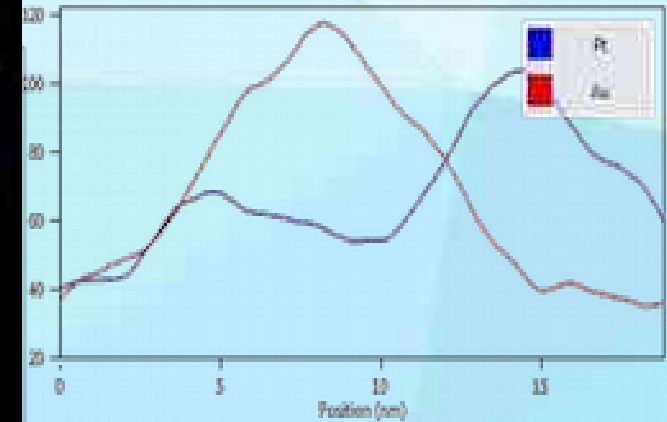
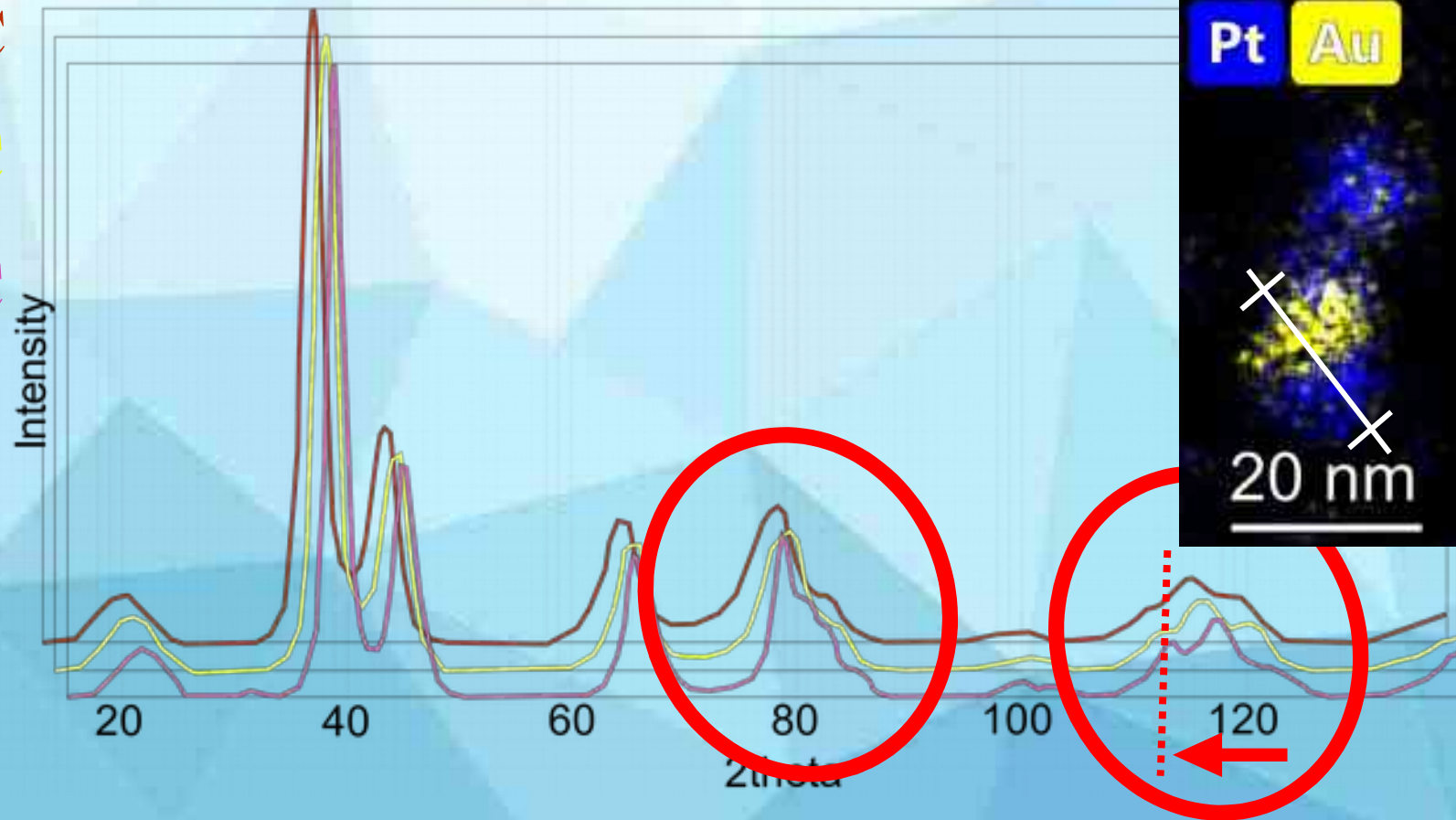


ex-situ XRD data (600-800°C) :



- 7) 600°C
- 8) 700°C
- 9) 800°C



After 600°C we initiated Janus particles formation!

