

Today's programme

Students		Mentors and Scientific Observers		Guests	
06:30-08:30	Breakfast	07:00-09:00	Breakfast	08:00-09:00	Breakfast
08:15	Departure for Tihany	08:00-17:00	Translation of the Practical Exam	10:30-12:00	Boat trip to Szentendre
11:30-14:00	Sightseeing in Tihany	12:00-13:00	Lunch	12:00-14:00	Szentendre sightseeing
14:30-16:40	Beach program in Balatonfüred	15:00-17:00	Departure for Szentendre in two groups	14:00-16:00	Lunch
17:30-19:00	Dinner in Baricska Csárda	18:00-19:00	Folklore program in Szentendre	16:00-18:00	Visit to Caproce Factory
19:00	Departure for Gödöllő	19:00-21:15	Dinner	18:00-19:00	Folklore program in Szentendre
		21:15	Departure for the Hotel	19:00-21:15	Dinner in Szentendre

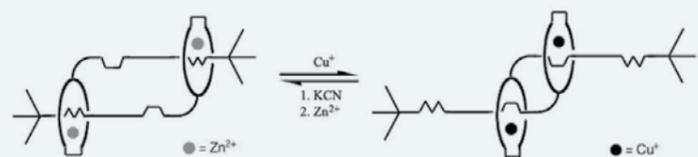
Molecule of the day

Molecular machines can be designed to mimic biological processes such as contraction and stretching of the skeletal muscles. A symmetric rotaxane dimer is able to function as an "artificial muscle". The motion is easy to visualize: both strings move along one another but stay together thanks to the intertwined nature of the system. Each filament contains both a bi- and a tri-dentate

chelator part; the dimer can be set in motion by exchanging the complexed metal centers. The free ligand obtained by reacting the tetracoordinate Cu^+ complex with KCN further reacts with $\text{Zn}(\text{NO}_3)_2$ to yield a pentacoordinate Zn^{2+} complex in the contracted state. The reverse motion is induced by the addition of $\text{Cu}(\text{CH}_3\text{CN})_4^+$. The length of the backbone changes from 85 to 65 Å between the two forms.

(Chem. Eur. J., 2002, 8, 1456)

(Vass Márton)



Useful expressions

Are we there yet?

Inflatable swim ring

Cotton candy

Deep-fried flat bread with garlic and sour cream

Nice weather isn't it?

A storm is brewing

Let's go swimming

I left my swimming suit at home

Will the water get any deeper?

Look! A shark!

Help!

Wait!

Ott vagyunk már?

Felfújható úszógumi

Vattacukor

Fokhagymás tejfölös lángos

Szép időnk van, nemde?

Vihar készülődik

Menjünk úszni

Otthon hagytam a fürdőruhámat

Lesz mélyebb is a víz?

Nézd! Cápa!

Segítség!

Várj!

The real definitions of some branches of chemistry

Organic chemistry: the practice of transmuted vile substances into publication.

Physical chemistry: the pitiful attempt to apply $y = mx + b$ to everything in the universe

Inorganic chemistry: that which is left after organic, analytical and physical chemists get through picknicking over the periodic table.

(J. Verhagen)

Weather

Hurray, no rain!
Let us hope it will remain so and go to the beach!

Colophon

Catalyzer

Journal of the 40th International Chemistry Olympiad
Issue No. 3 July 13, 2008

Editorial team: Darvas Mária, Jagasics Éva, Magyarfalvi Gábor,
Stirling András, Túri László, Vass Márton,
Jon Baker

Layout: Csordás Zoltán, Pál Attila

Photographer: Gillicze Bálint

Press: Prime Rate Ltd. Budapest

Secretariat of the IChO

<http://www.icho.hu>

Pázmány Péter sétány 1/A, Budapest H-1117, Hungary

Telephone: +36 1 372 2910, Fax: +36 1 372 29 31

(during the olympiad: +36 20 779 5210)

E-mail: info@icho.hu

Budapest

Ministry of Education and Culture

Eötvös Loránd University

Faculty of Science

Institute of Chemistry

www.budapest.hu

www.okm.gov.hu

www.elte.hu

<http://ttk.elte.hu>

www.chem.elte.hu

Catalyzer

Issue No. 4 – Monday 14 July 2008

Balatonfüred the gemstone of Balaton



The settlement lying on the northern shore of Lake Balaton was the first among Hungarian towns to receive the title of *spa*. It is also famous for the superior quality wine of the area and the traditional Anna Ball, organized annually since 1825. The history of the town goes back as early as the middle ages when seven small settlements stood in the area. From these only two, Arács and Balatonfüred survived the storms of history. Arács, or the Old Town as the locals call it, lies further from the lake in the hills while the original Balatonfüred or the New Town consists of the lakeshore areas and downtown. The most famous point in Arács is a small hill on which the ruins of a medieval church and a 19th century cemetery can be found. From this hill a stunningly beautiful panorama opens towards the lake. The most spectacular sights of the downtown area are the Catholic Church built of red stone and the white Protestant Church. Close to the shore of Lake Balaton stands the imposing building complex of the hospital (which specializes in cardiology), situated near to the Tagore Promenade, which runs along the lakeshore and was named after Rabindranath Tagore, a famous Indian poet. Next to the promenade there is a shaded park (with some of the trees planted by Nobel laureates) containing a coat of arms of Hungary made from flowers. Visitors to Balatonfüred should try the so-called sour water of the town which comes from springs discovered in the 1700s. The spa gained importance when the first health bath was built in the town in the beginning of the 1700s. The sour water contains calcium and magnesium hydrogen-carbonates and sulfates and a significant amount of carbon dioxide.

