

# NEWSLETTER OF *eurostar-science*

NO 1 -- May 21, 2001

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## CONTENTS

### 1.1 EDITORIAL

Erwin Marti, President

### 1.2 WELCOME TO *eurostar-science's* NEW WEBSITE

Katrin Fiebich

### 1.3 NEWS @ [www.eurostar-science.org](http://www.eurostar-science.org)

Munich Meeting • PhandTA 6 • Workshop on Solid State Chemistry and Physics & more

### 1.4 OUR SPONSORS. SOLVIAS AG - YOUR PARTNER FOR POLYMORPHISM STUDIES

Markus von Raumer

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### 1.1 EDITORIAL

Erwin Marti, President

The renewing of *eurostar-science* is taking place in quite different domains. This Newsletter is one of these activities starting now and hopefully becoming a vivid scientific information platform. The Members of the Organization Committee with the valuable support by Katrin Fiebich being responsible for the Website would very much appreciate, if our Sponsors, Members and other interested scientists take part in this new opportunity by making suggestions, submitting short scientific or technical contributions and comments.

Another area of the work of *eurostar-science* is our ongoing activity in organizing Conferences such as the PhandTA's. PhandTA 6 at Monte Verità will be our next milestone as the venue of celebrating our 10th anniversary. In June 2001, the first Circular of the PhandTA 6 will be published on our

Website. To get informed about the scientific topics anticipated in these Conferences, please visit the Archive Section.

In Munich in September 2001, the Joint Conference of GEFTA, *eurostar-science*, and STK on Thermal Analysis in Material Sciences and its Application to the Car and Aircraft Industry shall assemble Scientists from Universities, Technical Institutes and Industry.

All who are appealed to the Activities of the European Society for Applied Physical Chemistry are cordially invited to become a Member or a Sponsor. Registration as a Member is easily possible on the Website. This 1. Newsletter shall give a fresh impetus as the beat of Haydn's "Drum Roll" Symphony.

## 1.2 WELCOME TO *eurostar-science*'s NEW WEBSITE

Katrin Fiebich

This is the first newsletter of the European Society for Applied Physical Chemistry - *eurostar-science*. With this new communication tool we would like to make you aware of the ongoing activities of our society and other news in the field of applied physical chemistry. The newsletter is announced by an e-mail sent to registered members and includes also a printable pdf-version.

If you haven't already done it, you are invited to subscribe to this free service by sending an empty message to [eurostar-science@solvias.com](mailto:eurostar-science@solvias.com) with the subject "Newsletter". To unsubscribe, please send an empty message with "Unsubscribe" from the e-mail address on which you are subscribed. In case of any problems, please contact the webmaster.

Today we would like to announce our new *eurostar-science* website published at the well-known address <http://www.eurostar-science.org>. With the renewing of our website, we hope to offer our members steadily increasing opportunities to share information on relevant issues, and to intensify contacts among members or other scientists interested in this area. Beside general information on the society, their aims, statutes and the possibility to register with us, we plan to include the following content:

- information on the next and previous conferences organized by *eurostar-science*
- links which could be useful in the daily work of our members
- information on other interesting events
- opportunities to present your own work, to share your experiences with others, and to ask and answer questions
- get information on new techniques, methods and equipment.

Of course there is no limit to possible further interesting topics. However, these targets cannot become reality if we depend on only a few people, and naturally we need some time to grow up to a more and more useful platform. To create a vivid atmosphere of communication, we appreciate your response, comments, proposals and especially contributions to the website and the newsletter. Thank you.

The next issue of our newsletter is expected in the third quarter of this year.

### 1.3 NEWS @ [www.eurostar-science.org](http://www.eurostar-science.org)

Details on the following topics are available at the website.

#### Conferences

- Munich Meeting, a joint conference of GEFTA, eurostar-science, and STK on Thermal Analysis in Material Sciences and its Application to the Car and Aircraft Industry, takes place from September 11 - 13, 2001 @ the BMW Research and Engineer Center in Munich, Germany. The scientific program will be published on the website in July. Further information are available on GEFTA's homepage.
- PhandTA 6, the 6th International Conference on Pharmacy and Applied Physical Chemistry of eurostar-science, takes place from May 26 - 29, 2002, the second time @ Monte Verità in Ascona, Switzerland. General information and the tentative program are already available.
- Workshop on Solid State Chemistry and Physics takes place on May 30, 2002, @ Monte Verità in Ascona, Switzerland, following PhandTA 6.
- Information on previous conferences, i.e. PhandTA 4 and PhandTA 5 incl. the scientific programs and abstracts are archived now.

#### News for Current & Future Members

- Registration Form. Members registering in 2001 receive a present.
- Statutes of eurostar-science are available.
- Visit the Useful-Link-Section. Contributions are appreciated.
- Furthermore selected conferences and symposia are collected on the Event-page. Please feel free to share your knowledge on further interesting events with others by sending your proposals to the webmaster.

## 1.4 OUR SPONSORS. SOLVIAS AG - YOUR PARTNER FOR POLYMORPHISM STUDIES

Markus von Raumer

### Solvias AG

Solvias AG was founded in October 1999 as a spin-off of a centre of scientific expertise at Novartis. The fully independent company provides a comprehensive range of scientific services in physico-chemical characterisation, chemical analysis, synthesis and catalysis, online measurement technologies and software development.