What kind of Janus particles do we have?

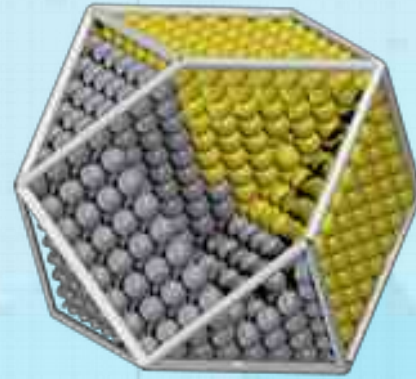
Experimental data:



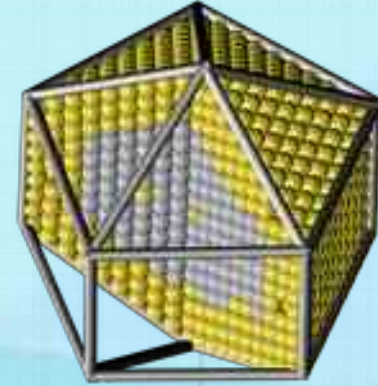
Experimental ex-situ XRD pattern after 800°C

Component #1

Component #2

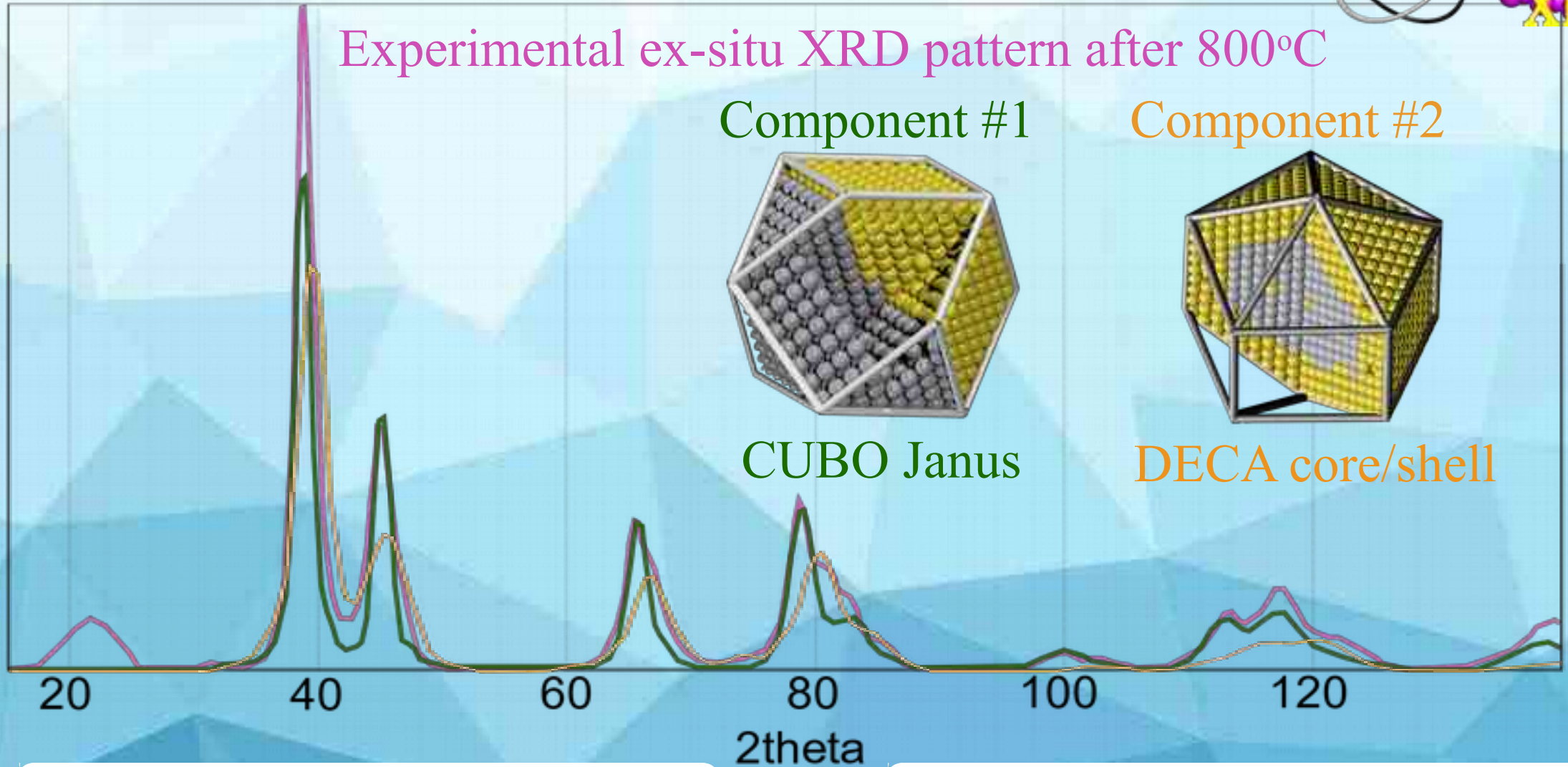


CUBO Janus



DECA core/shell

Intensity



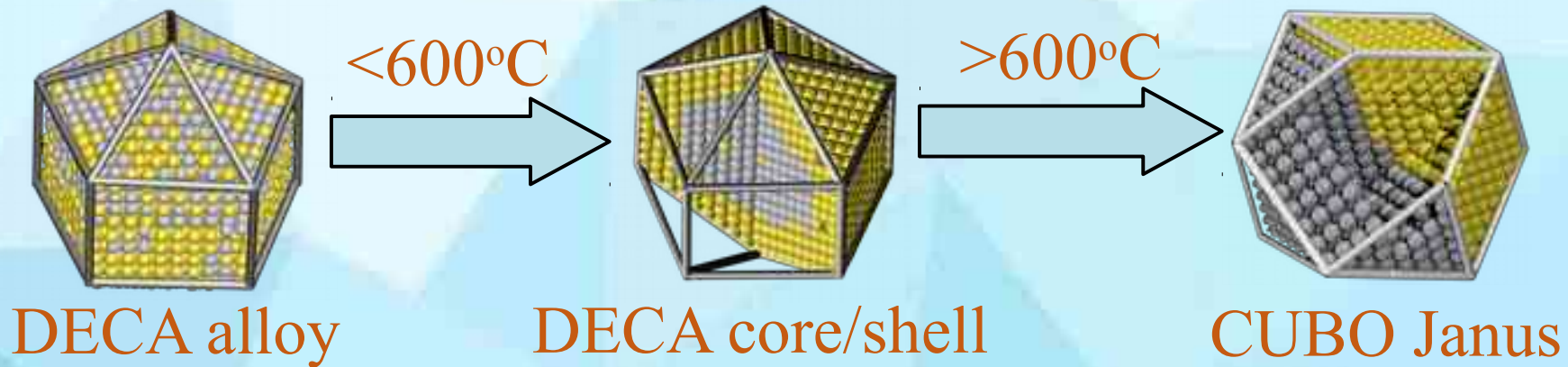
$\Delta(111-200)$ 1st phase ~ 6.3

$\Delta(111-200)$ 2nd phase ~ 6.0

Conclusions:



1) The temperature induced diffusion in AuPt@SiO₂ NP follows the path:



2.1) AuPt@SiO₂ NP isn't „super stable”. It's just difficult to notice the transition;

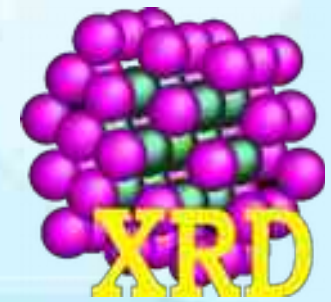
„AuPt/SiO₂ ...exhibit an alloyed structure that is preserved even after ... 700° C”

J. Mater. Chem., 2011,21, 4012-4020; Prof. Chuan-Jian Zhong

2.2) After 600/700°C –it isn't segregation! It is **reconstruction** from DECA to CUBO.

3) **CO purification is always required!** Because CO might be contaminated with / might produce (even at RT) **Ni/Fe/Cr – tetracarbonyls !**

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**THANK YOU
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