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Philadelphia Section Award

Dr. Patrick J. Walsh

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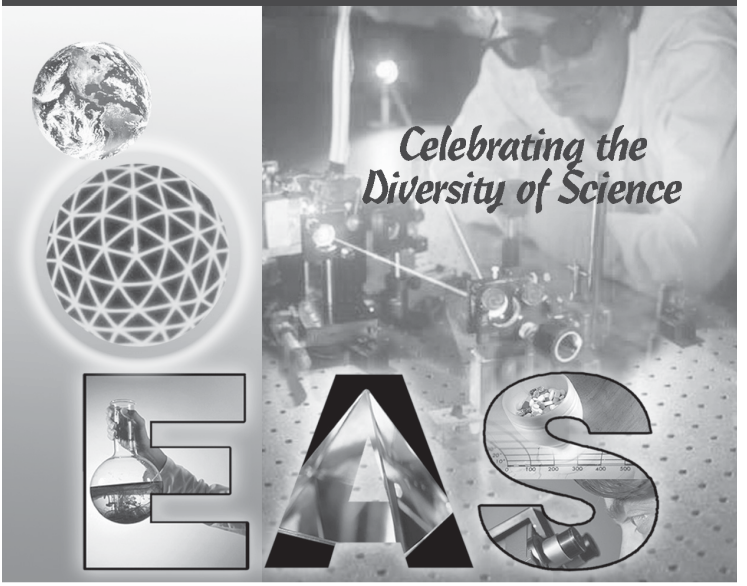

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ADVANCE NOTICE

NOVEMBER MEETING

Ullyot Lecture

Dr. Ralph Cicerone

President, National Academy of Sciences

THURSDAY, November 16th, 2006

Chemical Heritage Foundation

See page 127 for an interview with Dr. Cicerone

See the NOVEMBER issue of ***the Catalyst*** for details,
call the Section Office at (215) 382-1589, email PhilaACS@aol.com

From The Chair

Deborah E. Kilmartin

First of all, I would like to thank Ella Davis and Judy Summers-Gates for volunteering to run for Chair-Elect, Carol Jean Bruner and Toby Williams for agreeing to run for Treasurer, and all those agreeing to run for Board of Directors and Council. Each year we are able to fill many spots quickly but finding enough people willing to run, especially for the officer positions is almost always quite difficult. We welcome new faces to these positions, so please contact me at kilmartind@msn.com or Mrs. Libby Harper at philaACS@aol.com if you'd like to be considered for next year! If you need a special invitation to come forward, consider this it!

If you have received your *Catalyst* but not your ballot, please let Mrs. Libby Harper know at 215-382-1589 or philaacs@aol.com. Also, please continue to check out our website (http://membership.acs.org/p/philadelphia/). Let us know what you think and what we need to provide to continue to make our website useful to all of you.

Many of you who have provided your email address to National and indicated you are willing to receive email have experienced our new bulk news update by email. For those of you interested in participating, please send your name and email address to Libby Harper for future email news updates.

This month's meeting continues the great tradition of honoring some of our best local chemists or chemical engineers with the Section Award lecture. This year, we are honoring a Penn professor, Dr. Patrick J. Walsh; details are on pages 125 and 126. As always, our lectures are free and our dinners, great for socializing, are at cost. Come out and join us if you can!

And now, my opinions on editorial rights. At the time I am writing this column, Rudy Baum of *Chemical and Engineering News* is coming under a lot of criticism for using his Editor's column to put forth his political views. I was surprised at the many negative comments asking "How dare he?". It's simple, the editorial column has always been whatever viewpoints the editor wants to take. One reason it's often called the Op Ed column—Opinions of the Editor. It's not the viewpoint of the society or even the magazine, just his. Same here, although part of my job is to express the state of the Section, it's also my chance to say whatever I want—it's my opinion and doesn't represent the Section's stand on anything, or even *the Catalyst* or the Editor-in-Chief's viewpoint, just mine. We even state on the masthead page that articles are the viewpoints of the authors and not that of *the Catalyst*, Publications Committee, or the Section!

