Archivist, University of Massachusetts, Amherst)

**Amanda (Miryem-Khaye) Seigel** (Librarian, Dorot Jewish Division, New York Public Library)

**Francesco Spagnolo** (Curator, The Magnes Museum of Jewish Art and Life, University of California, Berkeley)

**Michael Steinlauf** (Director, Graduate Program in Holocaust and Genocide Studies, Gratz College, Philadelphia)

*"Not only did I leave the week inspired by the ideas that flowed from this well-chosen group; I realize more and more that I experienced something completely novel. To work so effectively across institutions and disciplines, with scholars both inside and outside academia is exceedingly rare. I have no doubt that the DYTP will make a very important mark not only on Yiddish theatre scholarship, but on the future of the humanities as a whole." —Aaron Rubinstein (DYTP)*

**L to R:**
**Aaron Rubinstein, Francesco Spagnolo, Michael Steinlauf, Debra Caplan, David Mazower, Miryem-Khaye Seigel, Barbara Henry, Zachary Baker, Faith Jones, Joel Berkowitz**

# Historic Yiddish Theatre Posters Acquired by the UWM Libraries

BY MAX YELA, HEAD OF SPECIAL COLLECTIONS

With the assistance of the Sam & Helen Stahl Center for Jewish Studies, the UWM Libraries has acquired a set of 78 Eastern European Yiddish posters, which document a variety of performances in Eastern Europe during the interwar period. The posters are preserved in the Libraries' Special Collections, and a project has been initiated to digitize the collection for remote and classroom use.

The posters are "show-print" style advertisements for performances and presentations (theatre, vaudeville, music, lectures, etc.) in Eastern Europe (mainly Latvia) in the 1920s and 1930s. Information in the posters includes venue names, performance dates, titles and descriptions of performances/presentations, performer/presenter names (some with titles, brief biographical information, and photographic image), and sponsor information. Personalities highlighted include Lithuanian actor and producer Rachel Berger, Russian film star Ossip Runitsch, and prominent Labor Zionist and Latvian parliamentarian Dr. Max Lazerson.

The posters range in size from 9″x 13″ (smallest) to 29″x 44″ (largest), with the majority about 23″x 36″. All are letterpress-printed in wood and metal types, with some cuts and photographic imagery printed manly in black, but there are also red, blue, and rainbow-roll colors. Typography includes Hebrew (mainly Yiddish), Cyrillic (mainly Russian), and Roman (mainly Latvian).

As a partnership acquisition with the Stahl Center for Jewish Studies, the collection is intended mainly for teaching and research through the Center's programs, but it has additional usefulness for art and design, history, language programs, and the Milwaukee Jewish community—and when it becomes fully digitized, for the broader theatre history and Jewish/Yiddish communities worldwide.

As a public collection, the Yiddish Poster collection in the UWM Libraries is fully available for use by the public in Special Collections (4th floor, Golda Meir Library). Special Collections' hours are Monday-Friday, 10am-5pm, or by appointment (414.229.4345; libspecial@uwm.edu).

# The Morals of Marc Chagall

BY CASSIE A. SACOTTE

***The Fox and the Bust,* from *The Fables of La Fontaine,* 1927-1930, hand-colored etching on Japon Nacre, UWM Art Collection**

***Moses Before the Burning Bush,* from *The Story of the Exodus,* 1966, color lithograph on Arches paper, Special Collections, UWM Libraries**

*The Morals of Marc Chagall,* a thesis exhibition I curated as part of my MA in Art History at UWM, grew out of my undergraduate work here as a double major in Art History and Jewish Studies. As an undergraduate, I took on the challenge of studying Chagall's illustrated book suite *Dead Souls,* 107 black-and-white etchings depicting scenes from Nikolai Gogol's satirical novel of 1842, a classic of modern Russian literature. Chagall's etchings retain a linear quality, and depict the immoral stature of the many characters in the text. Although the negative experience of Chagall's exile from Russia prompted the illustration of *Dead Souls,* Chagall captured the humorous and satirical spirit of Gogol's novel.

