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News

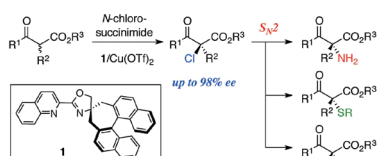
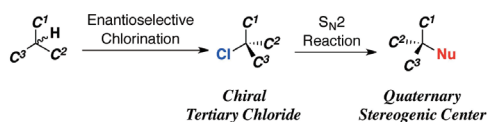
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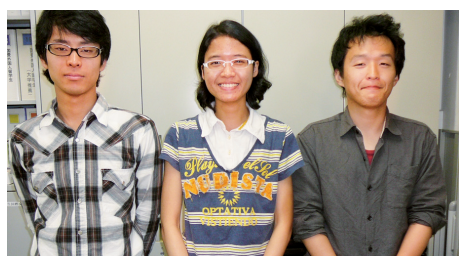
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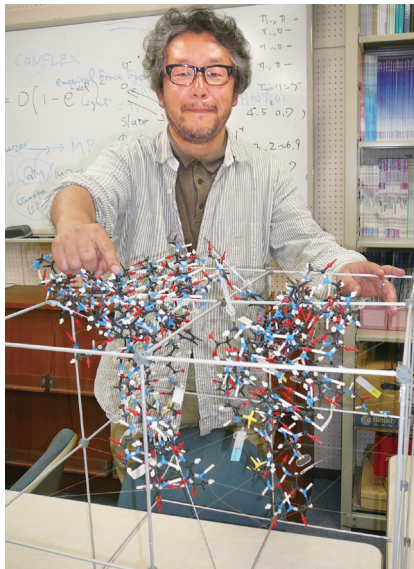
Visualizing the structures of molecules

Hitoshi Goto, Associate Professor in Toyohashi Tech's Department of Computer Science and Engineering, has helped develop and his lab is using original software-based tools to better understand a variety of physical, chemical, and biological phenomena at the molecular level.

"We've developed high performance molecular simulation tools and a graphical user interface for researchers to study the conformation—the three-dimensional structural arrangement of molecules, and this is enabling us to design medicinal and agricultural drugs that are more effective and have fewer side-effects," says Goto. The tool-set has been commercialized under the brand name CONFLEX/BARISTA, for which Goto wrote the algorithms.

He explains that CONFLEX, together with its graphical user interface BARISTA, enables researchers to visualize the possible spatial arrangements of atoms in a molecule and therefore more easily study their chemically important (energetically stable) molecular formations. This in turn can reveal how a particular arrangement or conformation influences a molecule's chemical behavior. For instance, HIV inhibitors can be better understood and studied with the aid of 3-D graphical representations provided by the software.

Another area of Goto's research involves the development of methods to predict crystal structures in instances of molecular structures having more than one crystalline form: a phenomenon known as polymorphism.



Hitoshi Goto

"When a molecule can be crystallized with different packing forms, a part of the grown crystal may show unexpected physical, chemical and biological (medicinal) properties," says Goto. For instance, a second crystal structure of aspirin has recently been discovered, which is slightly different to the commonly known standard structure. Goto's crystal simulation technology can be used to calculate the energies bound up in such a polymorphic structure, an understanding that can help research chemists predict its medicinal effects.

CONFLEX is currently available at version 6. Goto and his lab co-workers have been working on new algorithms that will help researchers search for new crystal structures, an endeavor that normally requires the use of expensive X-ray equipment. "This function will be available in a few months in version 7 of CONFLEX," says Goto. "Develop-

ing these algorithms is very complex and time consuming. In fact, I've been working on them for over a decade, for it's involved a lot of trial and error. So I'm pleased this feature is now ready to be distributed."

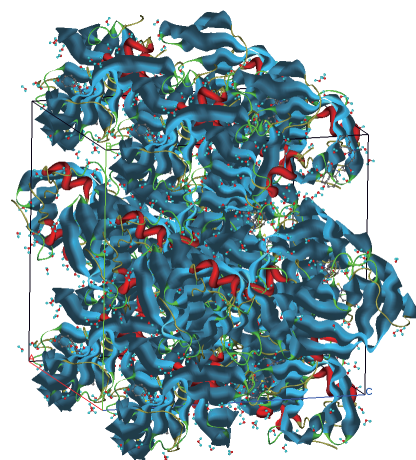


Fig.1: 3-D graphical representation of HIV-1 protease crystal structure

Toyohashi Tech holds International Student Exchange in Indonesia from 17 to 23 September 2012

Toyohashi University of Technology held an international student exchange event at Institut Teknologi Bandung (ITB) in Indonesia between September 17 and 23, 2012. Based on a theme of "ITB-TUT Students Collaboration to Solve Community Problems," the event was held as part of TUT's ongoing program to promote international understanding among students and develop a globally-capable workforce by collaborating with overseas institutions to offer students opportunities for international interaction. To that end, the latest program incorporated lectures as well as student-led discussions and presentations. Fifteen TUT students and two technical college students from the local Tokai region were joined by twenty ITB students and three students from nearby Madania High School.

