From Proposal to Project

Lars-Eric Lindfors, Dmitry Murzin

Åbo Akademi University
Finland

COMMISSION OF THE EUROPEAN COMMUNITIES

RESEARCH DIRECTORATE-GENERAL

NANOCAT 2005-2007

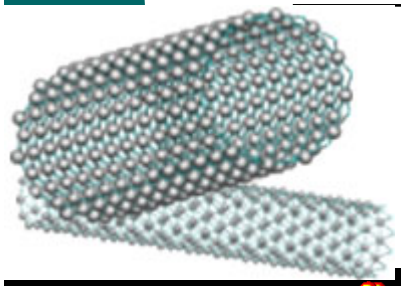
Tailored nanosized metal catalysts for improving activity and selectivity via engineering of their structure and local environment

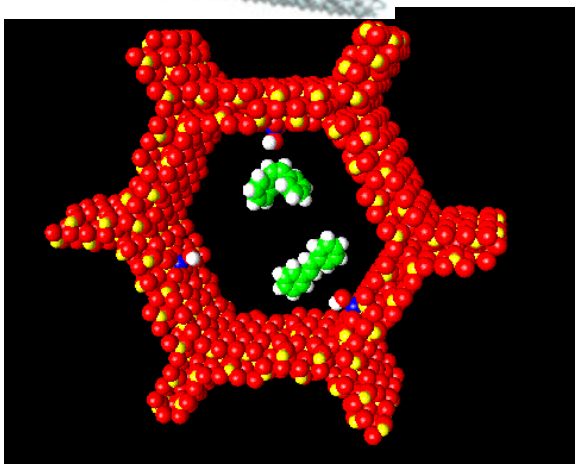
NMP3-CT-2005-506621

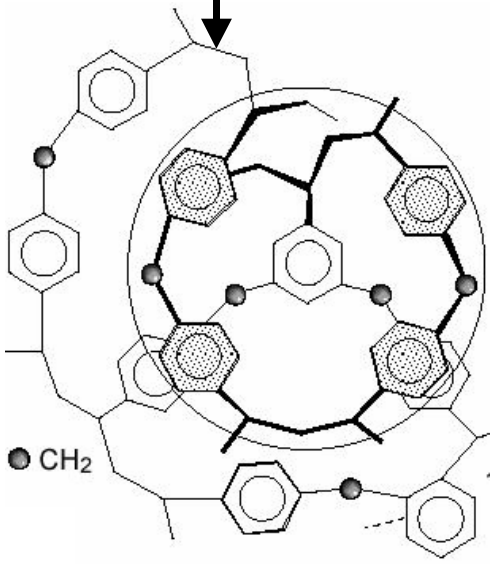
Contract Number 506621

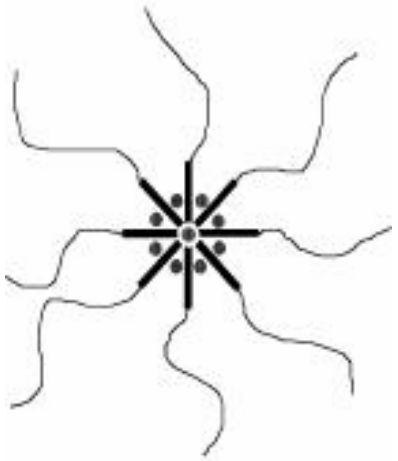
NANOCAT project

Tailored metal nanoparticles of the same size incorporated in inorganic/organic matrices