As a master's student, I knew I wanted to continue working with the impressive collection of Chagall's art located within the UWM Art Collection and Golda Meir Libraries Special Collections, but wanted to considerably expand the project beyond the illustrations of *Dead Souls.* A gift in 2011 to the UWM Art Collection of Chagall prints illustrating *The Fables of La Fontaine* broadened the possibilities for my research, and after exploring the potential of the collection, I found that the three illustrative book suites featured in the exhibition—*Dead Souls* (1923-1927), *The Fables of La Fontaine* (1927-1930), and *The Story of the Exodus* (1966)—have much in common. The most noteworthy similarity was the theme of morality found in each text.

*The Morals of Marc Chagall* evaluates the artist's approach to the portrayal of morality presented in each text, which was affected by both personal and historical experiences. Chagall's intention in depicting each text was to show the moral stature of each character, not to dictate morality.

Chagall purposefully ignored the original moral lessons of the Fables, which were addressed to the writer's 17th-century audience. Instead, the artist used them to create a magical world of mischievous etchings, based on gouache paintings. The Fables exhibited in The Morals of Marc Chagall belong to the 85 special editions that here hand-colored by the artist.

The 24 beautifully colored lithographs that make up *The Story of the Exodus* provide a moral universalism that Chagall was interested in expressing through the use of an emotionally rich humanity. However, the heavy use of Jewish themes and symbols throughout the illustrations inhibited Chagall's universalist depiction. In fact, when interpreted through a Jewish lens, Chagall's illustrations for *The Story of the Exodus* suite can be seen as a metaphor for Chagall's support of Zionism and the state of Israel.

*The Morals of Marc Chagall* ran from November 21–December 12, 2013 at the UWM Art History Gallery. Advisers Kenneth Bendiner, professor of art history, and Rachel Baum, adjunct professor of Foreign Language and Literature and faculty member of the Stahl Center for Jewish Studies, helped me develop the exhibition. My special thanks as well to Linda Brazeau, director of the UWM Art Collection and Art Galleries; Christa Story, curator of collections for the UWM Art Collection and Galleries; Kate Negri, department associate in Art History; Joel Berkowitz, director of the Stahl Center for Jewish Studies; Max Yela, head of the Golda Meir Libraries Special Collections Department; and Steven Brondino, partner of Blutstein Brondino Fine Art.

# A Brand-New Tool for Teaching an Ancient Language

BY YAEL GAL, UWM HEBREW INSTRUCTOR

When I received the news that the Stahl Center was purchasing a Smart Board (interactive whiteboard) for the purpose of teaching Hebrew, I could not have been more excited! The Smart Board, a relatively new teaching and learning tool, opens doors to new and improved ways of instruction and is especially useful in teaching a foreign language.

Like the traditional whiteboard, the Smart Board projects a computer's content onto a big screen. What makes it "smart" is that it enables the user to edit and write notes or comments (and move them around), to add drawings, to erase or highlight, and so much more. All this with just the touch of a finger or an electronic pen!

How can we use the Smart Board to enhance Hebrew studies? The list of possibilities is long and keeps growing every year. Here are a couple of examples:

The instructor can project a page from the textbook onto the big screen. The instructor or the students can then circle, underline, highlight, or overwrite different elements of the page on the board itself. In Hebrew, this can be used to show the roots of verbs, find the adjectives, or identify prefixes and suffixes.

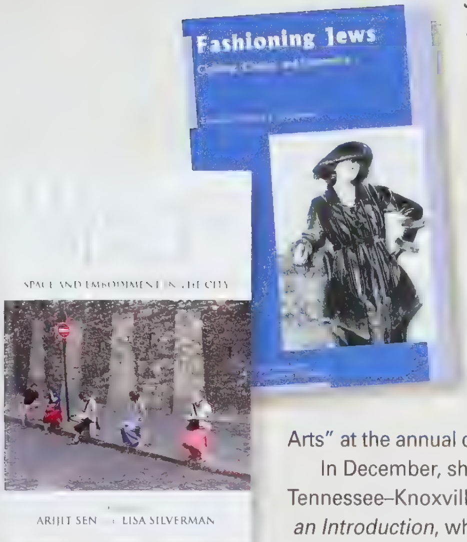
The same can be done with any multimedia presentation. We can upload pictures from a digital camera, show movies or images, and use the Internet. Word documents and scanned documents also work well, and allow us to emphasize important points or add relevant comments on the board in real time. If we wish, we can save these documents, along with any changes or comments added, and display them again at any time. Any worksheet typed on the computer can easily be opened on the Smart Board, and answers can be filled in directly on the board itself.

