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## **Manufacturing monodispersed drops and advanced micro/nano-particles using microfluidics - presentation**

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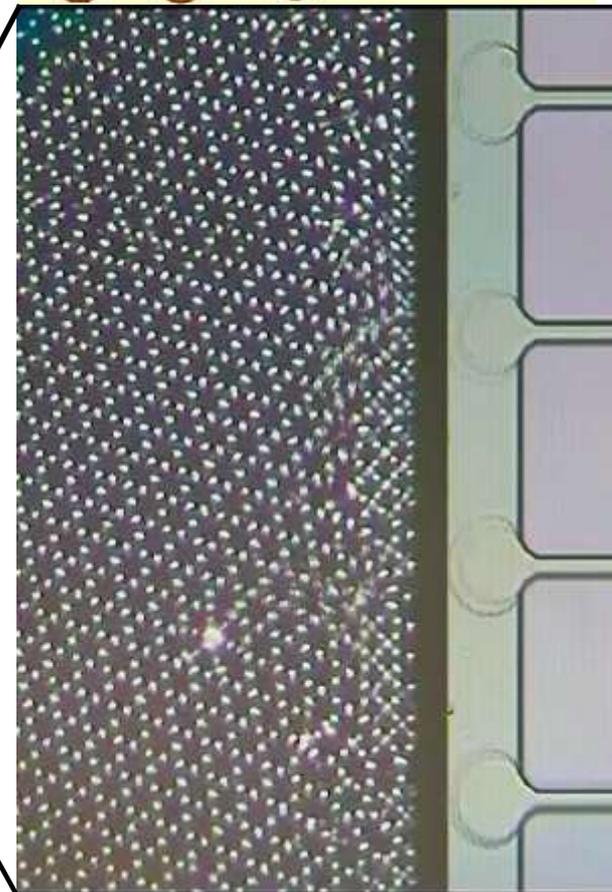
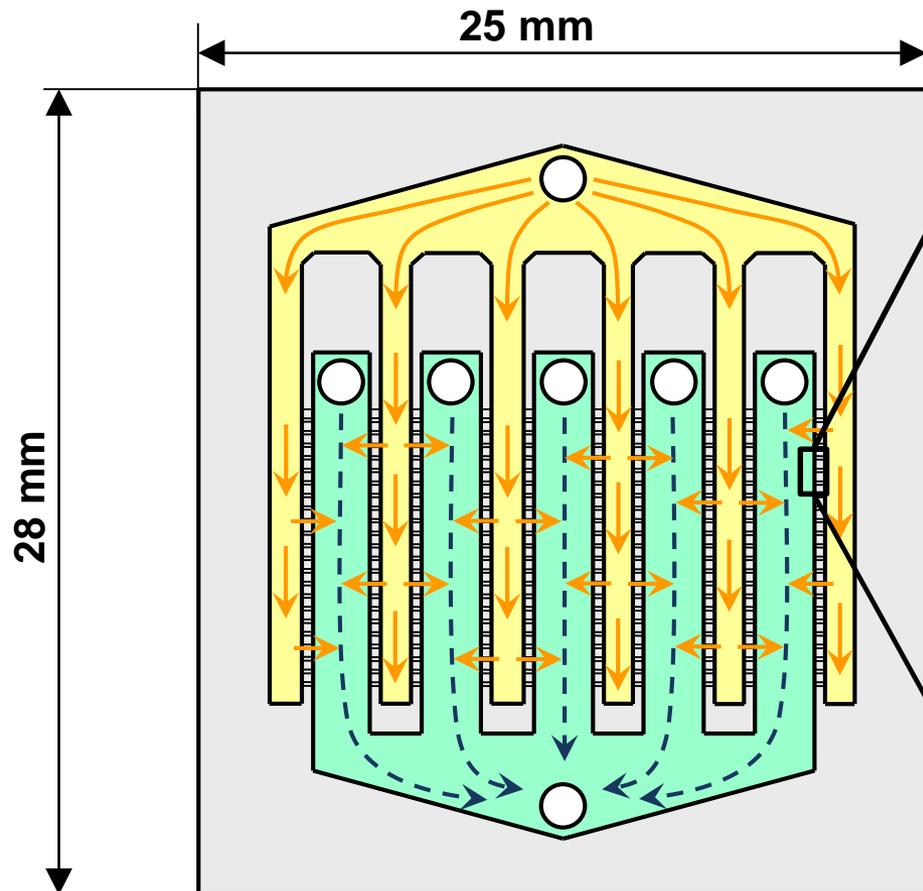