This year's event was tenth time the program was held, and the milestone was marked by special visits to a range



Lecture at Japan External Trade Organization (JETRO) Jakarta office



Group photo

of businesses and organizations thanks to the kind cooperation of the Japan External Trade Organization (JETRO) Jakarta Office, the Japan International Cooperation Agency (JICA) Indonesia Office, and numerous Japanese companies established in Indonesia.

On the first day, participants head about the Indonesian economy and Japanese aid to the country in talks at the JETRO and JICA offices, and toured the Port of Tanjung Priok, which is a beneficiary of Japanese overseas development assistance.

The following day began with themed lectures by ITB faculty, after which participants were divided into groups to debate community issues in Japan and Indonesia as a means of furthering understanding of each other's cultural

backgrounds. Those discussions subsequently formed the basis of presentations and lively exchanges of opinion on how engineers can help resolve those issues.

The visits to local Japanese firms were an ideal opportunity to learn about the outlook for Japanese businesses setting up in emerging nations and the problems they encounter.



Tour of the Port of Tanjung Priok

Toyohashi Tech welcomes students from Northeastern University in China for the Summer School Program

Toyohashi University of Technology hosted 11 students and two faculty from Northeastern University in China as part of Toyohashi Tech's 10 day Summer School Program held between August 22 and 31. The group from NEU, which is one of TUT's university exchange partners, was led by Wang Mei, deputy dean of the NEU School of



Group photo



Group debate

Materials and Metallurgy. TUT has had an office on NEU premises since January 2006 under the exchange program which seeks to promote lively cooperation on research and education between the institutions. The latest group of NEU students was hosted as part of the exchange partnership.

The Chinese students learned some Japanese, experienced Japanese culture in the form of the tea ceremony and



Flower arranging

flower arranging, stayed with host families to get a feel for Japanese home life, and even visited Toyota Corporation's car factory, all of which was aimed at deepening our guests' understanding of Japanese society and culture. In addition, the Chinese students were joined by 17 of their TUT counterparts and conducted a group debate in English on topics relevant to engineering such as resources, the environment, automobile, and energy. On the final day,

students made presentations, again in English, highlighting the outcomes of the program.

The debates with TUT students and the interaction with the host families provided the NEU students with innumerable opportunities to learn about Japanese society and culture. Expectations are now high that these upstanding young people will further bridge the gap between our two countries and bring us closer together in the future.



Group photo at Toyohashi Tech open campus

International Cooperation Center for Engineering Education Development (ICCEED) implements JICA group training course

Toyohashi University of Technology (Toyohashi Tech) is located in Aichi prefecture, which is the heart of Japan's automobile manufacturers and related industries. Taking advantage of this location, International Cooperation Center for Engineering Education Development (ICCEED) has designed and implemented JICA group training courses.

ICCEED was established at Toyohashi Tech in April 2001. ICCEED has been cooperating with developing countries to enhance their engineering education since established.

From fiscal year 2007 to 2009, ICCEED conducted a course "Coordinator Training for Tertiary Education - Industry-Government Linkage to Develop Automobile Supporting Industries," aiming to foster human resources for the development of automobile industries in developing countries. On the basis of the experience and the achievements



Participants with lecturers

in the antecedent training program, ICCEED started a new JICA group training course called "Coordinator Training for Tertiary Education-Industry-Government (T-I-G) Link to Develop Local Industry Sector" in fiscal year 2010. In those six years, 65 concerned personnel from 19 countries have participated in the course.

The course is designed to accumulate basic knowledge and abilities in order to accelerate T-I-G linkage as coordinators in affiliated organization, institution and countries of participants. This

program provides basic knowledge of T-I-G cooperation, technology management, intellectual property rights, and problem identification/solving ability through lectures, workshop, case studies, and company visits. At final stage of the program, participants formulate action plans with every lesson learned from the course to foster T-I-G linkage in their institution, organization and countries which aims to be implemented.

The course is also designed to learn Japanese culture and way of life

through home stay program with the support from Toyohashi, Toyokawa,

and Tahara international associations.



Participants taking a lecture of Mr. Kashiwara



The lecture "U+G Cooperation - Case of University of Moratuwa, Sri Lanka-" through TV conference system



A participant making a presentation of his action plan

The Irago Conference 2012

Organised by the Electronics-Inspired Interdisciplinary Research Institute (EI-IRIS) at Toyohashi University of Technology, The Irago Conference held last week (15 -16 November) in Aichi, Japan aimed to enhance mutual understanding between scientists, engineers and policy makers. Over 180 participants tackled topics ranging from energy and natural resources to public health and disaster prevention.