As a foreign-language instructor, I find the Smart Board very helpful in developing oral skills, as it encourages conversation and communication. The students can speak in the target language as a group since they all concentrate on the same item simultaneously. With the help of colorful pictures and animations, I can speak only in Hebrew while presenting new vocabulary, grammatical concepts, and other topics.

The Smart Board brings true excitement to learning and it is a powerful supporting tool for language acquisition. It encourages the use of technology in class and stimulates high levels of interest and thinking among students. There is no doubt that alongside the more conventional teaching methods, it brings a new and creative dimension to the class and offers endless opportunities for both the teacher and the student.

I am grateful to the donors who made the purchase of the Smart Board possible. Most of the funding came from the Robert and Sylvia Grossman Fund, established by the Grossmans' children and their spouses, Linda and Eli Frank and Ellen and Larry Grossman. Additional funding came from Michael Bracha. Their generous support of UWM's Hebrew program has made it possible for me to teach a 3000-year-old language with state-of-the-art technology.

# FACULTY UPDATES



In the fall 2013 semester, **Lisa Silverman** taught "Introduction to Jewish History" (History 379/ Jewish 379) as a hybrid course for the first time. The course combined elements of online and traditional classroom teaching in order to facilitate and reinforce students' understanding of the history and culture of the Jewish people from antiquity to the present. In spring 2014, she taught the course "The Jews of Modern Europe: History and Culture" (History 358/ Jewish 358) in the same format.

On December 4, 2013, Lisa presented a talk on her current research on Viennese photographer Madame d'Ora and the restitution of her house in Austria after the Holocaust at the Pennsylvania State University in State College, PA. She also presented this research at the annual conference of the German Studies Association, which was held in October, 2013 in Denver, Colorado. Her related essay on Madame d'Ora and other Jewish women in Vienna titled "Ella Zirner-Zwieback, Madame d'Ora and Vienna's New Woman" appeared this fall in the volume *Fashioning Jews: Clothing, Culture, and Commerce,* edited by Leonard Greenspoon (West Lafayette, IN: Purdue University Press, 2013).

Lisa was also invited to serve as the moderator for the panels "The Practice Of Jewish Cosmopolitanism" and "Siting Difference: Locations of Jewish Identity in the Graphic Arts" at the annual conference of the Association for Jewish Studies, which was held in Boston in December, 2013.

In December, she and co-author Daniel H. Magilow, Associate Professor of German at the University of Tennessee–Knoxville, completed the manuscript for a volume titled *Holocaust Representation in History: an Introduction*, which will be published with Bloomsbury Academic Press in 2014.

Her volume *Making Place: Space and Embodiment in the City,* which she co-edited with Arijit Sen, Associate Professor of Architecture at UWM, will appear with Indiana University Press in January, 2014. The volume includes her essay "Jewish Memory, Jewish Geography: Mapping Vienna before 1938."

This fall, she was also invited to submit an article on "Vienna" for the *Oxford Bibliographies in Jewish Studies*, edited by David Biale, which is published by Oxford University Press.

This past October, **Ellen Amster** presented "Corporeality and Politics: Theoretical Reflections on the Arab Spring," at the Middle East Studies Association Meeting in New Orleans, LA.

Ellen also gave four lectures in fall 2013: "The Muslim Womb: Midwives, Colonial Obstetrics, and the Postcolonial Legacies of Medicalized Childbirth in Morocco," at the Center for Global Citizenship, St. Louis University, in St. Louis, MO; "Healing the Body, Healing the Umma: Sufi Saints, God's Law, and Reflections on the Islamic Body Politic in Morocco and North Africa," Institute for the Study of Islamic Thought in Africa, Program of African Studies, Northwestern University, in Evanston, IL; "The Marabout (Murabit) as Public Healer: The Cosmology of Corporeality and the Islamic Body Politic in Morocco," African Studies Center Lecture Series, UW-Madison; and "The Mad Saint as Healer: The Islamic Majnun in al-Kattani's Salwat al-Anfas and in French Colonial Ethnography," Documentation and Research Centre for Religion, Culture, and Society (KADOC), University of Leuven, in Leuven, Belgium.

