



NANOMOL TECHNOLOGIES presentation

Dr. Santi Sala, Nanomol Technologies

Nano2fun Kick-off meeting, 19-20 September 2013

NANOMOL
TECHNOLOGIES

A science and innovation
driven company

NANOMOL
TECHNOLOGIES



ICMAB

CSIC



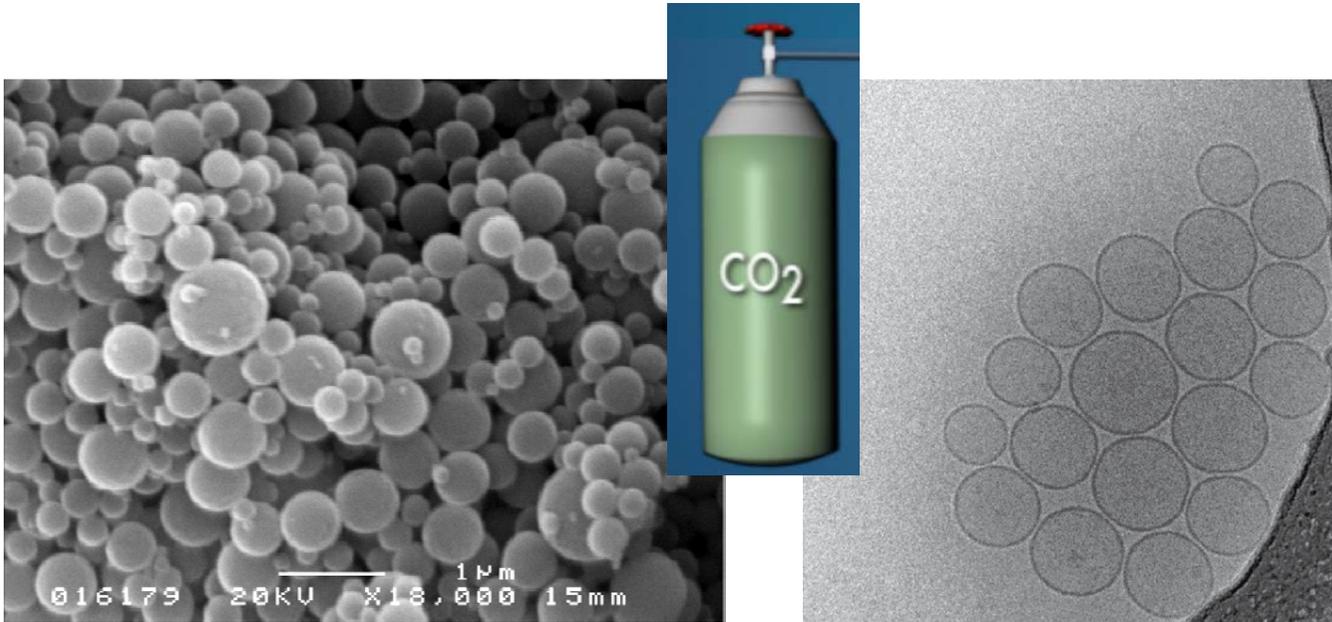
CSIC
IRIA
UPB



Parc de Recerca