The 360-degree outlook of the conference impressed speakers and guests. "This conference has been extremely informative," noted Robert Gellar from the University of Tokyo. "A unique conference with experts from a wide range of backgrounds," agreed Uracha Ruktanonchai from the National Nanotechnology Center (NANOTEC) in Thailand.

Similarly, G.P. Li, Professor of electrical engineering and computer science at the University of California Irvine commented that he had been "Able to think

the unthinkable" as a broad range of topics came together. The conference was streamed live on Ustream to ensure researchers from across the world could benefit from thought provoking presentations examining global issues such as energy, disaster mitigation, and nanotechnology.

"This was wonderful," said Oussama Khatib from Stanford University, "A good recipe of speakers from such a wide range of backgrounds." 43 papers resulting from the conference have been submitted to the Journal of Physics Conference Series, a peer-reviewed, open-access journal.

In addition to the formal speaker program, graduate students session provided a platform for graduate students to describe their latest findings as oral presentations. A series of excursions to relevant locations, such as local of the Tahara megasolar region under construction and a local car manufacturing



Among the 180 participants was Daniel E. Morse University of California, Santa Barbara, USA, who gave an invited talk on "Biologically inspired, nano-structured materials for energy and photonics".

factory gave participants the opportunity to further consider practical applications of their research in industry.

The Irago Conference will be held again next year as researchers continue to develop solutions to the ever increasing environmental, social and technological challenges faced by people in the 21st Century.



Conference participants visiting Cape Irago.



Researchers from India, Philippines, Thailand, United Kingdom, Japan, Republic of Korea, Singapore, United States and Sri Lanka attended the Irago conference



Fireworks display at the closing Irago Conference Banquet

First Meeting of Japanese and Indonesian University Presidents organized by the five national universities in the Tokai region with the participation of more than fifty other universities from both countries



The Japan-Indonesia Rectors' Conference (November 15 and 16, 2012, Nagoya, Japan)

Five national universities from the Tokai region (Toyohashi University of Technology, Nagoya University, Gifu University, Aichi University of Education, and Mie University) organized the first Meeting of Japanese and Indonesian University Presidents on 15-16 November 2012, with more than fifty other universities from Japan and Indonesia attended the meeting.

With the theme of "A Dialogue for Partnership", the meeting was attended by Dr. Muhammad Nuh, Indonesian Minister of the Ministry of Education and Culture, and Dr. Bacharuddin Jusuf Habibie, the Third President of the Republic of Indonesia, who gave a keynote speech titled "Bilateral Cooperation for Sustainable Development and Growth".

In addition Mr. Nobuyori Kodaira, Vice President and Representative Director of Toyota Motor Corporation, gave a speech titled "On Changes in the Environment that the Automobile Industry Operates in and Global Human Resources".

In the field of higher education, as a pioneer in academic exchanges among core universities by the Japan Society for the Promotion of Science and support for doctoral students, Japan has cooperated with exchanges based on inter-university academic exchange agreements and the development of Indonesia through ODA. In recent years, cooperative relationships have developed among numerous universities and research institutes though efforts such as Science and Technology Research Partnership for Sustainable Development

ment, and there is a greater need for contributions to sustainable development through cooperation between the two countries.

After the keynote speeches by Dr. Habibie and Mr. Kodaira the participants divided into five groups to discuss issues related to higher education in Japan and Indonesia.

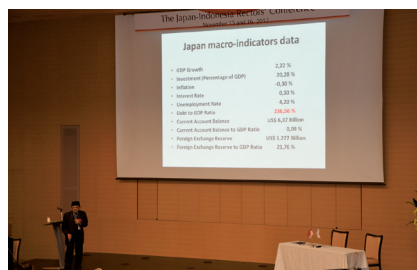
Dr. Yoshiyuki Sakaki, President of Toyohashi Tech made a closing statement at the closing ceremony and he mentioned that "I believe that the dialogue and exchange of opinions between representatives from Indonesia and Japan will facilitate even stronger cooperation between the two countries."



Dr. Yoshiyuki Sakaki, President of Toyohashi University of Technology



Mr. Nobuyori Kodaira, Vice President and Representative Director of Toyota Motor Corporation



Lecture of Prof. Dr. Habibie, former President of Indonesia



H.E. Dr. Mohammad Nuh, Minister of Education and Culture

World's first demonstration of power transfer from wheels to power an electric car

Electric vehicles (EV) have ten times higher energy performance than automobiles powered by gasoline-based engines. EVs show tremendous potential as an effective solution to both energy shortages and global warming.