In September, the first chapter of Ellen's book, *Medicine and the Saints,* was the subject of Religion and Culture Web forum of the Martin Marty Center for the Advanced Study of Religion at University of Chicago Divinity School.

Ellen was recently elected as a Governing Council Member at the Western Society for French History, a Board of Directors Member at the American Institute of Maghrib Studies, and appointed as Chair of the L. Carl Brown Book Prize Committee for the American Institute of Maghrib Studies.

**Joel Berkowitz** delivered a lecture, "The 'Mendel Beilis Epidemic': A Blood-libel Trial on the Yiddish Stage," to kick off the Stahl Center's "Art & Conflict" series of public programs for 2013-14. In December, he chaired a session at the Association for Jewish Studies annual conference in Boston called "Staging Leivick," which explored the Holocaust-era dramas of the noted Yiddish playwright H. Leivick through new translations of scenes from his plays by Joel Berkowitz, Debra Caplan, and Motl Didner. In February he gave a lecture titled "With the Saving Remnant: A Yiddish Poet on 'Accursed German Soil'" at the University of Louisville.

Joel was recently awarded a Global Studies Fellowship for 2014-15 by UWM's Center for International Education for his current book project, *In the Days of Job: Yiddish Holocaust Drama.*

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## The Golden Peacock

*The bird that gives its name to this publication, and its image to our logo, figures prominently in Jewish folklore. In folk song, the golden peacock frequently arrives bearing some important message. We proudly adopt this figure as a symbol that connects us to the long tradition of Jewish learning and creativity.*

## Yes, I want to become a friend of the Sam & Helen Stahl Center for Jewish Studies.

*Please accept my gift of $*________

**Please direct my gift to:**

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○ Faye Greenberg Sigman Lecture Series Fund
○ Milwaukee Jewish Community Fund (student support)
○ Robert & Sylvia Grossman Fund (program support)

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414 229-2347 *fax*

February 25, 2016

Drs. Isabel and Alfred Bader
c/o Alfred Bader Fine Arts
924 E. Juneau Ave., Ste. 622
Milwaukee, WI 53202

Dear Isabel and Alfred:

You have no doubt heard the exciting news of UWM's role in a major scientific breakthrough. Our researchers – in collaboration with peers worldwide – helped to confirm the existence of gravitational waves, thereby proving a key part of Einstein's general theory of relativity.

This achievement shows what a research powerhouse UWM has become, and it helps to explain why the Carnegie Classification of Institutions of Higher Education recently elevated us to R1 status. This "highest research activity" rating was given to just 115 of the 4,665 universities evaluated. In Wisconsin, only UWM and UW-Madison received the designation.

As you know, our standing as an exceptional public *research* institution is due, in large measure, to Dr. Leonard Parker's trailblazing work on early-universe particle creation. I am delighted that – through your inspiring generosity – our Center for Gravitation, Cosmology, and Astrophysics now bears his name. Thank you for spotlighting what he did to push the university to new levels of scientific excellence.

My warmest wishes to both of you, for a wonderful – and early? – spring.

Best,

Mark A. Mone

Mark A. Mone, Ph.D.
Chancellor

MAM/jw

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Office of Development

Hefter Center
3271 N. Lake Dr.
Milwaukee, WI
53211-3460
414 229-3011 phone
414 229-6930 fax

Dear Alfred and Isabel,

I am providing you with the original letters from your Sullivan-Spaights Scholars, and a video of them, too! I hope you enjoy seeing and hearing their words of gratitude!

Classes started this week, and so they are busy with their new responsibilities. We all send our best wishes to you.

Thank you for all you do for UWM,

Gretchen

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July 15, 2002

Dr. Alfred Bader
Astor Hotel
924 E. Juneau Avenue
Milwaukee, Wisconsin 53202

Re: Sullivan-Spaights Award

Dear Dr. Bader:

My name is Zachary A. Correa, this year's recipient of the Sullivan-Spaights Award at the University of Wisconsin-Milwaukee. I'm writing to express my gratitude for being selected and to thank you, in advance of our meeting, for your kind consideration and generosity.

I'd like to tell you a little about myself. I live in Milwaukee with my mother and father and am the youngest of three sons. My two older brothers are graduates of the University of Wisconsin-Parkside. One is employed by the university as an admissions counselor, and the other is a City of Kenosha police officer.