Anyway, I don't share all of Rudy Baum's views or opinions, but because he criticized the President and the government doesn't make him anti-American; quite the contrary, it used to be one of our most cherished freedoms! What made me hot about his right to be wrong and yet speak out was another article I wish I could find that I read somewhere else about Condoleeza Rice stating how we were making a difference in Iraq because people felt free to criticize their government! Foreigners are allowed to express their opinions in the press and are praised for it, but poor Rudy Baum is abusing his well-established right as both an American and as an editor to express his political opinions in a column all about his opinions? It drives me crazy, how children, criminals, and foreigners have more rights in this country than upstanding tax-paying citizens. I'd love to hear your opinions on this issue—should Mr. Baum be allowed to express whatever his opinions are or should he relegate himself to directly chemistry-related opinions only?

Deb Kilmartin

These are solely the opinions of our chair and do not represent the official view of *the Catalyst* or the Philadelphia Section.

OCTOBER MEETING

THE PHILADELPHIA SECTION,
AMERICAN CHEMICAL SOCIETY

presents the

2006 Philadelphia Section Award

to

Dr. Patrick J. Walsh
Department of Chemistry, University of Pennsylvania

Adventures in Asymmetric Catalysis

Thursday, October 12th, 2006 (NOTE CHANGE OF DATE)
6:00 PM

Carolyn Hoff Lynch Lecture Hall
Chemistry Building
University of Pennsylvania
34th and Spruce Streets
Philadelphia, PA

Social Hour: 5:00-6:00 PM in the Chemistry Building's Alumni and Faculty Hall of Fame
Dinner following the lecture at the White Dog Café, 3420 Sansom Street
Dinner + social hour cost: $55; students with reservations and ID: $28
Cost for social hour only: $5; students with ID: $3

DINNER RESERVATIONS should be made by calling the Section Office, (215) 382-1589, or emailing PhilaACS@aol.com by **5:00 PM** on **Thursday, October 5th.** Cancellations, if necessary, cannot be accepted after **NOON on Tuesday, October 10th. UN CANCELLED RESERVATIONS WILL BE BILLED.**

PARKING: Parking is available for $12 in the University of Pennsylvania garage located at 34th and Chestnut Streets. Going south on 34th, turn left into the garage toward the end of the block past Market and just before reaching Chestnut. Metered parking on the street may also be available. See www.upenn.edu for directions.

The Board of Directors will meet at 4:00 PM in the Carolyn Hoff Lynch Lecture Hall.

PHILADELPHIA SECTION AWARD

Patrick J. Walsh
University of Pennsylvania
Adventures in Asymmetric Catalysis

Abstract: Catalyst development, method development, and investigation into reaction mechanisms in asymmetric catalysis will be covered. We have developed several highly enantio- and diastereoselective one-pot methods for the efficient synthesis of synthetically useful epoxy alcohols, allylic epoxy alcohols, and cyclopropyl alcohols with up to four contiguous stereocenters. New tandem reactions for the synthesis of novel vinyl boronate esters, alpha-hydroxy ketones, and furans will also be presented. Finally, mechanistic studies involving Shibasaki's heterobimetallic catalysts will be briefly outlined.

Biography: Patrick J. Walsh grew up in El Cajon, CA, where he developed an interest in chemistry as a child when he visited his father's office laboratory. In the lab, water samples from cooling towers were analyzed by various methods, the most interesting of which was titration. Later, in high school and college, he worked sterilizing new tracks of underground pipe for potable water, frequently mixing and packing 2,000 pounds of chemicals per day. Long days of manual labor inspired Walsh to study at UC San Diego, where he changed his major to chemistry after taking first semester organic from Prof. Charles Perrin. During his undergraduate training he was fortunate to volunteer in Perrin's physical organic chemistry laboratory where he had his own research project with very little supervision. While the project was largely unsuccessful, it was important in shaping his current mentoring style, which involves daily interactions and discussions with coworkers.

