

Questions and discussion 5

How to create small particles from precipitation?

- Going to high supersaturation conditions to create a lot of nuclei, since growth is not linked to supersaturation all those nuclei will grow at the same time and form small particles. If there is less nuclei the resulting particles are bigger. *Dylan*
- Increase the flow rate (i.e slides 195) *Aurelien* → might work but also causes some issues, if the flow rate increases too much the suspension becomes inhomogeneous due to mixing problem. Therefore, the nucleation rate will be different within the tank leading to broader PSD.
- Increase concentration of B and A at the beginning will lead to faster nucleation so smaller particles
- Increase temperature, the kinetics of nucleation is more sensitive to temperature than the kinetics of growth, so same situation than for the saturation, lot of nuclei → small particles
- Decrease the volume of the tank, higher concentration and better homogeneity

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