I am looking forward to my post-secondary education at UW-Milwaukee. I have a keen interest in computers and plan to major in Computer Science and Spanish. I'm also interested in UWM's architectural program.

I enjoyed my four years at Milwaukee's Bay View High School. I was very involved in extra-curricular activities while maintaining nearly a 4.0 grade point average in the Math/Science Specialty program. I was a three-year Major Letter and two-time All-Conference recipient in varsity football, a two-year Major Letter recipient in varsity wrestling, a one year Major Letter recipient in Golf and also played baseball for two years. I was an active member of the National Honor Society, Beta Club, Latino Club, and the school newspaper/yearbook/year disc. For two years, I was chairperson for the annual high school blood and food drives. I also chaired a major fundraiser for the school newspaper. I was on the Homecoming Decorating Committee and a member of the 2002 Senior Class Commission.

Being involved, I believe, taught me how to manage my time, how to work with others, how to listen as well as how to instruct. I believe I have developed a good work ethic, leadership skills, and the responsibility to always be committed to the task at hand.

I hope to prove myself worthy of your generous gift. I look forward to our meeting in September to be able to thank you in person.

Sincerely,

Zachary A. Correa

UWM
FOUNDATION

ALUMNI HOUSE
3230 East Kenwood Blvd.
Milwaukee, WI 53211

(414) 906-4640
(800) 654-0434
(414) 229-6963 fax

July 17, 2002

Dr. Alfred and Dr. Isabelle Bader
2961 N Shepard Avenue
Milwaukee, WI 53211

Dear Drs. Bader,

I am pleased to forward the latest on the Sullivan-Spaights Scholarship scholar's academic progress.

| Scholar | Credit Completed | GPA | Cumulative GPA |
|---|---|---|---|
| Thomas Jamaal Foster | 27 | 3.595 | 3.420 |
| Mario Demond Nimock | 86 | 2.917 | 3.070 |
| Twanna Dashawn Watson | 55 | 2.861 | 3.418 |

All of your scholar's have maintained the 3.0 or better, cumulative grade point average and we are please to renew their scholarship for the coming semester.

Your scholarship support has made a remarkable difference for these students and UWM. On behalf of the UWM community, please accept our thanks for your continued commitment to minority education at UWM. If you have any questions, please feel free to give me a call at 414/906-4679.

Sincerely,

Allyson M. Olivier
Director of UWM Foundation Scholarships

AMO/ah

THE UNIVERSITY OF WISCONSIN—MILWAUKEE/P.O. Box 413, Milwaukee, Wisconsin 53201
OFFICE OF THE CHANCELLOR
414-963-4331

December 21, 1979

Dr. Alfred R. Bader
2961 N. Shepard Avenue
Milwaukee, Wisconsin 53211

Dear Dr. Bader:

It is my distinct pleasure to inform you that the Faculty of the University of Wisconsin-Milwaukee has authorized me to invite you to receive the honorary degree of Doctor of Science at our commencement on Sunday, May 18, 1980. This recognition comes as a result of your scholarly contributions of worldwide significance in both chemistry and art.

I hope it will be possible for you to accept this degree in person, as this is a condition of the award. Should you inform me that it will be possible for you to be in attendance on May 18, the Board of Regents will take formal action. At that time there may be a public announcement.

I hope you will do us the honor of accepting our invitation. We will see that you get further information with reference to the ceremony at a later time.

Sincerely,

Leon M. Schur

Leon M. Schur
Acting Chancellor

THE UNIVERSITY OF WISCONSIN—MILWAUKEE/ P.O. Box 413, Milwaukee, Wisconsin 53201
COLLEGE OF LETTERS AND SCIENCE
DEPARTMENT OF HEBREW STUDIES
(414) 963-4245

December 12, 1979

Dr. Alfred Bader
2961 N. Shepard
Milwaukee, WI 53211

Dear Dr. Bader:

It would be an understatement to say that the students enjoyed your recent presentation. They were truly enthusiastic about it, and particularly appreciated the clarity of your discourse and the fact that you have a wealth of information at your finger tips.

We are most grateful to you for contributing in so outstanding a fashion to the semester's work.

Thank you again.

Sincerely,

alan corré

Alan D. Corre
Chairman

cc: Prof. Monti
Prof. Carrozza

ADC/mcs