After finishing his BA at UCSD in 1986, Walsh moved north to UC Berkeley, joining Prof. Robert G. Bergman's (two-time Edgar Fahs Smith lecturer) labs. His research direction drastically changed in the days following a seminar by Prof. D.C. Bradley (University of London) on metal nitrogen multiple bonds. Bradley noted that there were no known metal-nitrogen double bond to group (IV) transition metals. Within three months, Walsh had synthesized and crystal-lographically characterized the first Zr=N linkage, which proved to exhibit unprecedented reactivity in C-H activation, cycloaddition chemistry, and alkyne hydroamination. Later, with postdoctoral associate Michael Carney, the first monomeric Zr=S and Zr=O compounds were prepared and studied. This project remains active in the Bergman group today. During his tenure in the Bergman group his scientific development was greatly impacted by discussions with his classmate and friend, John F. Hartwig (University of Illinois).

Walsh received an NSF Postdoctoral Fellowship to work with Prof. K. Barry Sharpless at MIT. Shortly afterward, Sharpless accepted an offer from the Scripps Research Institute in La Jolla, CA and Walsh returned to San Diego where he worked on the asymmetric dihydroxylation. In 1994 Walsh accepted a position in the chemistry department at San Diego State University, a large, primarily undergraduate teaching institute. For the next five years, Walsh focused on preparing titanium complexes and examining them in catalytic asymmetric reactions with undergraduate and master's students. Between 1995 and 1999 he also worked at Instituto Tecnológico de Tijuana with Mexican students and professors beginning two research projects that are ongoing. This collaboration has broadened to include professors in Puebla and Mexico City and has resulted in over 10 articles published in peer-reviewed journals.

In 1999 he moved to the University of Pennsylvania where he was promoted to associate professor in 2002 and full professor in 2005. Research in the Walsh group encompasses asymmetric catalysis, tandem reaction, reaction mechanisms, heterocyclic chemistry, and inorganic synthesis. Walsh's award seminar will span development of new methods in organic synthesis to understanding mechanisms in asymmetric catalysis.

NEWS ATOMS

John Wojcik retires as professor of chemistry at Villanova University.

Joseph M. Barendt appointed chief operating officer of Chiral Technologies.

George F. Palladino, formerly of the University of Pennsylvania and currently serving as chairman of the board of trustees of the ACS group insurance plans, provided information to members on the Society's insurance program in the August 7 issue of *C&EN*.

DEATHS

John A. Cornell, retired chemist in the field of plastics for dental and optical use, July 18th at 83. He earned a Purple Heart during the Battle of the Bulge in WWII. He worked as a research chemist for Justi Company, Sartomer Resins, and Esschem. He then operated Westwood Research Laboratories in West Chester for 10 years before retiring.

John Cornell served on and/or chaired several Philadelphia Section committees during the 1970s including the social, education and nominating committees.

Cornell was a badminton champion and organized badminton tournaments. He was also an avid sailor and tennis player, and was a founder of the Aquarium Society of Philadelphia.

Roy E. Starn, Jr., former research chemist with DuPont, July 24th at 81. Starn also received the Purple Heart during WWII. After retiring from DuPont he served Chester County Hospital as a volunteer.

Bryce Douglas, retired pharmaceutical executive, July 29th at 82. A native of Scotland and educated there, he was then a post-doctoral fellow at the National Research Council in Ottawa. Following further study at Harvard Medical School he joined Smith Kline Company as a research chemist.

In the 1970s, Douglas helped introduce Tagamet to the market. He retired from Smith Kline in 1981 as vice president for science and technology. He served on the boards of several institutions including the Franklin Institute, the University of Pennsylvania Dental School, and the Royal Society of Medicine, among others.

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A CONVERSATION WITH RALPH CICERONE

(reprinted from *Chemical Heritage* Fall 2006)

This year's 2006 Ullyot Lecturer, Ralph Cicerone, has received many accolades for his work in atmospheric chemistry, climate change, and related public policy. As President of the National Academy of Sciences, Cicerone has often testified before Congress; he previously chaired an NAS study on climate change at the request of the White House. Cicerone recently spoke with Chemical Heritage's editor as a preview to his lecture later this fall.

ED: Why is it important for the public to understand climate change?

