

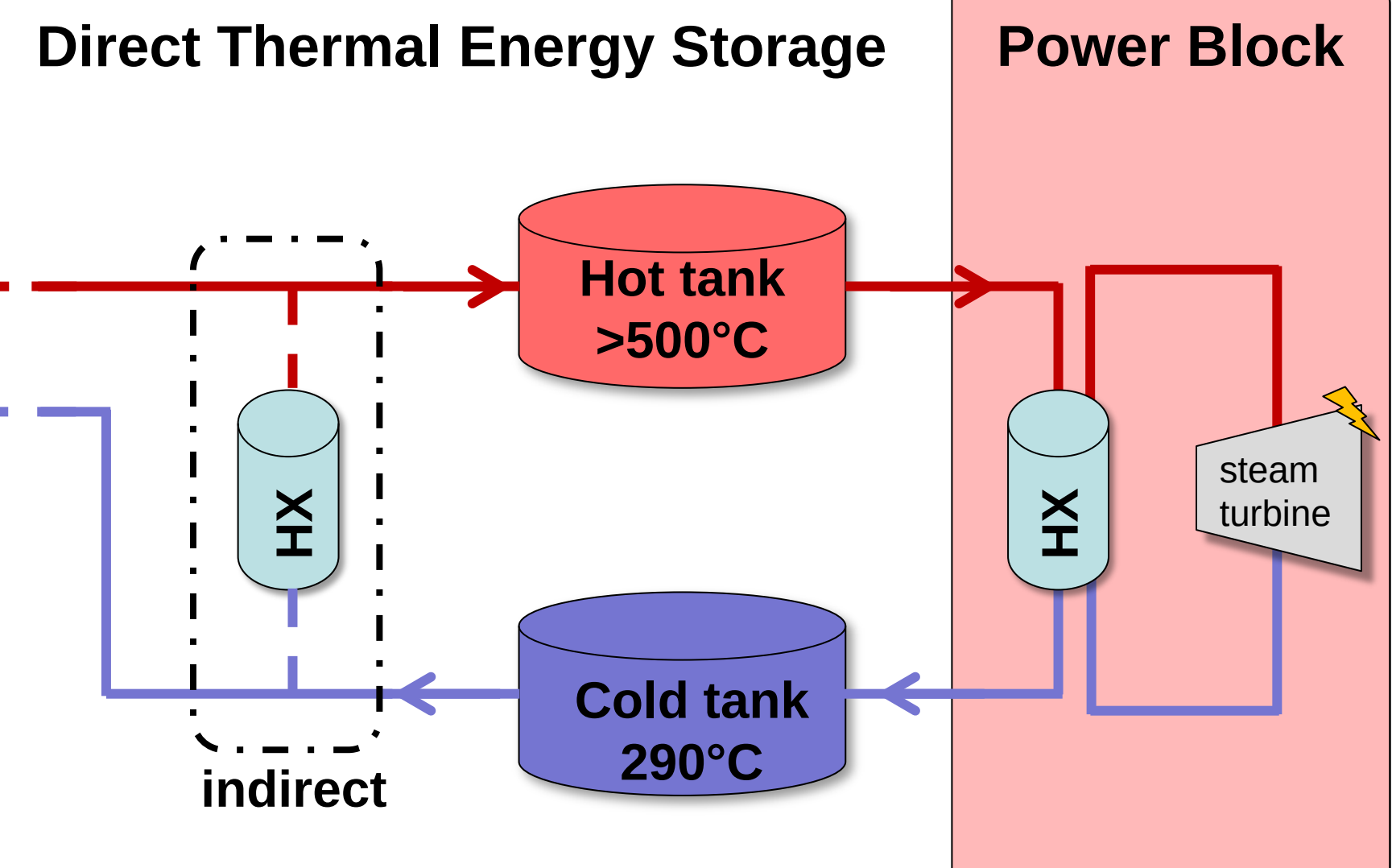
## Heat is Power...



