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40th International Chemistry Olympiad
2008 Budapest, Hungary

Catalyzer

Issue No. 11 – Monday 21 July 2008

Did you know...

that medieval Hungary was the greatest source of gold and silver for Europe, providing a rich source of income for the Hungarian kingdom? The mines in the Carpathian ranges were known in Roman times and were at the forefront of advances in mining technology, geology and chemistry. For example the first peaceful use of black powder, underground blasting, was introduced on February 8th, 1627 in Selmecbánya (German: Schemnitz, Slovak: Banská Stiavnica). This town was the seat of a mining school already functioning in 1735 that was the first institute of technology to receive university status in 1770. The excellent education and the syllabus that introduced chemistry laboratory practices for the first time attracted students and scholars from as far away as South America. The d'Elhuyar brothers, the discoverers of vanadium, and Alessandro Volta also visited the institute.

(Magyarfalvi Gábor)

...and that...

the Danube, our beautiful, majestic river was once a virtually inexhaustible source of gold for many many people? They did what is known as gold-washing professionally for a living. Gold-washing was already a well-known method in Ancient Times to obtain gold for trade. The technique is simple but laborious and very dangerous to your health. What you get at the end of your fatiguing gold-washing day are fine gold particles which are difficult to separate from their accompanying impurities. Separation was accomplished using mercury in three steps. First the gold particles were amalgamated using mercury drops. Then the remaining mercury and the amalgam were separated by squeezing this "solution" manually through a tight cloth. During the squeezing, mercury drops percolated through the cloth while the pasty amalgam remained inside. In the last step this amalgam was heated and after Hg had evaporated, the gold (in the form of a kind of sponge) from the Danube was recovered. From where do you think those people got the elementary mercury to do this job?

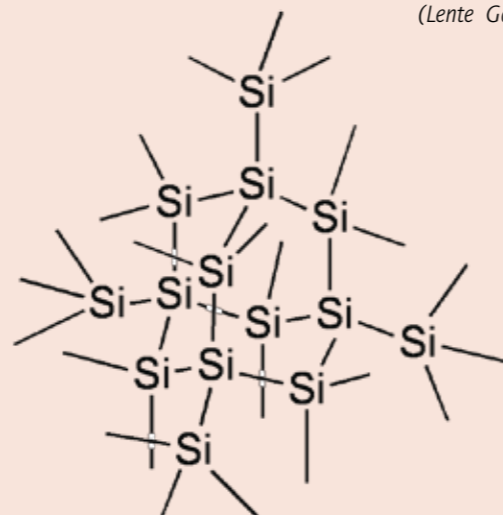
(Stirling András)

Molecule of the day

Sila-adamantane is the silicon-containing analog of adamantane. Unsubstituted sila-adamantane itself is extremely difficult to prepare because of the low stability of Si-H bonds. A substituted derivative of the molecule, however, was prepared by Austrian scientists in 2005. Crystalline silicon is an exceptionally important material for the modern semiconductor industry. Sila-adamantane is a molecular analog of the basic structural unit of the Si lattice, and may find widespread application in device miniaturization and molecular electronics.

(Science, 2005, 310, 825)

(Lente Gábor)



The motto of the day

All that glitters may not be gold, but at least it has free electrons.

(J.D. Baernal)

Weather

Today the temperature will be pleasantly warm but we can also expect some rain.

Colophon

Catalyzer
Journal of the 40th International Chemistry Olympiad
Issue No. 11 July 21, 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>
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Servier-Egis Prize	Yongping Fu	China	Silver	Huseyin Erguven	Turkey	Bronze	Mei Hua Fiona Foo	Singapore	Bronze	Yair Ezequiel Litman	Argentina
MOL Prize	Yongping Fu	China	Silver	Thais Macedo Bezerra Terceiro Jorge	Brazil	Bronze	Sandra Stanionyte	Lithuania	Bronze	Kang Ruey Gregory Lau	Singapore
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