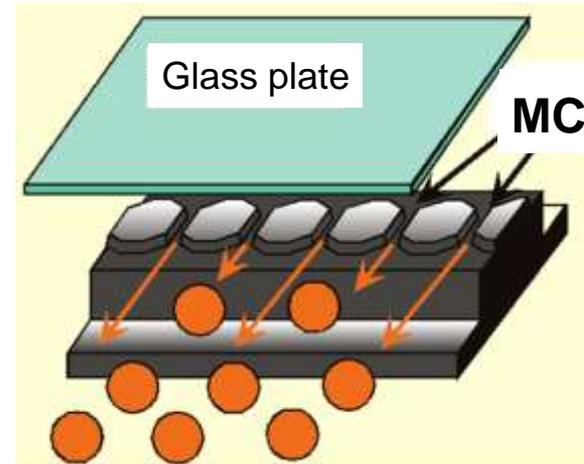
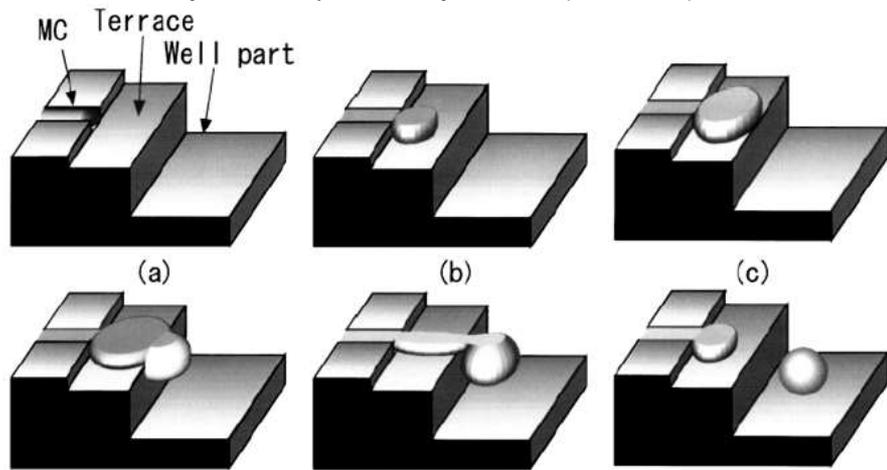
Vladislavjevic, Goran. 2017. "Manufacturing Monodispersed Drops and Advanced Micro/nano-particles Using Microfluidics - Presentation". figshare. <https://doi.org/10.17028/rd.lboro.5446555.v1>.