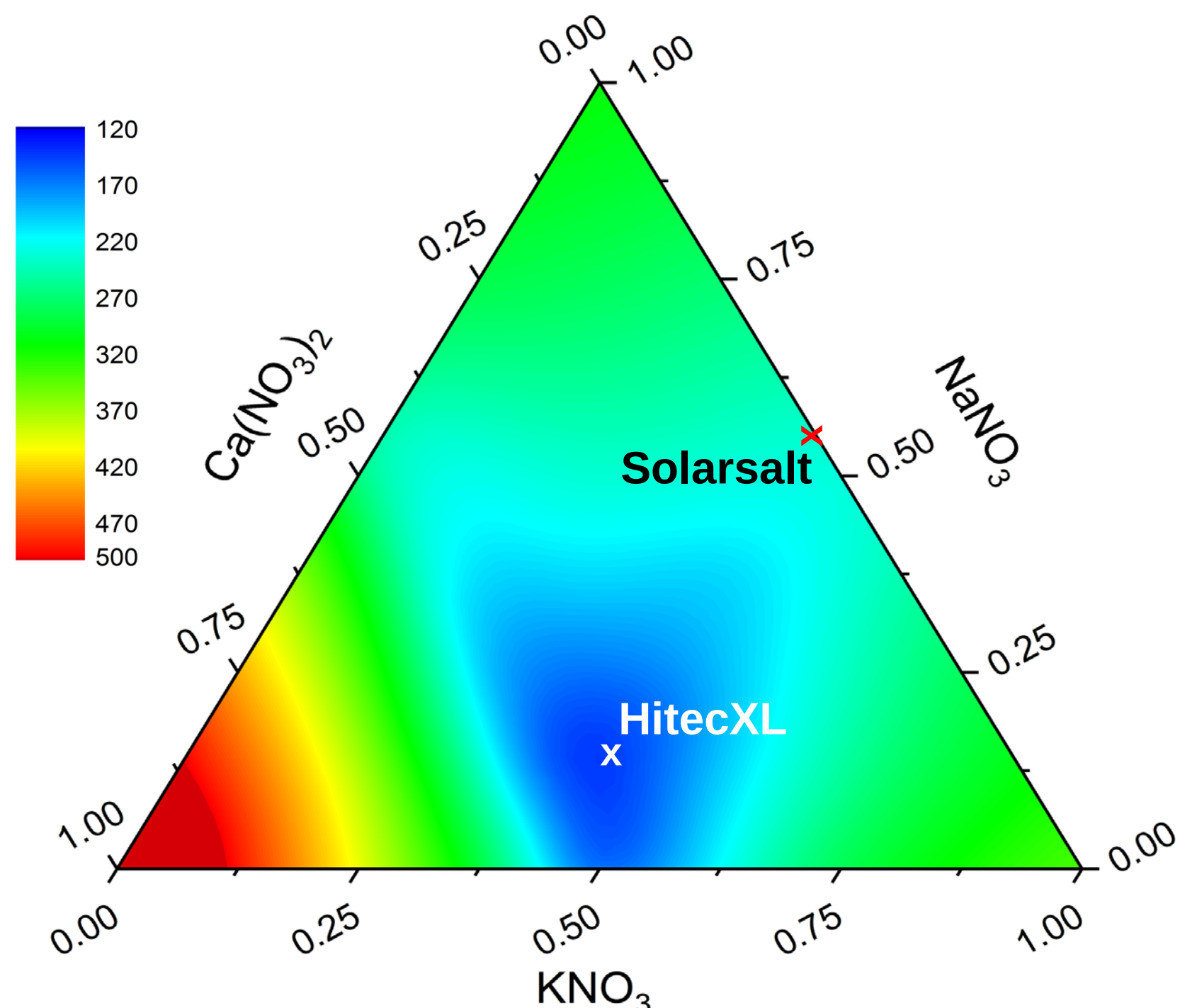
## Concentrating Solar Power



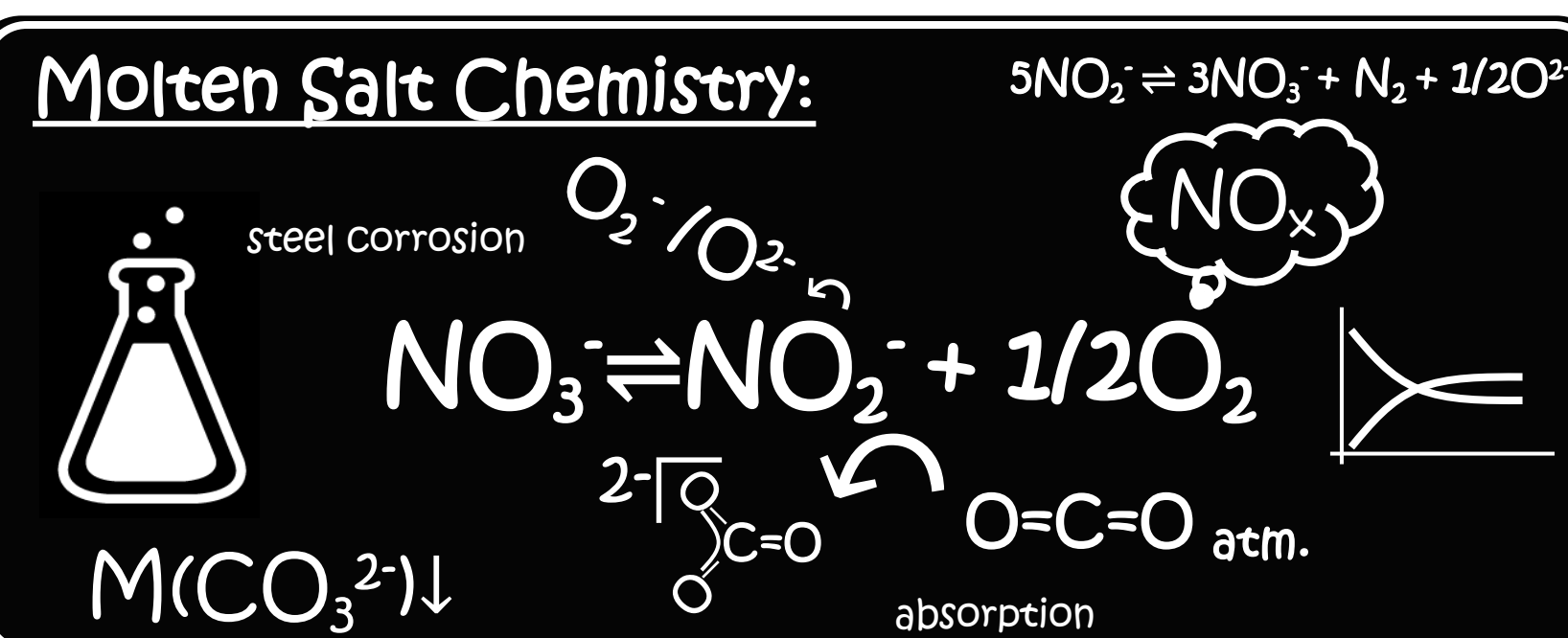
## Thermal Energy Storage Technologies



## Thermal Properties of storage candidates



## Theory & Experimental



## Storage under relevant conditions

From mg to t-scale  
defined atmosphere  
long term (min. 500h)