RC: Let's take an earlier issue from atmospheric chemistry, the degradation of the stratospheric ozone layer, as an example. Dealing with the problem required individuals to understand the mechanisms and the reality of the effects, both to encourage businesses to develop technological solutions and to provide the basis for government and individual actions. People were being asked to believe that tiny aerosol spray cans could have a planetary impact to believe in scientific instruments and calculations without being able to see anything. Eventually, the data were credible enough that our chemical companies decided to deal with the issue by creating, through true synthetic chemistry, a better line of products that contain less chlorine and molecules that degrade more quickly in the lower atmosphere.

Climate change is an even more difficult situation because there are so many variables: it's not just temperature, but it's sea level, rain patterns, maximum temperatures, minimum temperatures, and ocean currents and the frequency of extreme events like floods

and droughts all mixed with the changing length of a growing season. We're dealing with something very complicated, yet there are still issues of personal choice, personal purchasing patterns and lifestyle, incentives to business, and the need for governmental actions at all scales, including international. You just can't get those things done without having people involved.

ED: It sounds like both the underlying problems and many of the solutions are chemical problems.

RC: Chemistry is just everywhere in these issues. Even though carbon dioxide emissions are the biggest single problem, there are other significant greenhouse gases. For example, chlorofluorocarbons that were in air conditioners, freezers, refrigerators, and in aerosol spray products have been replaced with products designed to be more compatible with natural breakdown processes in the atmosphere. Some greenhouse gases are extraordinarily long-lived carbon tetrafluoride and sulfur hexafluoride have survival times of 50,000 years or more in the atmosphere. To understand the role of those two greenhouse gases requires some pretty specialized chemistry, in this case atmospheric chemistry and laboratory spectroscopy.

ED: Is there a tipping point in climate change?

RC: We used to assume that planetary climate change would happen gradually and that previous changes over geological history had been gradual, but as the record has been refined as measurement techniques have been developed to measure dust layers and the isotopic content of individual species and classes of compounds the time resolution has improved so that now there really is evidence of sudden change throughout climate history. These kinds of observations are going into the view that there may indeed be a point of no return where the climate will be destabilized if we keep forcing it the way we're doing. The idea of a tipping point is based on actual observations and better understandings of the mechanisms involved.

ED: Climate change is unquestionably controversial. Where do the controversies lie?

RC: While the science is very tricky, most of the disagreements are really about what to do about climate change and involve the lag times in the system. For example, if we want to ward off a certain level of change 10, 30, or 40 years from now, what do we have to do now? One kind of uncertainty arises because the future depends partially upon human behavior: How many people will we have, what will our energy sources be, and how efficient will they be? What will be our standard of living and level of consumption? And while there is uncertainty in prediction due to the physical and biological science of climate, the change itself is becoming clearer than people had expected it to be at this point.

ED: What do you see as the scientist's role in setting policy?

RC: Scientists are going to have to have a big role in setting policy to help to define options . . . Just as a realistic scenario, how much can we limit carbon dioxide emissions right now if we were to focus only on energy efficiency? . . . Many more people can be brought into the discussion about energy efficiency than just those people who are concerned about climate change people who are interested in saving money, who are interested in creating new products for world markets, who are trying to minimize our dependence on foreign oil but we need scientists and engineers who can work through exactly how much benefit can be had from just energy efficiency, and which new energy technologies are feasible. The role for scientists and engineers in all of this is just going to keep growing. Not that they have to make all of the decisions that's not what I'm saying but we really have to be part of it.

The 2006 Ullyot Lecture will be presented on 16 November. The lecture is free and open to the public, but registration is required. Check the "Events and Activities" page at www.chemheritage.org for details.

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Visit our web page at www.chemconsultants.org

Chemical Heritage Foundation Programs History and Future Plans

Rick Sherman
Director of Advancement

Date & Time: Wednesday, October 11th, 2006 at the Cynwyd Club, Bala Cynwyd, PA; Networking, 5:30 PM; Dinner, 6:30 PM; Talk and Business Session, 7:30 PM.

Abstract: Rick will discuss various aspects of the Chemical Heritage Foundation ranging from its history, its present state, and its future plans. He will also include in his presentation the growth of the Foundation's programs and outreach activities.