# MANUFACTURING MONODISPERSED DROPS AND ADVANCED MICRO/NANO- PARTICLES USING MICROFLUIDICS

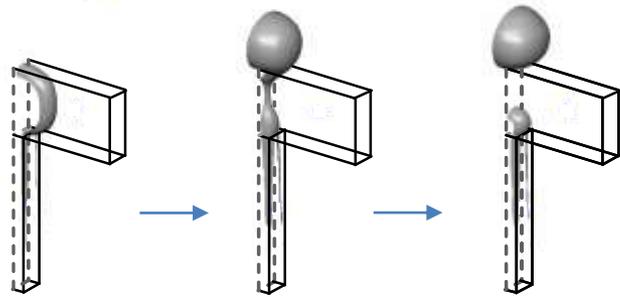
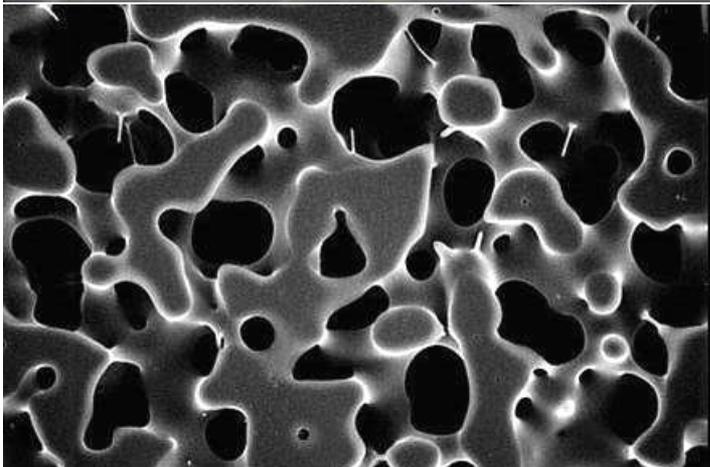
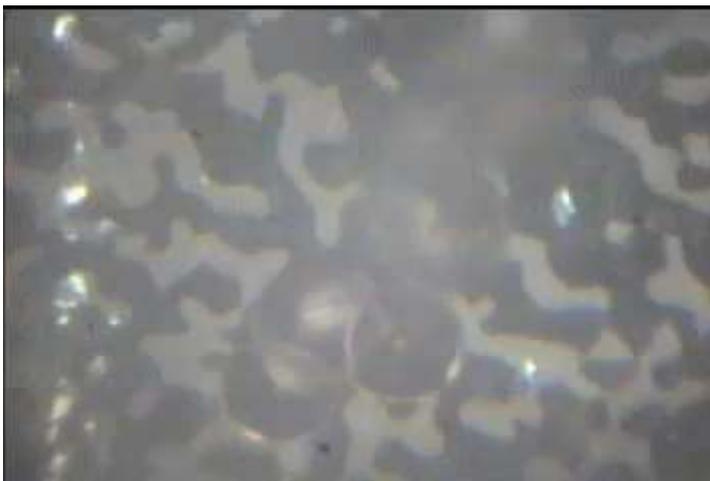
**Goran T. Vladislavljević**

Microfluidic Group Leader, Chemical Engineering Department, Loughborough University, LE11  
3TU, United Kingdom. Email: [G.Vladislavljevic@lboro.ac.uk](mailto:G.Vladislavljevic@lboro.ac.uk)



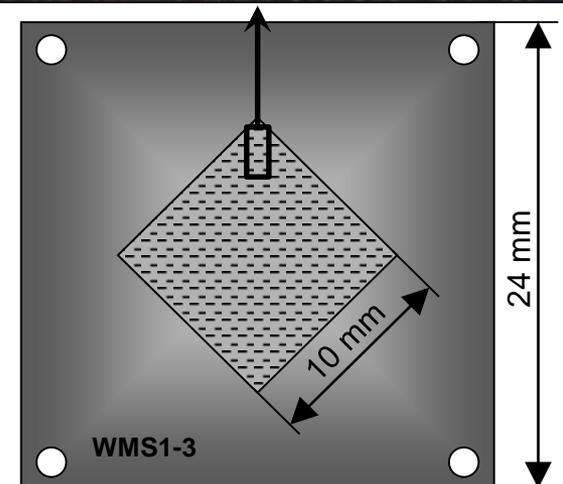
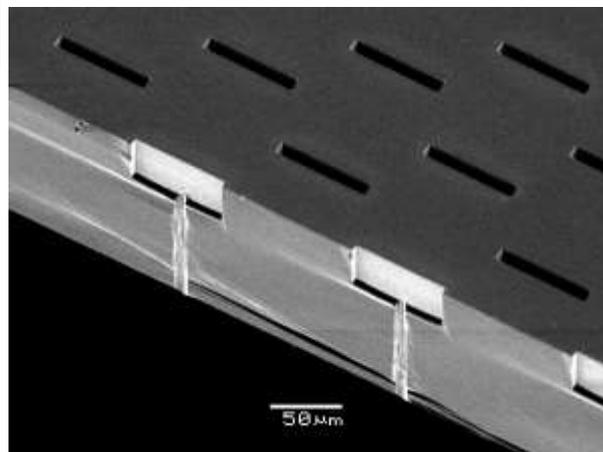