However, conventional battery-based EVs are not popular with drivers because of drawbacks including: (1) short cruising range; (2) long time to recharge; and (3) high cost. Now, assuming that these drawbacks stem from the need to store large batteries onboard cars, then there are strong demands for alternatives means of powering electric cars. In a novel approach, Takashi Ohira at Toyohashi University of Technology and colleagues are developing an innovative method for powering EVs that drastically reduces the number of batteries.

The approach exploits the steel belt usually embedded in rubber tires. The steel belt collects power excited from a pair of electrodes buried beneath the road surface. And, since the steel belt is electrically insulated by the rubber tread, the researchers used a displacement current at high frequency to penetrate from underground to the steel belt.

The researchers constructed a 1/32 scale EV to proof their concept for the electric car. The car moved successfully with a power penetration efficiency exceeding 75% at 52 MHz. This is the world-first demonstration of electric power transfer via the car-wheel to the vehicle.



Takashi Ohira

"If the scheme is applied into practice, we believe it would enable a tremendous extension of the EV cruising range," says Ohira.

Reference

Y. Suzuki, T. Sugiura, N. Sakai, M. Hanazawa, and T. Ohira, "Dielectric Coupling from Electrified Roadway to

Steel-Belt Tires Characterized for Miniature Model Car Running Demonstration," IEEE MTT-S International Microwave Workshop Series on Innovative Wireless Power Transmission, IMWS-IWPT2012, pp.35-38 (2012).

•Digital Object Identifier (DOI): 10.1109/IMWS.2012.6215814

•Affiliation: Department of Electrical and Electronic Information Engineering.

•Department website : <http://www.comm.ee.tut.ac.jp/>

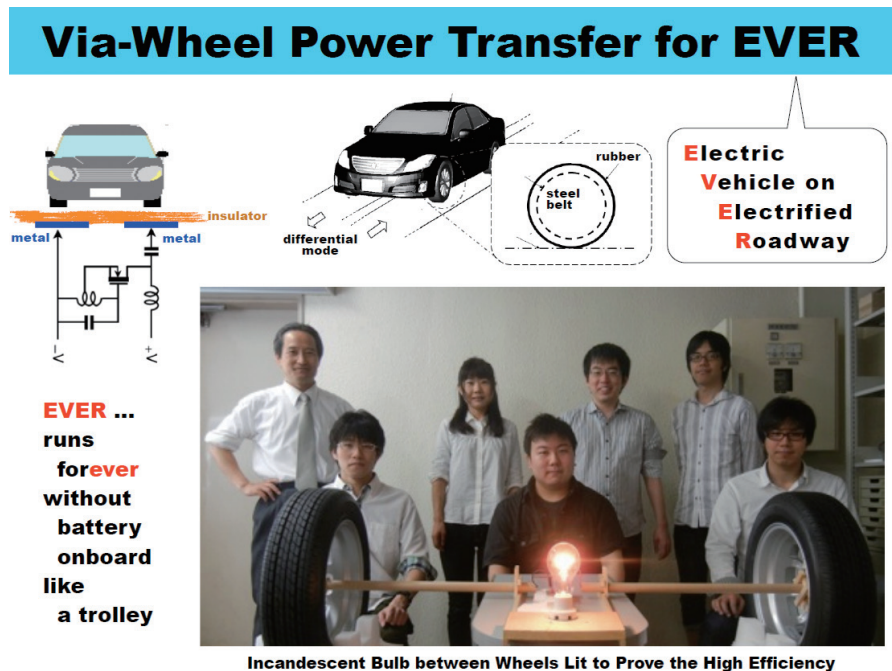


Fig.1: Via-wheel power transfer to running electric vehicles.

Mu-rhythm in the brain: The neural mechanism of speech as an audio-vocal perception-action system

Speech production is one of the most important components in human communication. However, the cortical mechanisms governing speech are not well understood because it is extremely challenging to measure the activity of the brain in action, that is, during speech production.



Michiteru Kitazaki

Now, Takeshi Tamura and Michiteru Kitazaki at Toyohashi University of Technology, Atsuko Gunji and her colleagues at National Institute of Mental Health, Hiroshige Takeichi at RIKEN, and Hiroaki Shigemasa at Kochi University of Technology have found modulation of mu-rhythms in the cortex related to speech production.

The researchers measured EEG (electroencephalogram) with pre-amplified electrodes during simulated vocalization, simulated vocalization with delayed auditory feedback, simulated vocalization under loud noise, and silent reading. The authors define 'mu-rhythm' as a decrease of power in 8-16Hz EEG during the task period.