Biography: Rick Sherman is Director of Advancement at the Chemical Heritage Foundation in Philadelphia. He holds a BS in paper science and engineering from the SUNY College of Environmental Science and Forestry in Syracuse and an MS in finance from Drexel University. He joined CHF from the Franklin Institute Science Museum, where he was director of marketing research and membership. Before that he spent 18 years in the paper industry, beginning as a process engineer and advancing to various product and marketing management positions, including marketing director for the Publishing Paper Division of Mead Corporation.

Reservation: To make or cancel a dinner reservation, e-mail CCNReservations@ aol. com or call the ACS office at 215-382-1589 (leave message on voicemail if necessary). Fee, including food and beverages, is $35. Early Bird discount price is $25 if reserved by Thursday, October 5th. Late reservations and walk-ins subject to availability. No-shows will be invoiced. Please advise of any special dietary requirements.

Guidelines for Student Affiliate Chapters to Request Funds to attend National ACS Meetings

Undergraduate students from ACS Student Affiliate Chapters in the Philadelphia Section are encouraged to consider attending National Meetings of the American Chemical Society. In this regard, a limited amount of funding will be provided to chapters requesting sponsorship based on the following general guidelines.

1) First consideration will be given to student(s) who wish to attend a National Meeting of ACS to give a presentation (oral or poster). Students attending for other purposes, i.e., to receive an award or attend a specific workshop, etc., are also eligible to apply.
2) The student(s) must have requested support from their college or university (including department and/or advisor) to assist in defraying the travel costs. Please attach a copy of the correspondence.
3) The student(s) should have a clear idea of the benefits of attending the conference. Please attach a short paragraph from each student indicating which sessions, including work-shops, etc., which the student plans to attend and why these sessions will help them obtain their professional goals.

All applications must include an itemized list of the projected costs of the trip, i.e., registration, airfare, train or car expenses, hotel, etc., and indicate which of these costs (if any) are being provided by other sources.

An application for travel support can be made at any time to the Philadelphia Section, but for full consideration, the application must be received by the section office by January 31st for the Spring meeting and May 31st for the Fall meeting.

The Philadelphia Section will evaluate all applications received by the deadline and vote at the February meeting for the Spring ACS meeting applications and at the June meeting for the Fall ACS meeting applications. The amount of funding available may be influenced by the number of applications for a particular meeting and the costs of attending that meeting, i.e., where it is being held.

The successful applicant must submit a brief report highlighting the conference experience to the Philadelphia Section at the completion of the trip. The original receipts should also be submitted to the section office for reimbursement.

MID-ATLANTIC REGIONAL MEETING (MARM) VOLUNTEER OPPORTUNITY

The Philadelphia Section is sponsoring the 2007 Mid Atlantic Regional Meeting (MARM07). The effort is under the leadership of Vic Tortorelli and Sharon Haynie. The operating committee is now being formed and there are many opportunities to get involved in this exciting venture. We are particularly looking for individuals to help with fund-raising.

Want to become active in the Section and don't know how? Have a skill or talent and want to make use of it? Willing to participate in or take care of just one project? This is the perfect opportunity to get involved and help yourself to the powerful networking opportunities provided by a Regional Meeting!

Most meetings of the operating committee are conducted by teleconference.

If you are interested just email or call Mrs. Libby Harper at the Philadelphia Section Office: PhilaACS@aol.com or 215-382-1589.

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THE PHILADELPHIA ORGANIC CHEMISTS' CLUB FALL SYMPOSIUM

October 19th, 2006 at the Connelly Center, Villanova University

The Philadelphia Organic Chemists' Club is pleased to announce Prof. Jeffrey Winkler, University of Pennsylvania, as the 2006 POCC Award Recipient.

Prof. Robert Batey, University of Toronto: *Recent Advances in Metal Catalyzed Carbon-Heteroatom and Heterocycle Formation*.

Prof. Helen Blackwell, University of Wisconsin, Madison: *Expanding the Language of Bacterial Communication Pathways with Synthetic Ligands*.

Prof. Michael Crimmins, University of North Carolina, Chapel Hill: *Strategies for the Synthesis of Medium Ring Ethers: Eunicellins to Ladder Ether Toxins*.

