



In situ X-ray for monitoring crystallization and phase transitions in suspension: In-situX®

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BIWIC 2019

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Projet cofinancé par l'Union Européenne
L'Europe s'engage avec le Fonds européen de développement régional

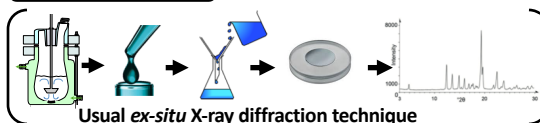


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Introduction



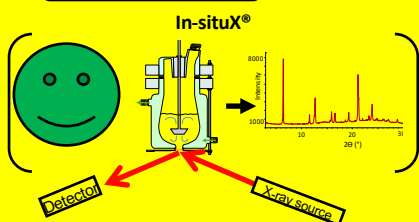
Not suitable for:

- In-situ analyses
- Metastable phase
- Efflorescent solvate
- Crystals in suspension
- Transient states

Aim of the study

To highlight, through different examples, the possibilities of In-situX® as analytical tool able to solve academic as well industrial problems

Conclusion



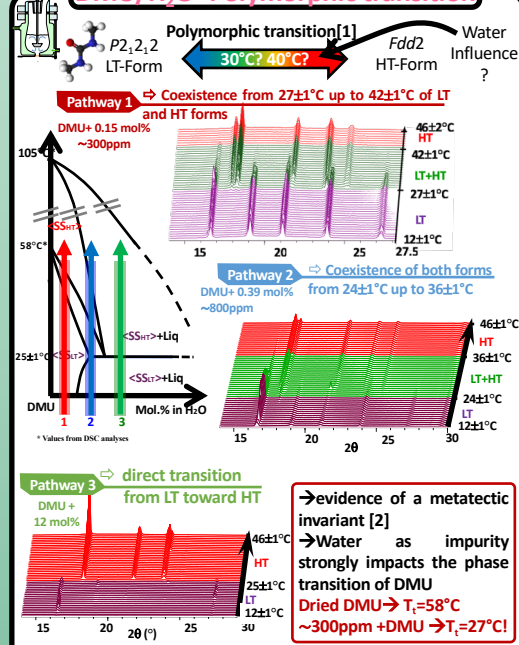
- No need for sampling (cytotoxic compounds, radioactive elements, low temperature crystallization, efflorescent solvates, CO₂, O₂, light, moisture sensitive compounds)
- Laboratory X-ray Source

Solid – solid transition studies of all sorts:

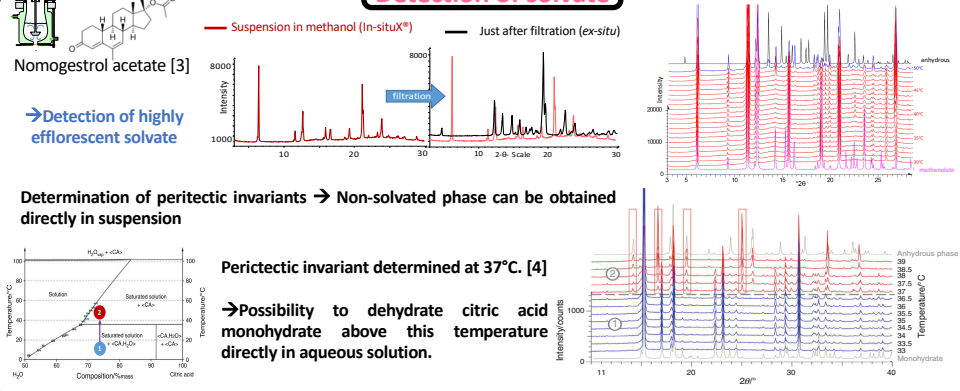
- Polymorphism (kinetics of transition during slurring)
- De/resolution (peritectic transitions in binary, ternary systems, etc.)
- Co-crystal formation
- Host Guest associations
- Clathrates

- Optimization of the resolution of chiral molecules
- Optimization of the filterability by means of temperature cycling

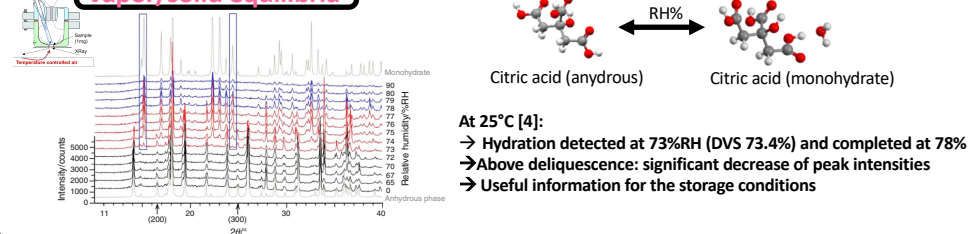
DMU/H₂O- Polymorphic transition



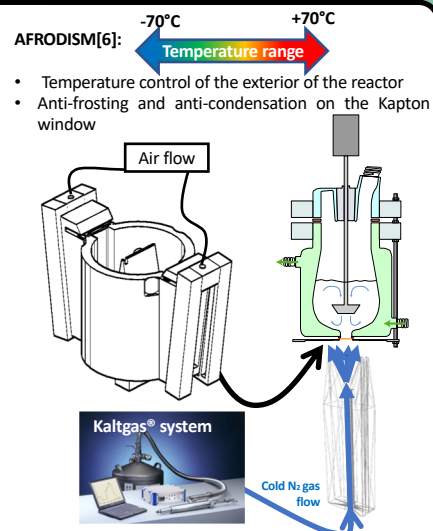
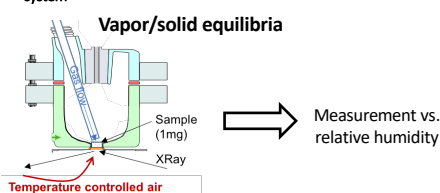
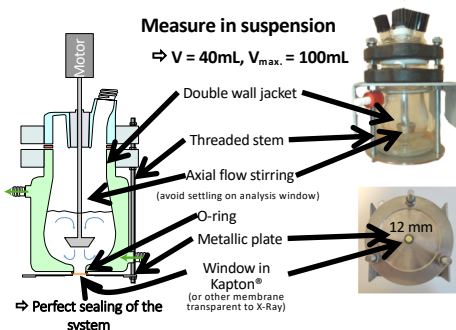
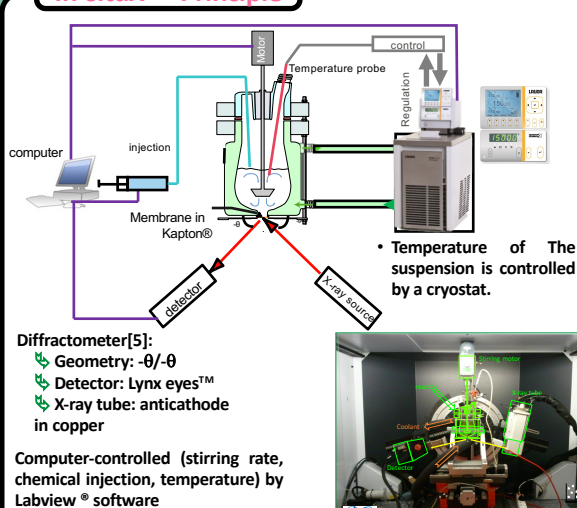
Detection of solvate



Vapor/solid equilibria



In-situX® - Principle



References

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