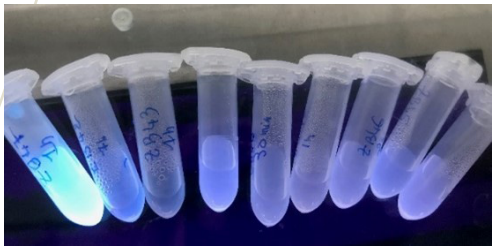
QUANTOMATIC : AUTOMATED SYNTHESIS OF NANOCRYSTALS

Automatic production of high quality quantum dots in an environmentally friendly process using real-time feedback control.

ERG.NEO
L'AVENIR EST FAIT D'AUDACE

PRESENTATION

The synthesis of Quantum dots currently suffers from many problems of flow rates, variability and dangerousness of the production which leads to high manufacturing costs.
The process developed proposes to refrain from these constraints thanks to an innovative manufacturing protocol, without cadmium in water. This protocol allows an automatic production of these compounds using an algorithm creating a feedback loop. Finally, the technology makes it possible to map Quantum dots to obtain different optical properties.



Exemple de Quantum dots eco friendly
© G. Charron (MSC, Univ Paris)

Quantum Dots - Cadmimum free - In-line monitoring of reactions
Automated nanocrystal (QD) synthesis - Continuous-flow synthesis

APPLICATIONS

- Displays
- Medical devices
- Lighting sensors
- Solar cells
- LED lighting

DEVELOPMENT PHASE

☑ TLR 3 / 4 : A laboratory prototype has been developed

COMPETITIVE ADVANTAGES

- Lower manufacturing cost of Quantum dots
- Greater accessibility
- Less variability by eliminating batches
- Possibility of better quantum efficiency, narrower peak...
- Environmentally friendly process

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INTELLECTUAL PROPERTY

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