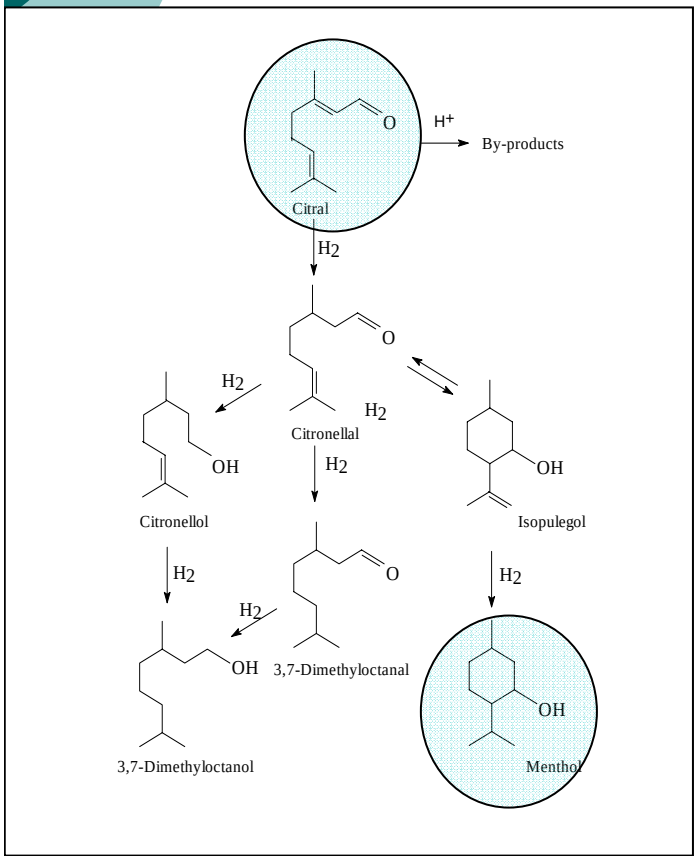


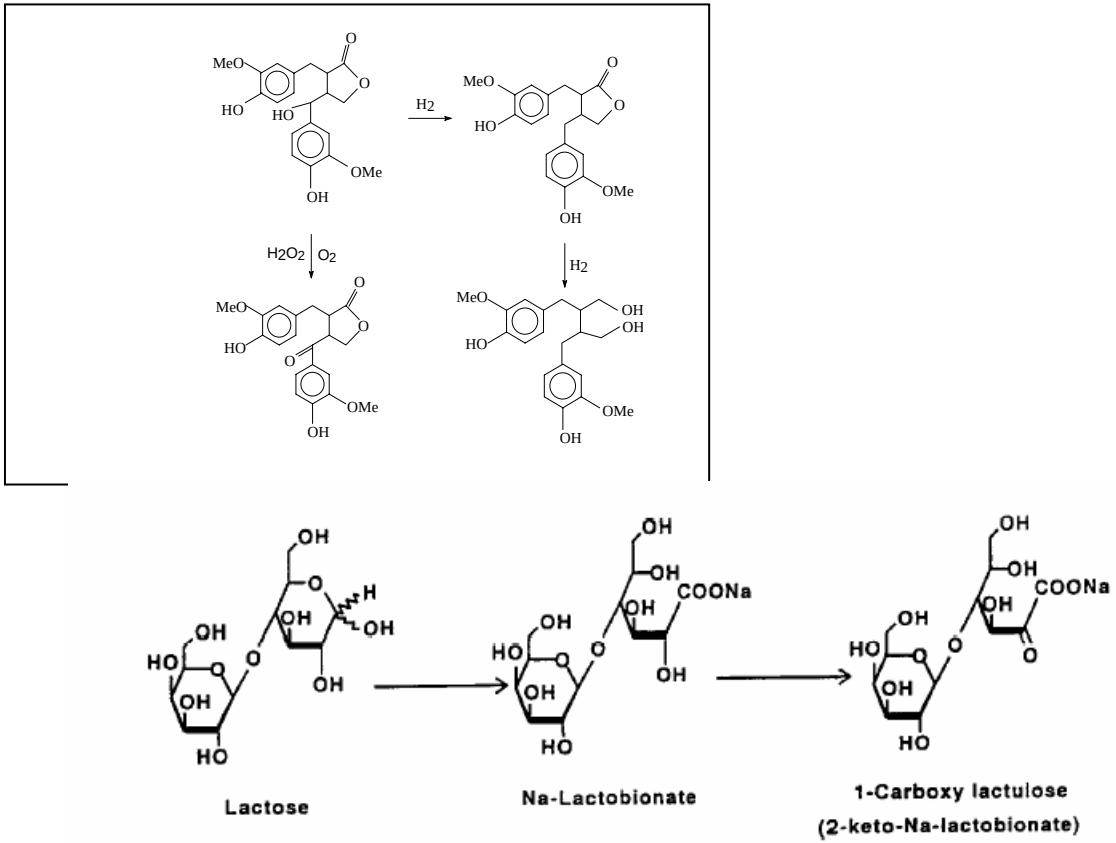
synthesis, characterization (physical methods), reaction test, modeling (kinetic, QC)

fundamental knowledge of the metal particle environment

Applications

Testing of these nanocatalysts in industrially important reactions for producing fine and specialty chemicals