The mu-rhythm at the sensory-motor cortical area was not only observed under all simulated vocalization conditions, but was also found to be boosted by the delayed feedback and attenuated by loud noises. Since these auditory interferences influence speech production, it supports the premise that audio-vocal monitoring systems play an important role in speech production. The motor-related mu-rhythm is a critical index to clarify neural mechanisms of speech production as an audio-vocal perception-action system.

In the future, a neurofeedback method based on monitoring mu-rhythm at the sensory-motor cortex may facilitate rehabilitation of speech-related deficits.

Acknowledgements

This research was partly supported by the Global Center of Excellence "Frontiers of Intelligent Sensing" (Toyohashi Tech 2007-2011).

Reference

Takeshi Tamura, Atsuko Gunji, Hiroshige Takeichi, Hiroaki Shigemasa, Masumi Inagaki, Makiko Kaga, Michiteru Kitazaki, "Audio-vocal monitoring system revealed by mu-rhythm activity.", *Frontiers in Psychology* 3, 225 (2012).

•Digital Object Identifier (DOI): 10.3389/fpsyg.2012.00225

•Affiliation: Department of Information and Computer Engineering, Toyohashi University

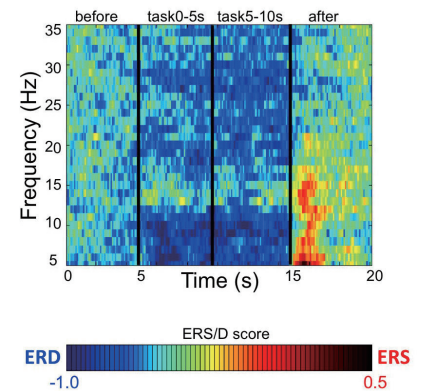


Fig.1: Power spectrum during silent reading at C3 (left-central region).

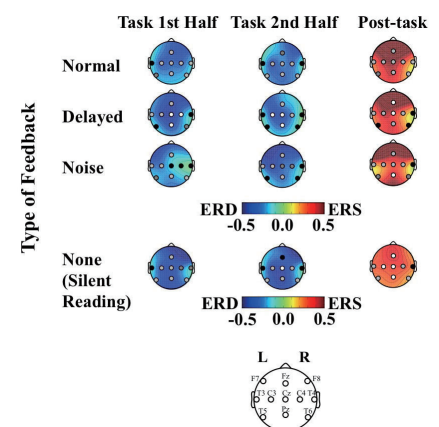


Fig.2: Topological plots of ERD/ERS during simulated vocalizations with normal feedback, delayed feedback, and noise feedback, and silent reading.

Novel main-chain polymer of chiral organocatalyst: Effective polymeric chiral organocatalyst for asymmetric reactions

Immobilization of a chiral organocatalyst onto polymers has considerable advantages over corresponding molecular catalysts with respect to isolation of the products and reuse of polymeric catalysts.

Many efforts have been made to synthesize side-chain-functionalized polymeric chiral catalysts in which chiral organocatalysts are immobilized by covalent bonding on the side chains of polymers. To-date functionalization of chiral organocatalysts has always been necessary for immobilization onto polymers, which sometimes leads decreased catalytic activity.

Recently, Naoki Haraguchi and colleagues at Toyohashi University of Technology have developed a novel method for synthesis of main-chain polymers of chiral organocatalysts. They designed and synthesized main-chain polymers of chiral imidazolidinone by successive intermolecular addition reactions of chiral imidazolidinone dimers and disulfonic acid. Chiral imidazolidinones were uniformly introduced by ionic bonding into the main-chain of polymer. Notably, this method did not necessitate functionalization of imidazolidinone.

The researchers used the main-chain polymers of chiral imidazolidinone as polymeric chiral organocatalysts in the asymmetric Diels-Alder reaction. Remarkably, some main-chain polymers of chiral imidazolidinone showed higher catalytic activity (up to 99% ee) than the corresponding molecular catalyst in the reaction. In addition, the polymeric



Naoki Haraguchi

chiral organocatalyst were recovered and reused at least three times without loss of the enantioselectivity.

The reasons for the observed increase in the enantioselectivity are not clear yet, however, this novel research opens up the possibility not only for the synthesis of non-covalent polymeric chiral organocatalysts but also for other advances in polymer chemistry.

Reference

Naoki Haraguchi, Hitomi Kiyono, Yu Takemura, and Shinichi Itsuno, "Design of main-chain polymers of chiral imidazolidinone for asymmetric organocatalysis application" *Chemical Communications* 2012, 48, 4011-4013.