## Membrane emulsification

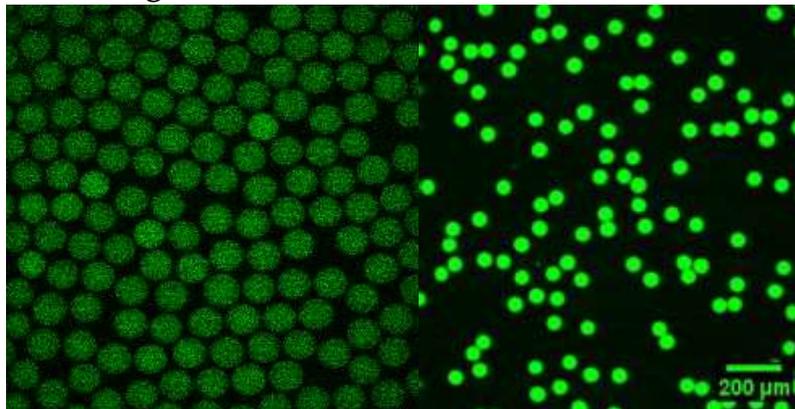


Kobayashi I, Vladislavljević GT, Uemura K, Nakajima M, *Chem. Eng. Sci.*, 2011

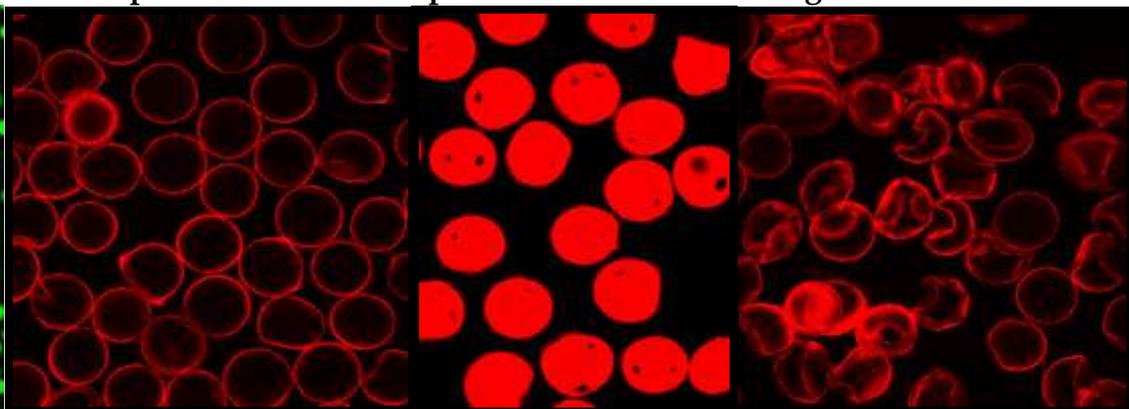
## Silicon straight-through microchannel plates



### Eudragit microbeads



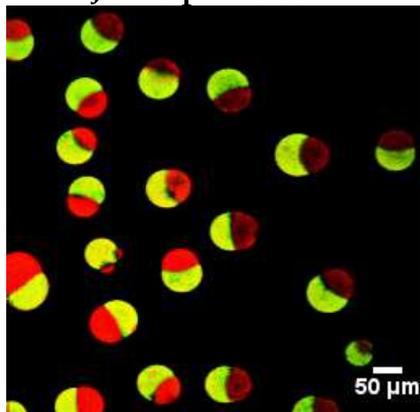
### pH-sensitive PLA capsules loaded with Eudragit solution



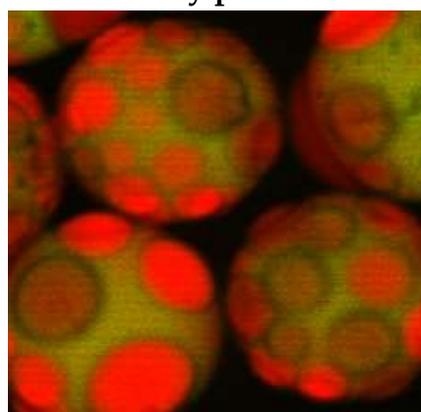
Vinner GK, Vladislavljević GT, Clokie MRJ, Malik, DJ, *PLoS One*, 2017