UAB

Adding value to molecules

Particle Engineering with Compressed Fluids



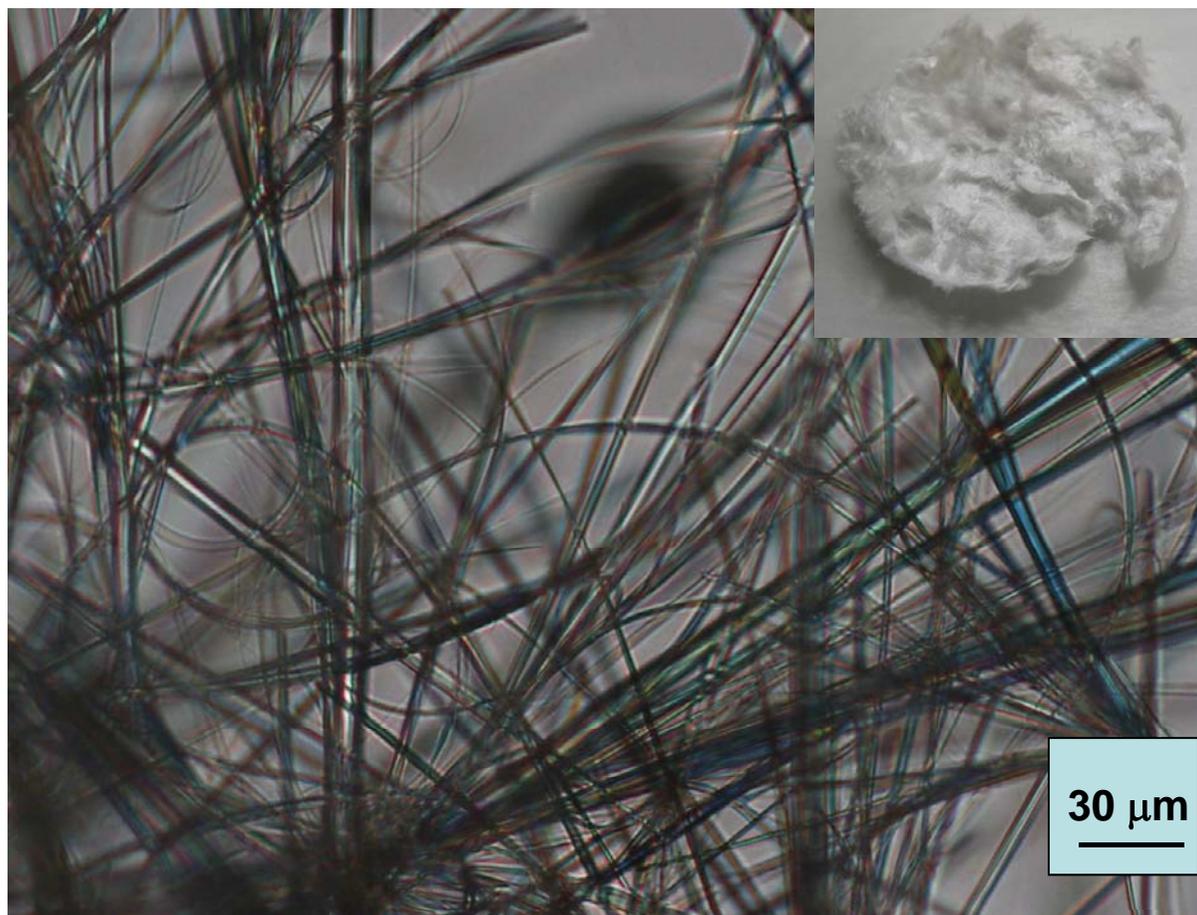
delos™
by Nanomol Technologies



quatsome™
by Nanomol Technologies

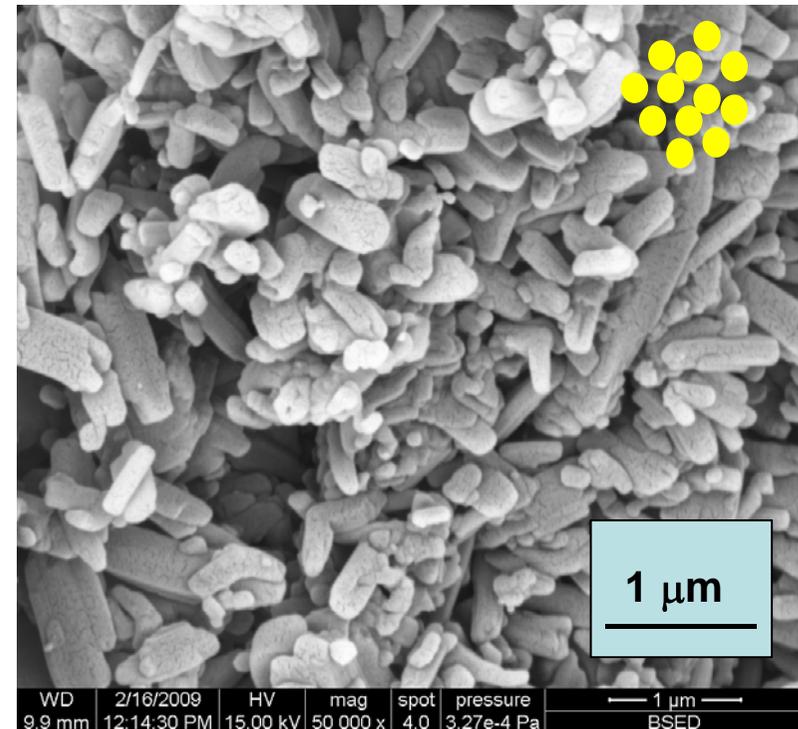
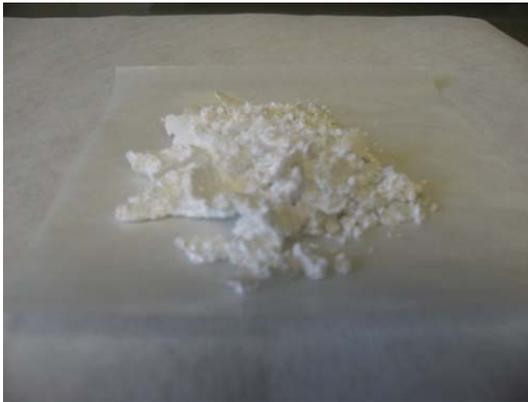
Adding value to molecules