•Digital Object Identifier (DOI): 10.1039/c2cc18115k

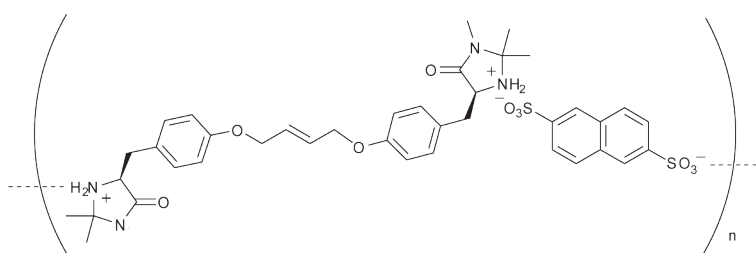


Fig.1: Main-chain polymer of chiral imidazolidinone.

New Method for the Construction of Quaternary Chiral Carbon Centers

Pharmaceutical and agricultural chemistry has seen a dramatic growth in the importance of chiral technology for producing enantiomerically pure molecules over the last two decades. In particular, there are strong demands for the development of methods for the highly enantioselective formation of quaternary chiral carbon centers.

Alkyl chlorides are well recognized as useful synthetic intermediates because of the ability of chlorine atoms to be removed. Once alkyl chlorides having a chlorinated chiral carbon center are synthesized in a highly enantioselective manner, the compounds can be converted into various chiral molecules via S_N2 substitution while maintaining their enantiomeric purity. However, this process has not been applied successfully for the construction of quaternary carbon centers because tertiary halides rarely undergo S_N2 reactions as described in organic chemistry textbooks.

Here, Kazutaka Shibatomi and colleagues at Toyohashi University of Technology have achieved the highly enantioselective chlorination of a wide range of active methine compounds and subsequent amazingly unimpeded S_N2 substitution at the tertiary carbon.

A novel chiral oxazoline ligand **1** having the spiro backbone was synthesized and its copper(II) complex was used for the enantioselective chlorination of β -ketoesters. The reactions successfully produced the desired α -chloro- β -ketoesters with excellent enantioselectivity (up to 98% ee). Nucleophilic substitution of the resulting



Kazutaka Shibatomi

chlorides proceeded smoothly resulting in a variety of chiral molecules such as α -aminoesters, α -(alkylthio)esters, and α -fluoroesters, without loss of enantiopurity.

This method yields a variety of chiral molecules having a quaternary chiral carbon center. An advantage of this method is that it allows for the formation of multiple optically active compounds from a single intermediate.

Reference

Kazutaka Shibatomi, Yoshinori Soga, Akira Narayama, Ikumide Fujisawa, and Seiji Iwasa, "Highly Enantioselective Chlorination of β -Keto Esters and Subsequent S_N2 Displacement of Tertiary Chlorides: A Flexible Method for the Construction of Quaternary Stereogenic Centers.", *Journal of the American Chemical Society* 134, 9836 (2012).

•Digital Object Identifier (DOI): 10.1021/ja304806j

•Department of Environmental and Life Sciences, Toyohashi University of Technology.

•<http://www.tutms.tut.ac.jp/STAFF/SHIBATOMI/index.html>

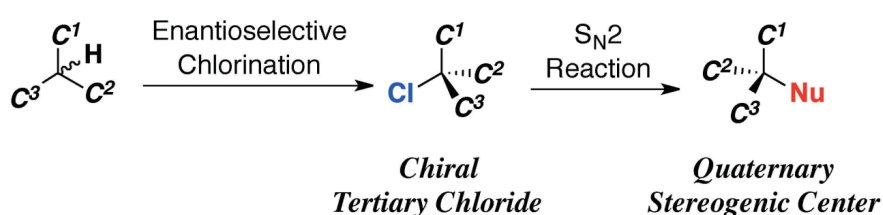


Fig.1: Synthetic Strategy for the Construction of Quaternary Chiral Carbon Centers.

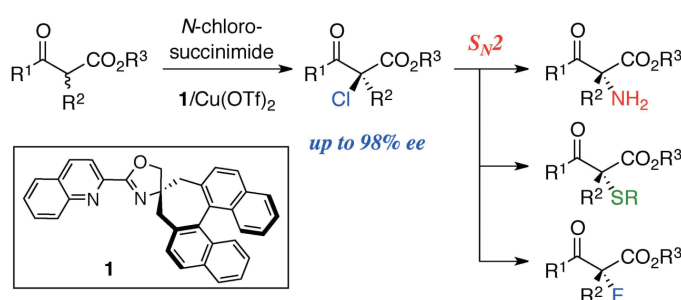


Fig.2: Enantioselective Chlorination of β -Ketoesters and Subsequent S_N2 Reactions.

4,4,4-Trifluorocrotonaldehyde: A Versatile Building Block for the Synthesis of Chiral Trifluoromethyl Compounds

Selective incorporation of trifluoromethyl groups into organic molecules is an important in drug discovery. Even though a large number of pharmaceuticals contain trifluoromethyl group(s), developing flexible methods for the construction of trifluoromethylated chiral carbon centers in a high enantioselective manner remains a challenging task.