Ekanem, Zhang, Vladislavljević, *J. Colloid Interface Sci.* 2017

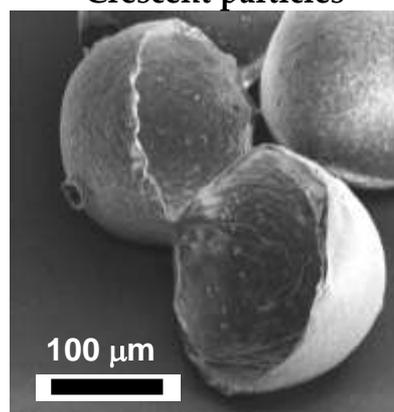
### Janus particles



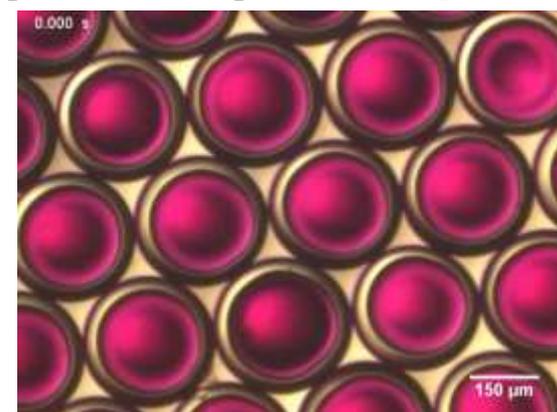
### Patchy particles



### Crescent particles



### pH-sensitive capsules for CO<sub>2</sub> sensing



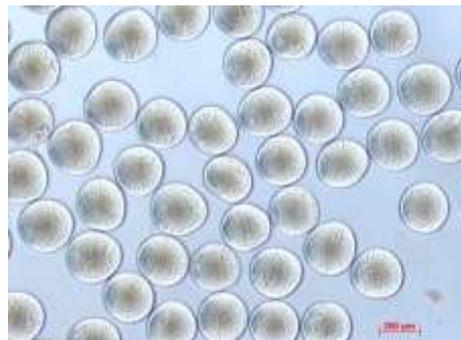
Ekanem, Zhang, Vladislavljević, *Langmuir*, 2017; Ekanem, Zhang, Vladislavljević, *J. Colloid Interface Sci.* 2017