### Polymorphism studies

Polymorphism is the ability of a compound to crystallise in more than one distinct crystal structure. The probability that a particular drug substance can exist in different solid forms (polymorphs, solvates, hydrates and amorphous form) is high. These modifications or polymorphs have different physical and chemical properties. From the pharmaceutical point of view, bioavailability (through solubility profile), processability and stability are influenced by the existence of polymorphs. In order to avoid undesired changes during the production process or during the product lifetime, it is therefore extremely important to know the thermodynamic and kinetic stability of all forms as a function of temperature and other environmental variables. Moreover, it has been demonstrated several times that a sound polymorphic characterisation is a powerful means of extending the lifetime of one's own patent or, under favourable

conditions, of getting patent protection on generic drugs. We can provide complete studies or answer highly specialised questions and our in-house attorney can assist in evaluating existing patents or applying for new patents. In short, we adapt our polymorphism studies to the customers needs, wishes and special requirements (timeframe, compound availability and budget).

Our clearly defined and structured strategy for polymorphic studies includes the search for new solid forms via thermoanalytical techniques as well as via different crystallisation techniques from selected solvents. Any new relevant solid form is characterised spectroscopically and thermally and the hygroscopic behaviour is analysed. Finally, if possible, the thermodynamic relationship between the forms is established and an interrelation scheme is drawn.

Project extensions include the production of several grams of the desired new form, the optimisation of the crystallisation procedure, the development of a scale-up procedure and the transfer to production. Further on, the physical and chemical stability in a given formulation and possible interactions with excipients are established. Finally there is the Solvias Salt Program, where different salts are produced, characterised and eventually screened again for their polymorphic behaviour.

### Contact

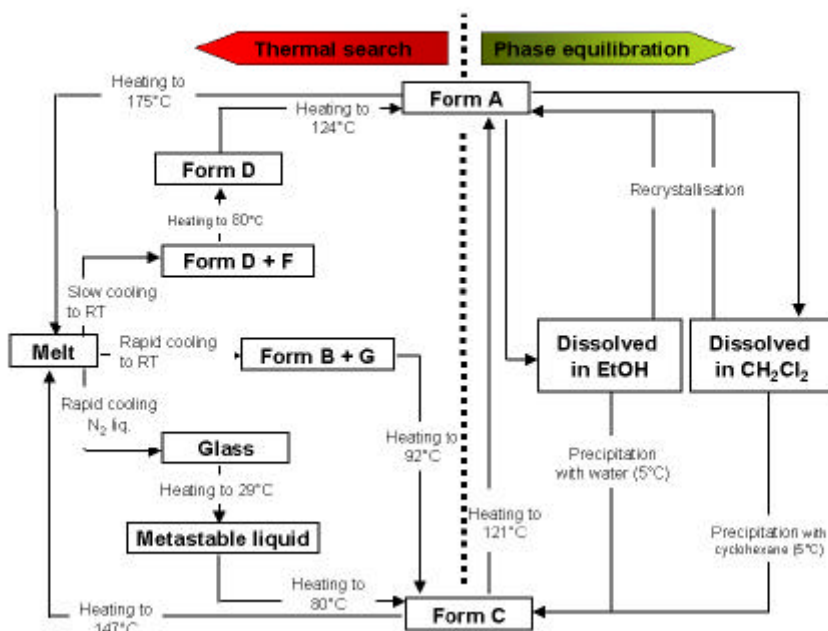
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## Example - Polymorphism of Lufenuron

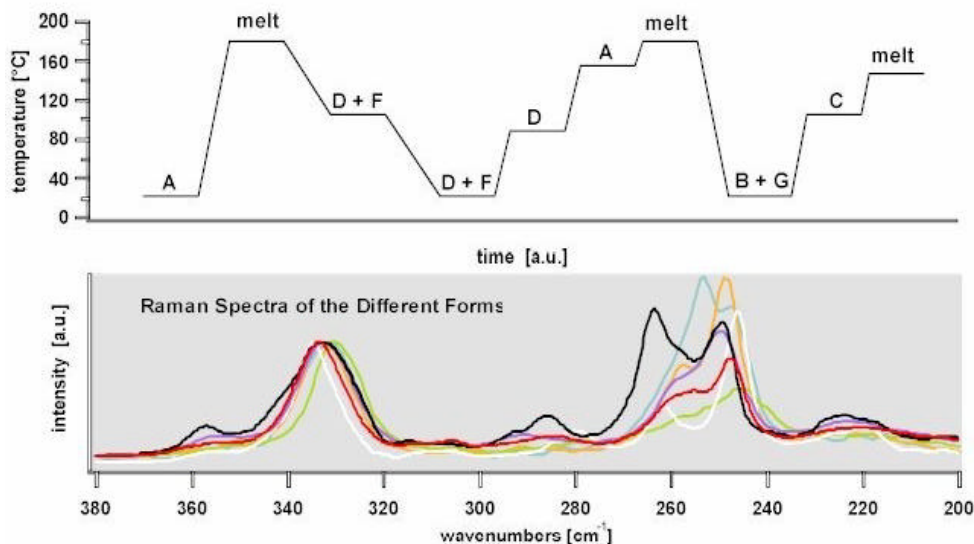
Examples of state of the art technique and of a transformation scheme resulting from a systematic polymorphism study. [1]

### Transformation Scheme of Lufenuron Racemate



## Lufenuron: Hot Stage Raman Microscopy

### Complex Behavior Traceable with Minute Amounts



[1] In-situ Characterization of Polymorphic Forms - the Potential of Raman Techniques, M. Szlagiewicz, C. Marcolli, S. Cianferani, A. Hard, A. Vit, A. Burkhard, M. von Raumer, U. Hofmeier, A. Zilian, E. Francotte and R. Schenker; J. Therm. Anal. Cal., 23-43, 57, 1999.