Objectives

- **to synthesize different metal catalysts** incorporated in micro-mesoporous matrices and polymeric matrices with about the same metal particle size. The active metals are Pt, Ru, Pt-Au and Pd and the metal particle size in a range of 1 – 10 nm.
- **to characterize the catalysts** by relevant physico-chemical methods in order to establish the metal particle size distribution and the effect of environment on metal particles and their performance.

Objectives

- **to test the nanosized metal supported catalysts** having about the same metal particle size, but different environment in several hydrogenation, isomerisation and oxidation reactions in the liquid phase.
- **to carry out Monte Carlo simulations** for surface reactions and diffusion and **kinetic modelling** in order to develop surface science based reaction mechanisms.

NANOCAT 2005-2007 Participants

Degussa AG 

Foundation for Research and Technology 

Tver State Technical University 

University of Palermo 

Universite Pierre et Marie Curie 

Utrecht University 

Åbo Akademi 

Negotiations

- 470 STREP proposals in the 6th EU framework.
- 55+18 were accepted
- Time for negotiations > 1 year

From Proposal to Project : Evaluation

Evaluation Summary Report for a STREP

Proposal No. : 506621-1	Acronym : NANOCAT

1. Relevance *(Threshold 3/5; Weight 1)* The proposal addresses the objectives of the workprogramme, dealing with basic understanding in heterogeneous catalysis and knowledge generated would lead to breakthrough.	**Mark:** 4
2. Potential impact *(Threshold 3/5; Weight 1)* Successful research outcome will give a good knowledge-basis with substantial impact for competitiveness and solving societal problems. A wide range of applications is expected. Dissemination of results has to be defined clearly.	**Mark:** 4
3. S&T excellence *(Threshold 4/5; Weight 1)* The methodology and workplan for archieving the technological objectives is well structured promising a good chance of success.	**Mark:** 4.4

Evaluation

4. Quality of the consortium *(Threshold 3/5; Weight 1)* High quality coupled with committed, complementary, multisisciplinary research teams on the requisite fields.	**Mark:** 4
5. Quality of the management *(Threshold 3/5; Weight 1)* Management should be improved with clear mechanisms and processes for feedback, monitoring of progress. IPR issues are well secured.	**Mark:** 3.3
6. Mobilisation of the resources *(Threshold 3/5; Weight 1)* Human resources are complementary. However, requested funding appears to be excessive and not sufficiently justified (partners 1, 3, 5, 6 and 7) and relates to manpower, management, WP5.	**Mark:** 3.5

Overall remarks *(Threshold 21/30)* The proposal deals with basic understanding in heterogeneous catalysis and is of importance for different areas. The consortium is complementary. However total cost, manpower, management costs should be reduced. Funding as a whole should be reduced by 25%.	**Total score:** 23.2

Has the proposal passed all evaluation thresholds?	**Yes**
Does this proposal have ethical issues that need further attention?	**No**

Experience with EU Programmes

- Quite easy to find out where your project fits.
- Strategy: your project for the programme, not the programme for your project.
- Finding partners: try to involve people you know and whose work is relevant! Keep in mind geography and complementarity of partners.

Experience with EU Programmes

- Proposal procedure : bureaucratic, but be patient!
- Choose work packages, milestones, deliverables carefully, it makes your life easier during the project
- Cost reduction: 10%-30% of budget:

  try to guess how much you should add to get finally what you need

General

Chances are small (15-20%), but not because it is difficult to get funded.

- Fund-awarding process is fairly honest and unbiased.
- Most of those who failed simply had bad proposals, sometimes too academic, too small, without financial credibility in case of small companies or were not structured properly.

Experience with EU Programmes

- Serious research could be done
- Cooperation is the key!

Summa summarum

A bright idea is needed

It s very difficult to create something out of thin air.