Nabavi, Vladislavljević, Gu, Manović, *Langmuir*, 2016

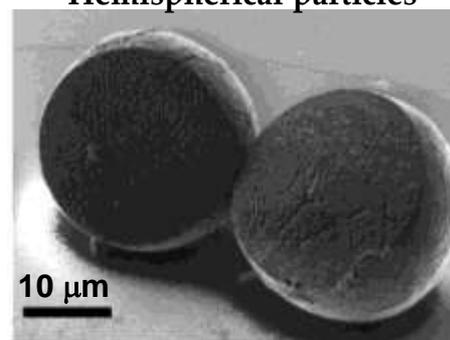
### Electrospun nanofibres



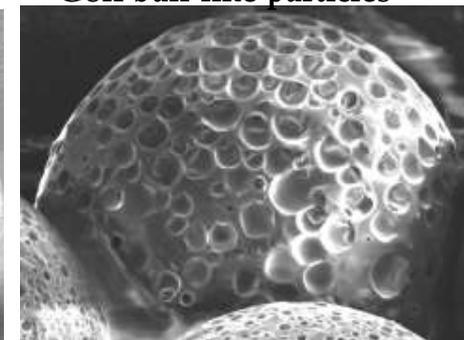
### Chitosan microbeads



### Hemispherical particles



### Golf ball-like particles

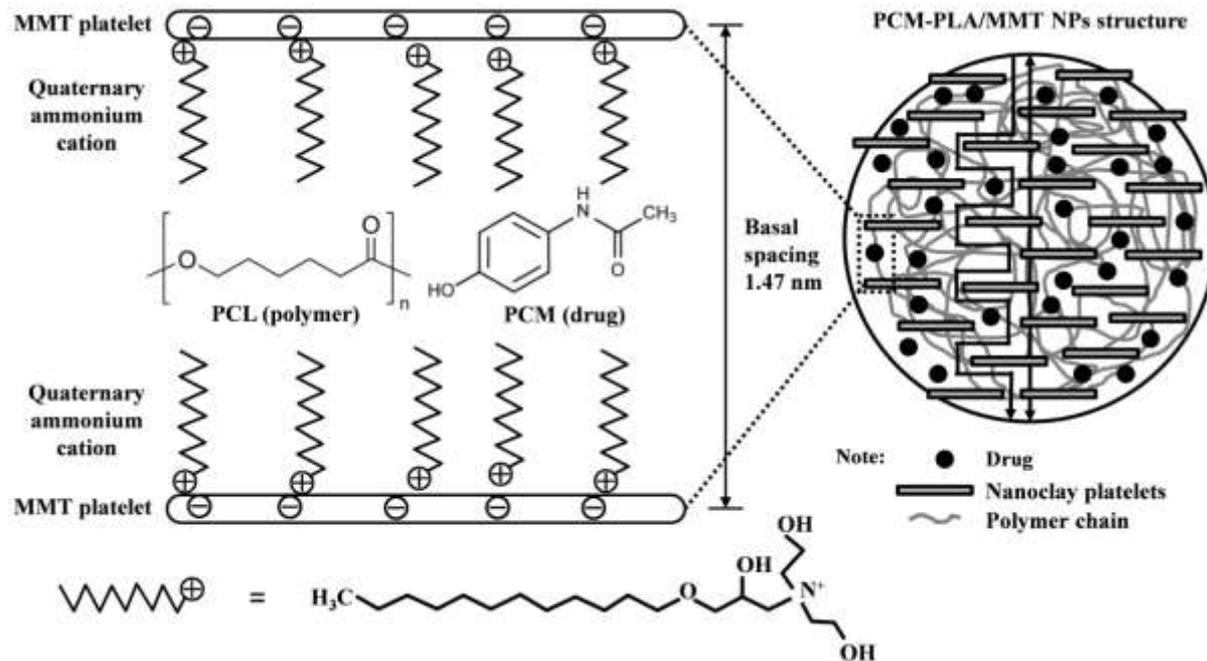


Katsogiannis, KA. Vladislavljević, GT, Georgiadou S, *European Polymer J*, 2015

Mark et al., *J. Colloid Interface Sci.*, 2009

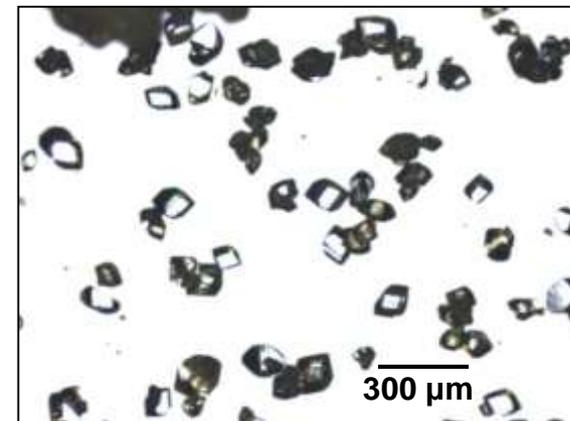
Ekanem, EE, Nabavi SA, Vladislavljević GT, Gu S, *ACS Appl. Mater. Interf.*, 2015