Since α,β -enals have been widely used as precursors for numerous organocatalytic asymmetric transformations, it is envisaged that 4,4,4-trifluorocrotonaldehyde **1** would be a versatile precursor for the construction of trifluoromethylated chiral carbon centers. However, there is no report on the isolation of **1** or its use in asymmetric transformations. One possible reason for this is the high volatility of **1** and the consequent difficulty in its purification.

Here, Kazutaka Shibatomi and colleagues at Toyohashi University of Technology have succeeded in the isolation of this aldehyde for the first time and have succeeded in its application to the organocatalytic asymmetric 1,4-addition with several types of nucleophile.

4,4,4-trifluorocrotonaldehyde **1** was synthesized by the oxidation of 4,4,4-trifluoro-2-butenol **2** with manganese dioxide. After the removal of manganese dioxide by filtration, the filtrate was distilled to afford nearly pure **1** in 47% yield. The organocatalytic 1,4-addition of **1** with several nucleophiles such as heteroaromatics, alkylthiols, and aldoloximes afforded the corresponding prod-

ucts bearing a trifluoromethylated chiral carbon center with high enantiopurity. A resulting product was converted into an MAO-A inhibitor, befloxatone.

The present method provides a powerful method for the preparation of optically active trifluoromethyl compounds.

Reference

Kazutaka Shibatomi, Akira Narayama, Yoshiyuki Abe, and Seiji Iwasa, "Practical Synthesis of 4,4,4-Trifluorocrotonaldehyde: A Versatile Precursor for the

Enantioselective Formation of Trifluoromethylated Stereogenic Centers via Organocatalytic 1,4-Additions", *Chemical Communications* 48, 7380 (2012).

•Digital Object Identifier (DOI): 10.1039/C2CC32757K

•Department of Environmental and Life Sciences, Toyohashi University of Technology.

•<http://www.tutms.tut.ac.jp/STAFF/SHIBATOMI/index.html.en>

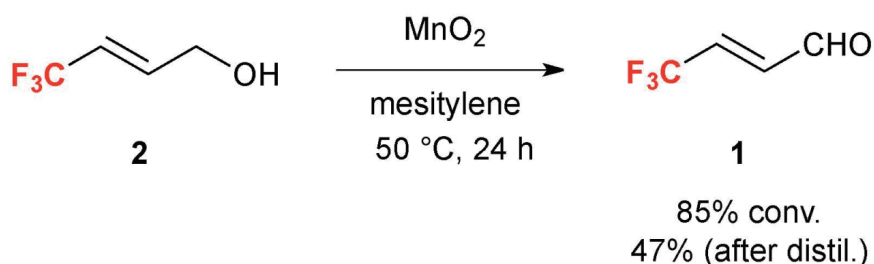


Fig.1: Synthesis of 4,4,4-Trifluorocrotonaldehyde.

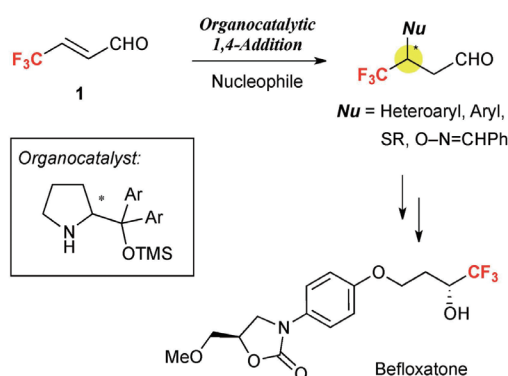


Fig.2: Organocatalytic 1,4-Additions of 4,4,4-Trifluorocrotonaldehyde and its Application to the Synthesis of Befloxatone.

Karate with a difference

Though karate is commonly thought of a sport, some schools of this martial art disdain that idea and instead foster karate as a form of physical, intellectual, and moral education carried out to perfect one's character. It is this latter form that is practiced by Toyohashi Tech's Karate Circle, having taken up a school of karate called Goju, which originated in Okinawa in the 19 Century.

Some 16 regular members meet twice a week to practice in the Toyohashi dojo or training hall, while another twenty or so 'old boy' members also attend whenever they can—a testament to the life-long zeal instilled by the Goju discipline.

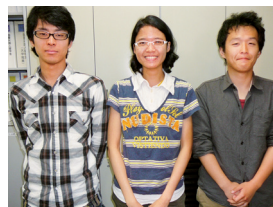
"The club used to participate in contests, but stopped in 2005," says Kenta Nishikubo, a first-year masters student studying architecture and civil engineering. "We withdrew because it was going against the basic principle behind Goju karate." Instead, the club now holds an annual event,

together with martial art clubs from Toyohashi Tech and other universities.