## Analytic tools at DLR:

Ion chromatography/Titration



Thermal Analysis

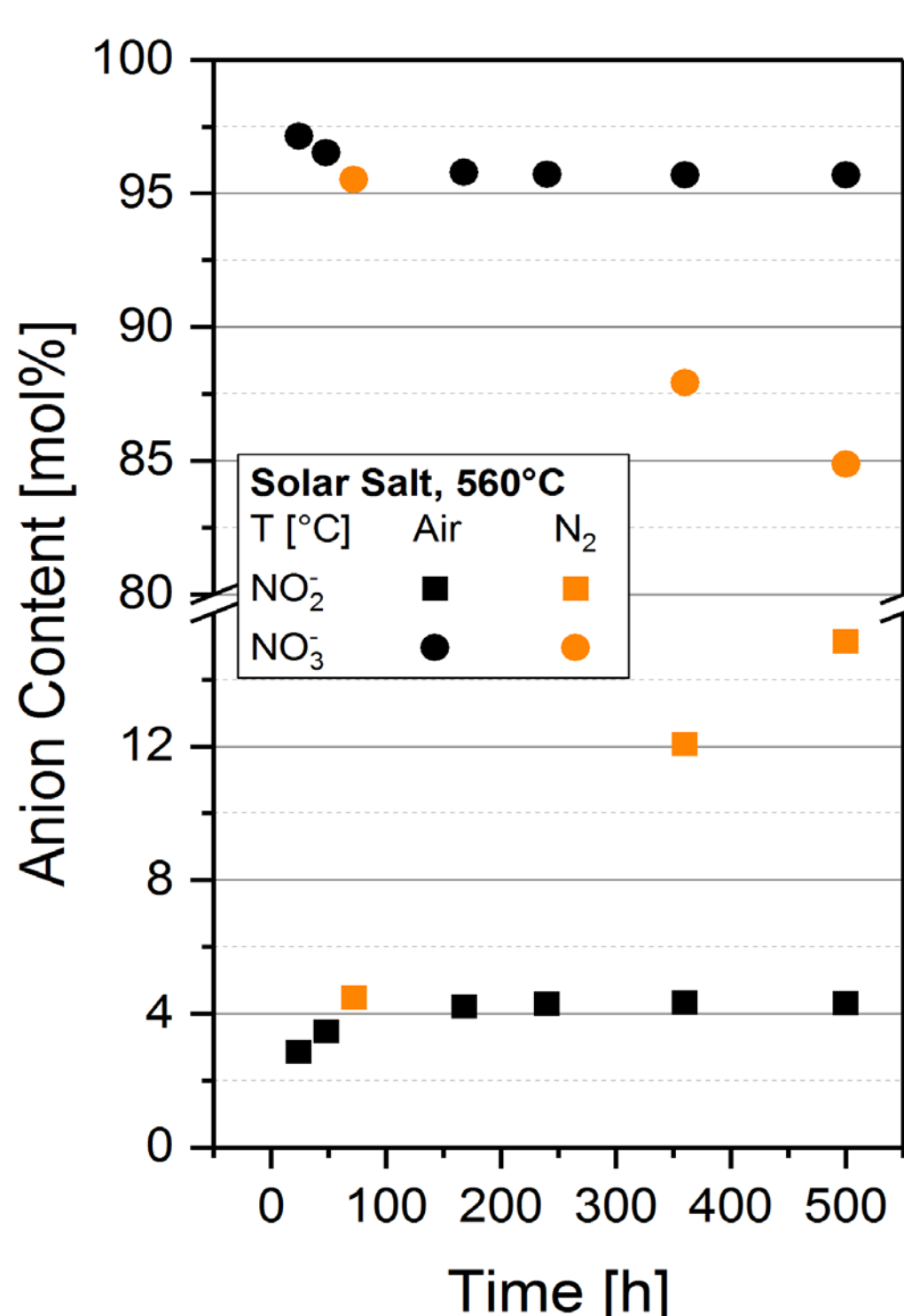


Rheology



## Results – Molten Salt Chemistry

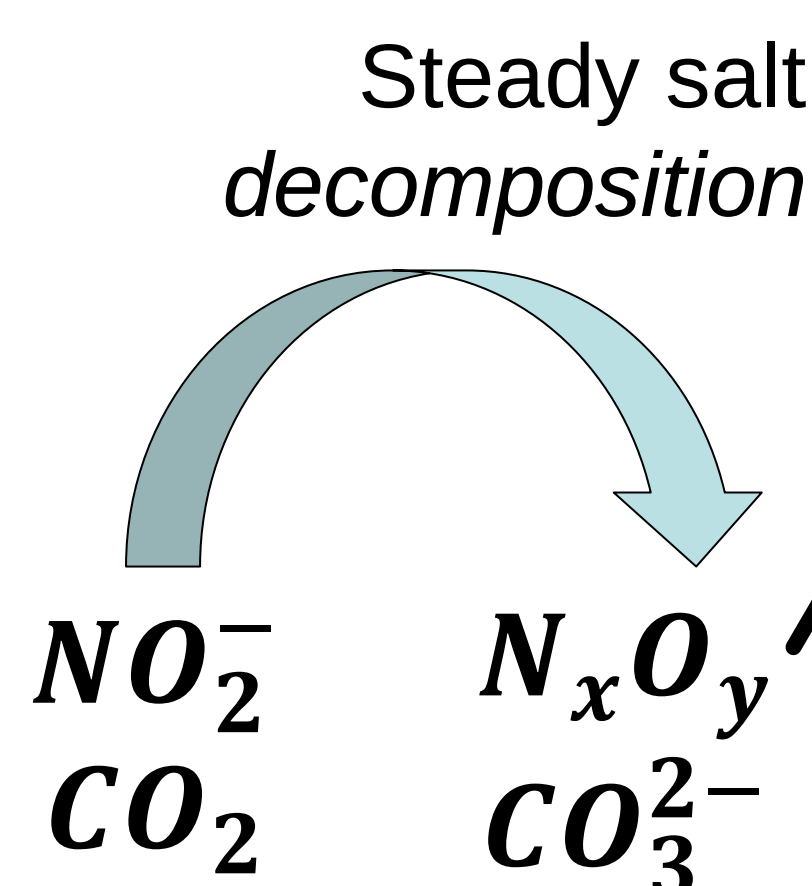
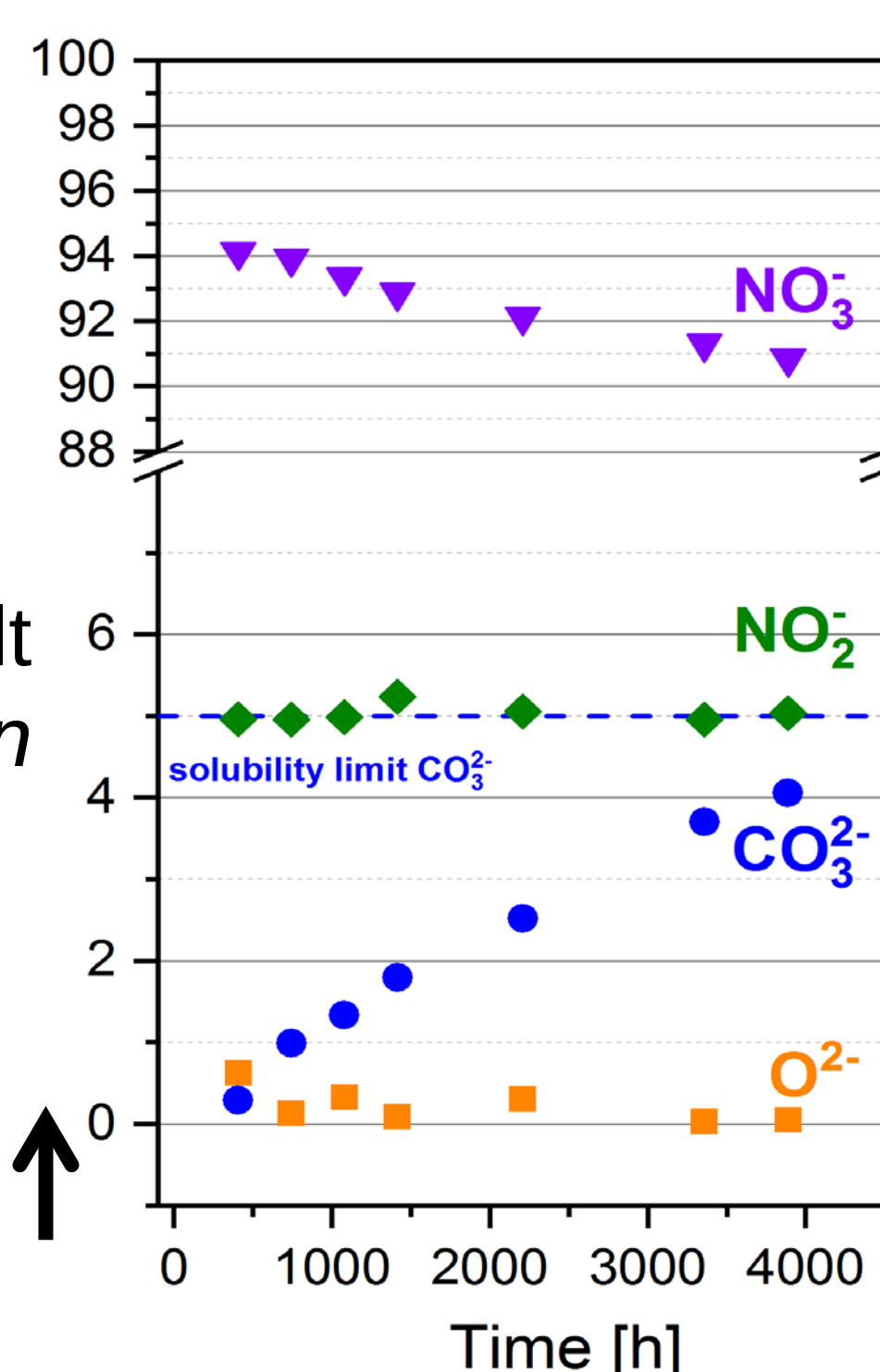
### Synthetic gas:



Salt chemistry in equilibrium

$$\text{NO}_3^- \rightleftharpoons \text{NO}_2^- + 1/2\text{O}_2$$

### Atmospheric gas:



## Conclusions

Gas composition  $\Leftrightarrow$  salt chemistry

Decomposition or Stability?

Molten salts act as  $\text{CO}_2$  sponge

HitecXL less stable than Solar Salt