Organic Molecules with problematic fast crystal growth



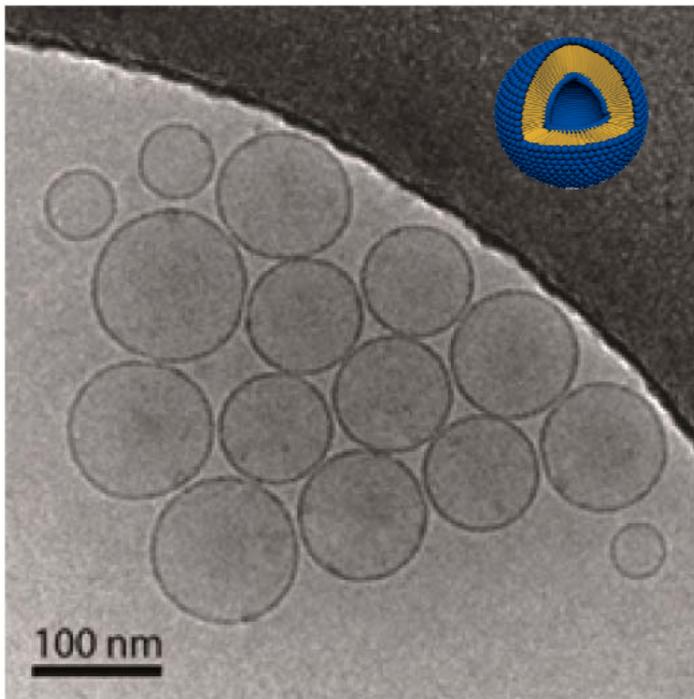
MW=334.39, water insoluble, log P=4.3

One-step production of ONPs powders and suspensions



MW=334.39, water insoluble, log P=4.3