# COMPOSITE POLYMER/NANOCLAY NANOPARTICLES

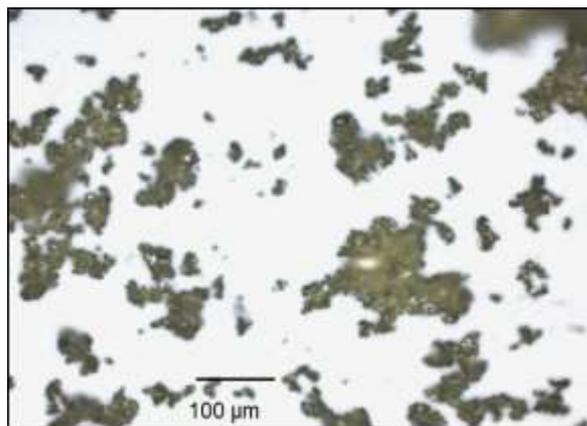


Othman R, Vladislavjević GT, Thomas N, Nagy Z, *Colloids and Surfaces B*, 2016

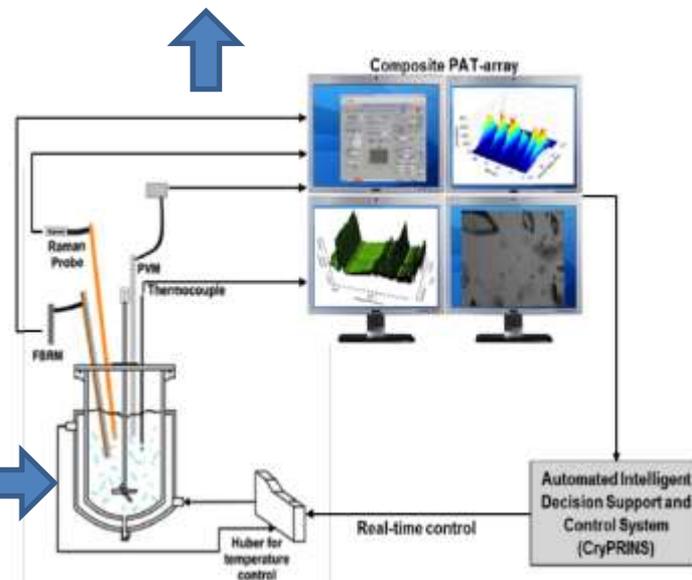
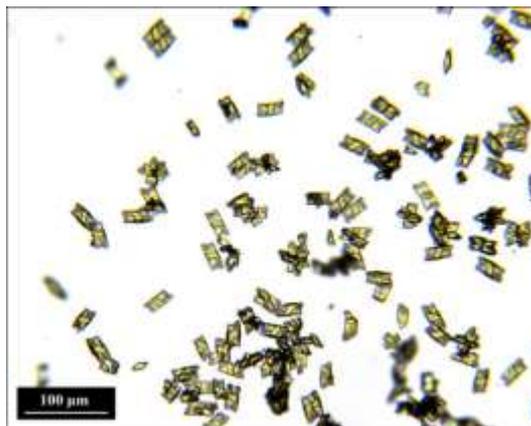
## GROWN CRYSTALS



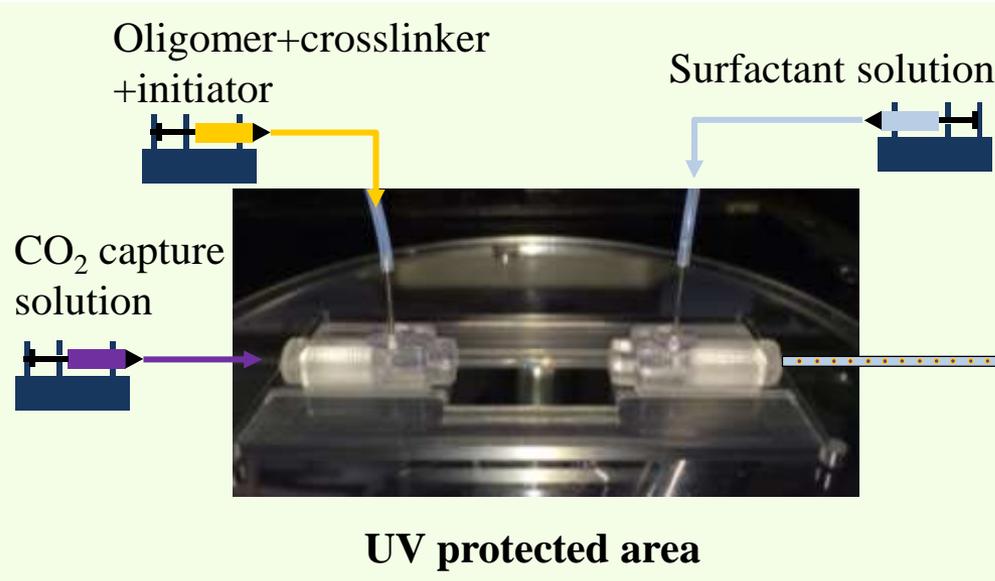
## CRYSTAL SEEDS (BY GRINDING)