Prof. Jeffrey Winkler, University of Pennsylvania. Award Address: *Synthesis of Natural and Unnatural Products*.

Registration starts at 1 PM; talks from 2-5 PM.; the award lecture at 8 PM.

For further details about POCC and the symposium consult the POCC website at: http://www.chem.temple.edu/main/pocc/default2.html.

HAND-HELD INSTRUMENT DETECTS PUBLIC SAFETY THREATS

Researchers describe development of a shoebox-sized, handheld mass spectrometer capable of detecting minute amounts of chemical compounds in the environment. Among them are the peroxides believed involved in concerns about the safety of passenger jets early in August.

R. Graham Cooks and colleagues describe the long-sought portable mass specr, named the Mini 10, in a report scheduled for the Sept. 15 issue of the ACS journal *Analytical Chemistry*. Traditional mass specs mainstays in identifying unknown chemical compounds are large, delicate lab instruments. Rugged and portable, the Mini 10 "weighs ~22 lb; 30 times less than a conventional mass spec and uses about as much battery power as a laptop computer."

"This instrument has evolved from a decade-long experimental and simulation program in mass spectrometer miniaturization," according to the *Analytical Chemistry* report. The Mini 10 can perform chemical analysis while being carried and detects traces of chemical compounds quickly and accurately. "These characteristics are especially applicable in public safety, environmental protection and industrial process monitoring," the report adds.

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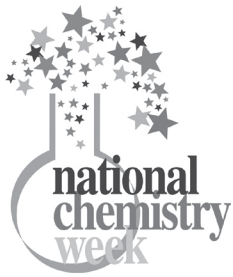

October 22 - 28, 2006

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- St. Christopher's Hospital for Children monthly visits to perform demonstrations or hands-on activities for the children

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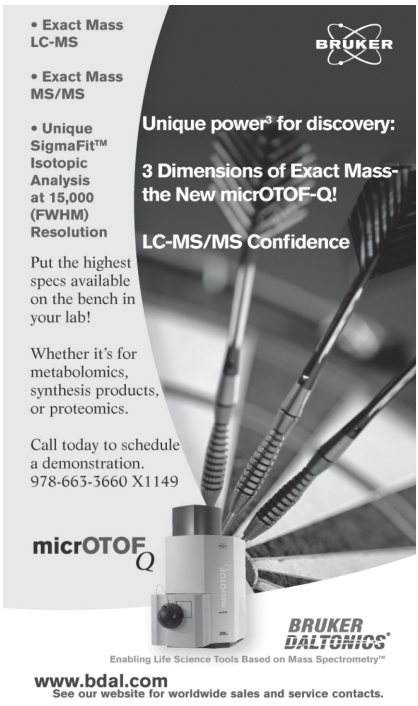

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PHILADELPHIA SECTION, ACS 2006 CALENDAR OF EVENTS

Oct. 3	The Business Value of Green Chemistry	www.ProcessSummit.com
Oct. 9	Delaware Valley Mass Spectrometry Discussion Group: Richard King; *Nanomate with QTRAP/MS for Metabolite Identification*	Villanova University Villanova, PA
Oct. 11	Chemical Consultants Network R. Sherman, Chemical Heritage Fdn. *CHF Programs-History & Future Plans*	www.chemconsultants.org
Oct. 12	**Philadelphia Section Award Dr. Patrick J. Walsh**	**University of Pennsylvania Philadelphia, PA**
Oct. 19	POCC Symposium	Villanova University Villanova, PA
Oct. 21	Expand Your Horizons Mini-conference for Sixth Grade Girls	Chestnut Hill College Philadelphia, PA
Oct. 2228	National Chemistry Week	All over the Delaware Valley
Nov. 16	**Ullyot Public Affairs Lecture Dr. Ralph Cicerone, President, National Academy of Sciences**	**Chemical Heritage Foundation Philadelphia, PA www.chemconsultants.org**
Dec. 9	**Herb Bassow Memorial Demos for All Ages**	**TBA**
Dec. 14	**Board of Directors Meeting**	**McCall Conference Ctr.**

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