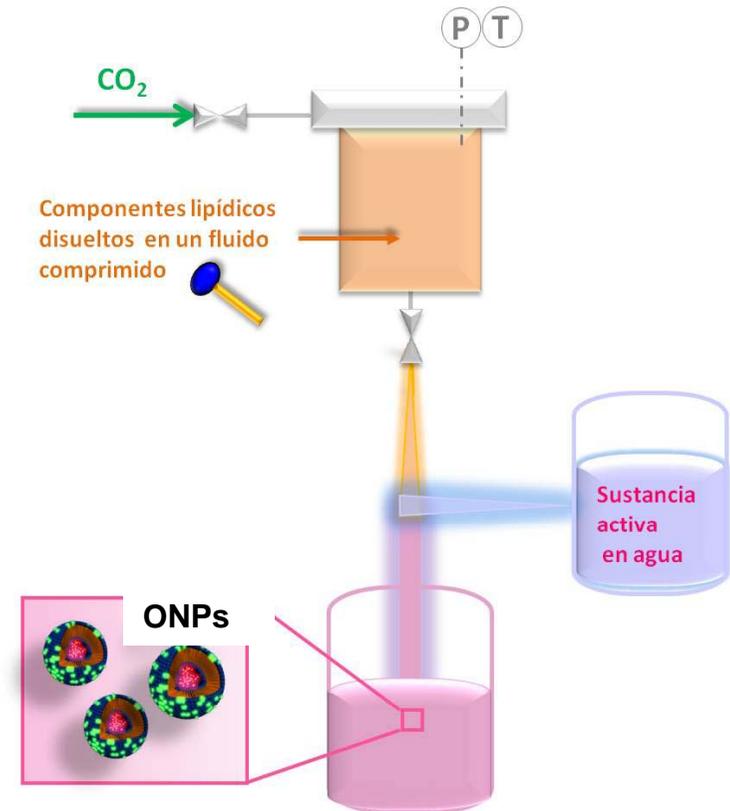
Quatsomes as new nanocarrier system



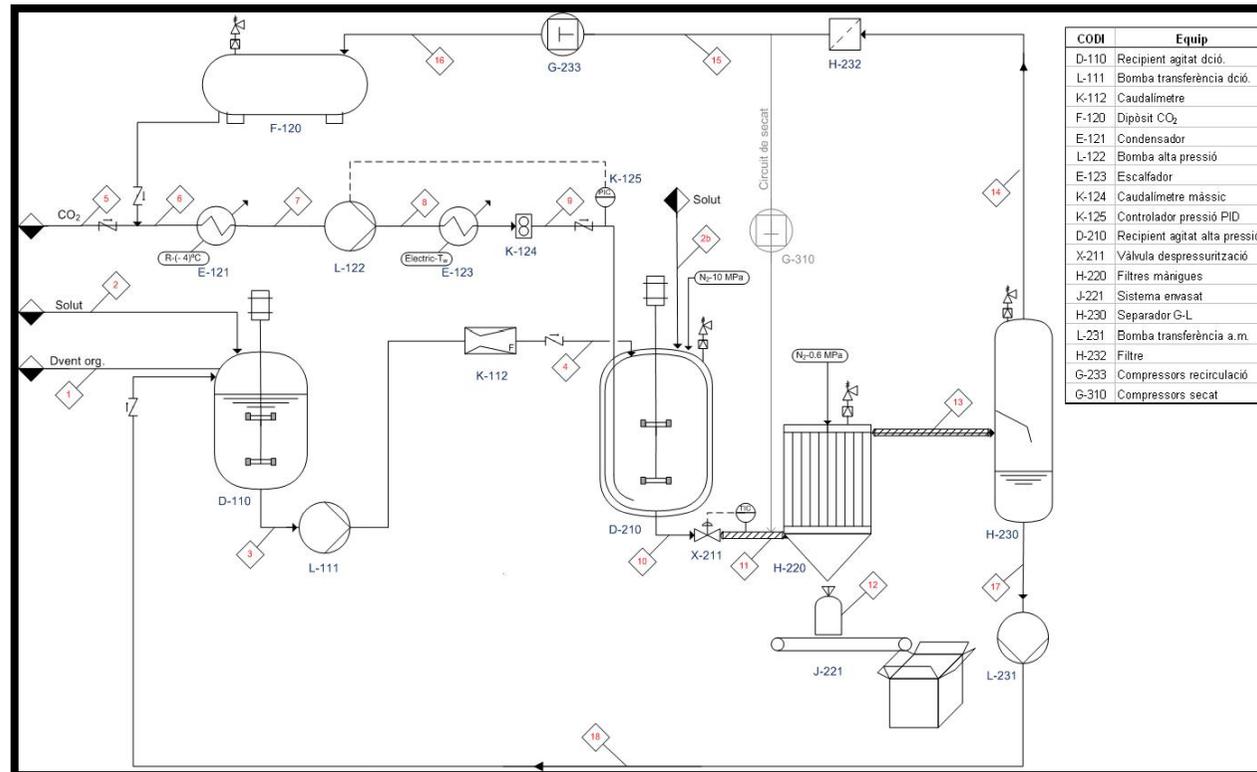
*Nanoscopic vesicles
composed by quaternary
ammonium surfactants
- QUATs - and sterols*