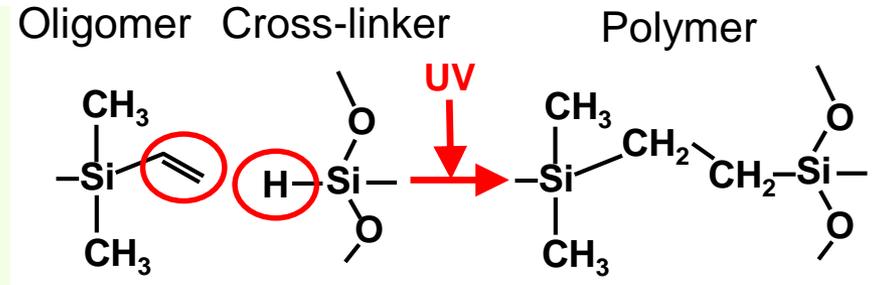
## CRYSTAL SEEDS (BY MEMBRANE CRYSTALLISATION)



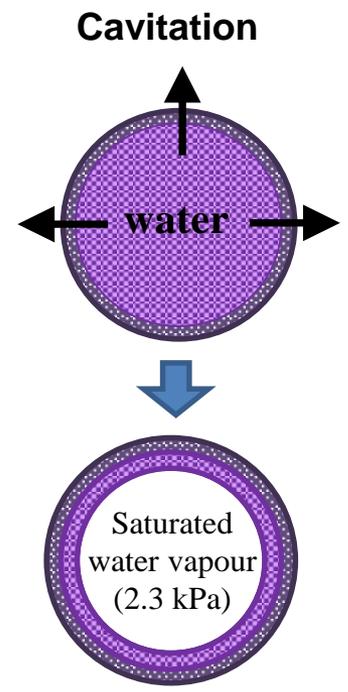
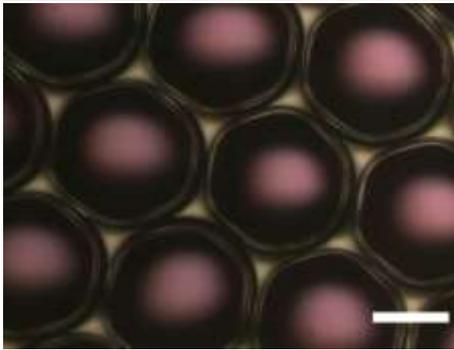
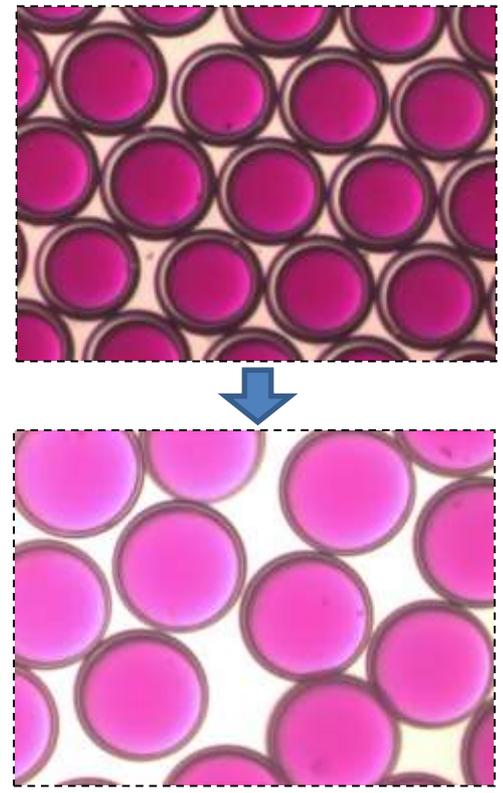
# MICROFLUIDIC EMULSIFICATION



# „ON-THE-FLY“ PHOTOPOLYMERISATION



## Osmotic swelling



# RESEARCH FUNDING

- ❖ UK-JSPS BRIDGE FELLOWSHIP
- ❖ ENGINEERING AND PHYSICAL SCIENCES RESEARCH COUNCIL
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