(Darvas Mária)

Tihany the village of legends

Tihany is a beckoning historic village lying on the northern shore of Lake Balaton on the Tihany Peninsula. The Benedictine Abbey standing in the center of the village was founded by Andrew I, who was buried in the crypt there in 1055, only half a century after the foundation of the Hungarian state. The first extant record of the Hungarian language is embedded in the founding charter of this abbey, which is today preserved in the Archabbey of Pannonhalma. The church of Tihany was originally constructed in the Romanesque style but it was destroyed and later rebuilt in the baroque style in 1754. The spectacular building is a favourite place for tourists due to its artistic and historical significance. The *echo of Tihany* is one of the legendary features of the place and has inspired many famous poets. It has existed since the XVIII century but is less effective today due to changes in the landscape. The other well known legend connected to the village is about the so-called *goat's nails*, brought ashore by the waves. According to the story, there was a very self-conceited princess who had golden-haired goats. She was cursed by the king of the lake because of his proudness and all her goats drowned in the Balaton; sometimes even today their nails are washed ashore. In fact the nails are worn shells of prehistoric bivalve clams. We hope you will enjoy a nice summer day in this charming village.

(Darvas Mária)





At the opening ceremony

Yesterday in the morning we had the chance to take part in the Opening Ceremony held at Madách Theater, one of the most imposing theaters of Budapest. The pictures reveal the elevated spirit of the ceremony:



Snapshots from the attentive audience



Hudecz Ferenc the rector of ELTE called the participants not only to compete but to establish lasting new friendships



2008 is the year of renaissance in Hungary. These dancers performed a so called kuruc dance from the end of that period



Manfred Kerschbaumer, the Austrian President of the Steering Committee opened the 40th IChO with a witty speech



Szepes László welcomed Hartmann Hildegard, one the organizers of the very first Olympiad



Szokolay Dongó Balázs and Sebestyén Márta gifted us with a stunningly creative performance of authentic Hungarian folk music.

Sightseeing in Budapest – the first glimpses

Yesterday in the afternoon a bunch of young chemists invaded the city of Budapest eager to explore its secrets, longing to get acquainted with some Hungarian traditions. Let see now from where they had started their ‘expedition’, what had they already known about Hungary and its capital. Four teams were ready to answer my investigating questions: Canada, Denmark, Ireland and Mongolia

Ireland

Q: Have you ever been to Budapest, have you heard anything interesting or strange about it?

A: No, unfortunately we have not been here before, but my friends who have told us it was a great experience to visit Hungary and Budapest is a lovely historic city.

Q: Hungary is famous for its cooking traditions. Do you know any special Hungarian food? If yes what, have you ever tasted it?

A: Yes, I know goulash which must be some spicy soup or stew.

Denmark

Q: Have you ever been to Budapest, have you heard anything interesting or strange about it?

A(Denmark): Yes I have already been here and I had the chance to visit Saint Stephen's Basilica and I saw a mummified hand exhibited there.

fied hand exhibited there.

Q: Hungary is famous for its cooking traditions. Do you know any special Hungarian food? If yes what, have you ever tasted it?

A: No, I am vegetarian, ask the boys!

Q: Boys?

A: Yes, I have tried the goulash. Actually we also have some kind of goulash in Denmark, but it is a little bit different.

Mongolia

Q: Have you ever been to Budapest, have you heard anything interesting or strange about it?

A: Never, but we are very happy to be in Europe, it is fun!

Q: Hungary is famous for its cooking traditions. Do you know any special Hungarian food? If yes what, have you ever tasted it?

A: Yes, I have it is spicy and tasty, I like it.

Canada

Q: Have you ever been to Budapest, have you heard anything interesting or strange about it?

A: I have heard it is an interesting historic city, really nice to be here indeed!

Q: Hungary is famous for its cooking traditions. Do you know any special Hungarian food? If yes what, have you ever tasted it?

A: I have heard about salami and goulash and I am eager to taste them, they must be nice.

Did you know...

that Hungary has a large number of thermal and mineral springs which is unusual for a country without active volcanism? There are numerous spas all over the country, more than a dozen within Budapest, and a corresponding bath tradition. The analysis of the waters was an important stimulus for the development of chemistry in the country. The first book on chemistry in Hungarian was written on this topic in 1800 and the most widely recognized Hungarian classical chemist also started his analytical studies on water. The iodometric method to determine the amount of dissolved oxygen in water still bears the name of Winkler Lajos. His predecessor as the head of the Institute of Chemistry, Than Károly, was the first to synthesize carbonyl sulfide and detect it in mineral waters. Unreactive COS gas was only a footnote in inorganic chemistry books for a century, but today its role in the sulfur cycle and biogenesis is actively researched. In addition to the mineral springs carbonated naturally, many Hungarians carry out water carbonation at home with small CO₂ cartridges that are filled at the largest pure carbon dioxide well in Europe located in western Hungary. The first large scale carbonation equipment was also an invention of a Hungarian, the eccentric monk and physics professor Jedlik Ányos. He never patented this process or any of his many other inventions.

(Magyarfalvi Gábor)