New development: DELOS-SUSP in (semi) continuous mode - static-mixer

- No high-pressure vessel and agitation need.
- Flexibility in batch size
- DELOS-SUSP process is specially easy to adapt
- Drastic reduction in investment costs



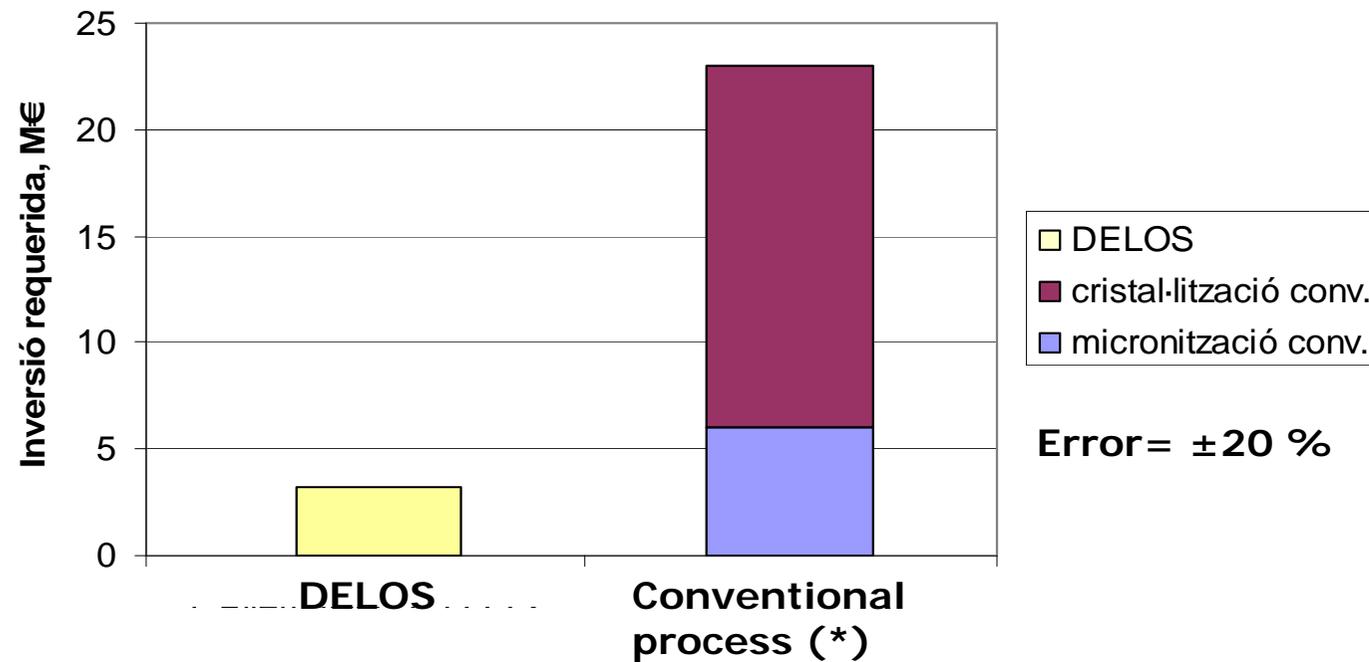
Large scale plant (50tons/year)