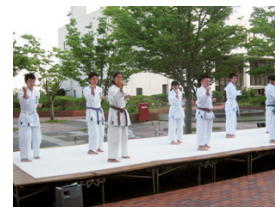
In addition to developing techniques such as blocks, punches, and sequences of movements called kata, the members also practice with four traditional Goju weapons: sai (a pointed dagger), tonfa (stick with handle), nunchaku (pair of sticks connected at one end with a short chain), and jo (wooden staff).

"These weapons are all hand made in Okinawa and each member has own their own set," says Yuuki Tani, a fourth-year student of architecture and civil engineering and the club's leader. "The aim is to practice with them until they become an extension of ourselves."

Another enthusiastic member is Nutchakan Kongthong from



Members of the Toyohashi Tech karate club



Demonstration

Thailand, studying computer science and information engineering. "I was interested in Japanese martial arts before I came here," she explains. "I wanted to practice seriously and looked at other martial art clubs here. But the atmosphere and polite way I was greeted by all the members in unison when I came into the dojo knocked me out, so I joined immediately."

As club leader, Tani says it's most important to instill the principles behind Goju karate, especially respect for others. "I have to make sure our practice is based on these principles," says Tani. "For the aim is to merge the practice into our daily lives. This is the difference between Goju karate and karate as a sport."

Excursions

Toyohashi Festival

Broers Hedwig Anna Theresia, research student at Computer Science and Engineering



Students wearing yukata



Students dancing Bon-Odori in Toyohashi Festival

Saturday 20th of October, 2012 was the day of the Toyohashi Festival. Students from Toyohashi University of Technology signed up at the International Affairs Office to join the festival and wear a yukata (female students) or happi (male students). We had to be at the Toyohashi International Association early to change into yukata. Misato Baba-san, one of the tutors of the International House, helped me find the location.

When we arrived at 14:30 hours, many yukata were available and we could choose from many different colors and designs. I chose to wear a purple yukata with a floral design. In addition to students from Toyohashi Tech there were also students from other universities at the festival, which resulted in quite a large group of international students.

At about 16:00 the dance-practice started. An experienced dancer showed how the dances were done in the center of a large circle, and all international students followed. In total, we practiced 3 dances. One of them was very easy, but the other two were rather difficult. They were repeated for about an hour. Since each song only lasted for about 5 minutes, we could practice the dances often. In the mean time we could also colour a white mask. Everyone coloured their mask differently, and it was lovely to see the various results. The masks were not worn on the face, but on the side of the head (which I have never seen in the Netherlands). After practice, a light meal was provided, before going to the festival, consisting of inarizushi and sandwiches.

At around 18:00 o'clock we went to the festival street. I was very surprised to see that so many people were participat-

ing. Different groups were also going towards the starting point at the same time. When we arrived, the streets were completely full. In neat rows of 3 people we started dancing as soon as the music started. The happy vibe of the dances and the visitors of the festival made this one of the best experiences in Japan for me so far. While dancing and walking, we passed the other groups of people. Several groups were

very professional. They were all wearing the same clothing and their dancing was perfect every time. Even children were present in those groups. Other groups were enthusiastic and energetic (like our group, with the international students), which was fun to look at. While the music was playing, taiko-drummers were guiding the rhythm in the center of the street. At the sides of the street were food-stalls, giving off a very nice scent. At first I expected that dancing for 2 hours would be very long and tiring, but the cheerful energy and concentration made time pass very quickly. In the end, I probably could have danced for another two hours.

During the festival, I really felt connected to the Japanese culture. I am very thankful to have gotten this opportunity to join in such an amazing event. I enjoyed this festival very much. I have never seen so many people performing the same dance at the same time, it was amazing to see, and amazing to participate.

Ceramic art in Tokoname-the city of ceramics

Kenneth Renny Simb, first year masters student majoring in mechanical engineering

As part of Japanese Language studies, every year Toyohashi university of Technology organizes a study tour for Japanese Language Intensive Course Students. Through such tours international students get to know various cultural and related activities in Japan at the same time refreshing their minds.

On 2 August this year, four international students having completed six months of Japanese language studies attended a workshop on ceramic art in Tokoname—the city of ceramics. This city is a very famous place in Japan for ceramic art due to its products commonly known as Tokoname ware.

During this visit the students learnt more about Japanese ceramics and they all made ceramic items by hand. It was a challenging but very interesting thing to see that each one

could make very nice ceramic product at first time.

The students also experienced other aspects of Japan first hand including the unique transportation system. A great time was had by all the participants.



Toyohashi Tech students making their own ceramic art at Tokoname.