Economical and environmental feasibility

Total capital investment

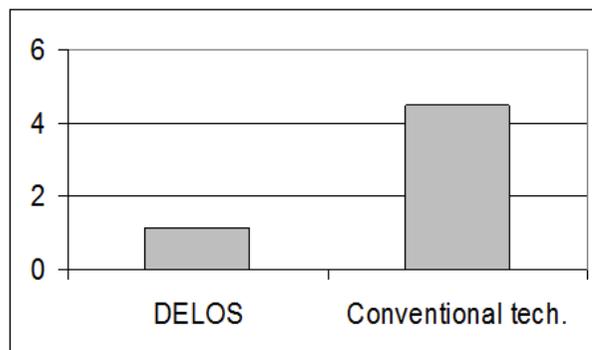
DELOS vs. conventional plant



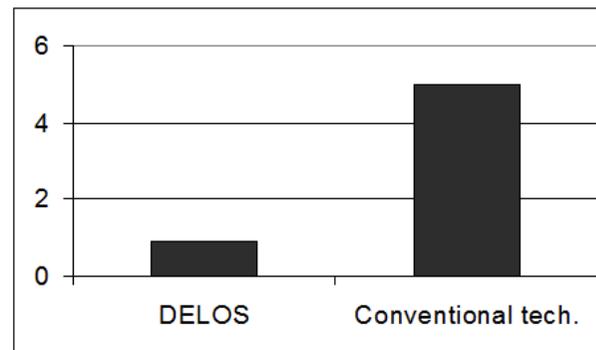
S.Sala et al. *Cryst. Growth & Design* 2012, 12, 1717

Scale-up of nanoparticle technologies

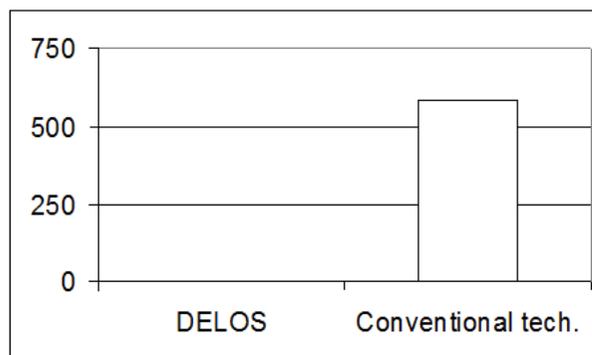
a) Materials consumption



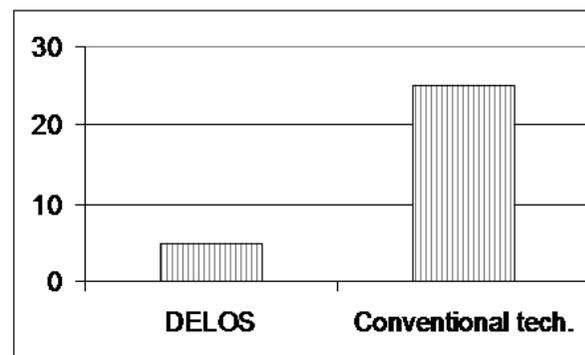
b) Energy consumption



c) Water consumption



d) Contamination emission



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Partners



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Nanomol Technologies
Special Mention at Expoquímia 2011.
R+D+i Chemistry Awards