

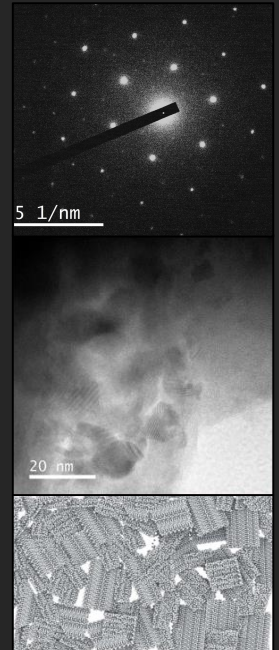


High resolution transmission electron microscopy of low calcium cements

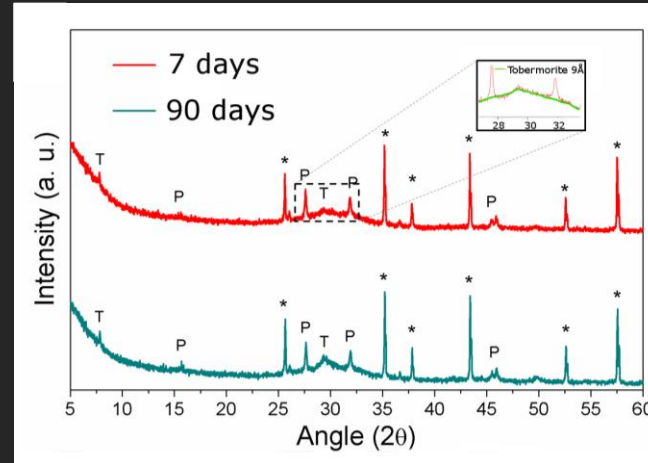
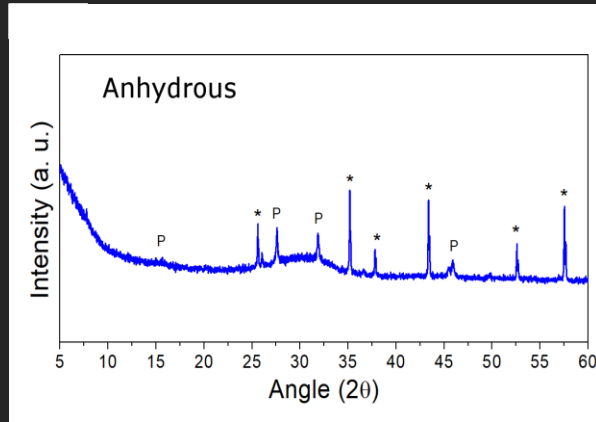
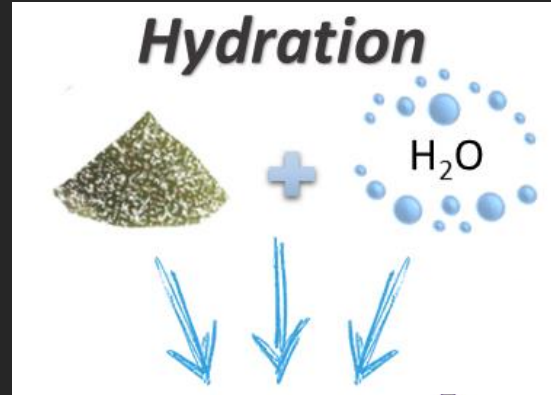
2018 NanoMatLab/Biomat Meeting

Lisbon, 6th of December 2018

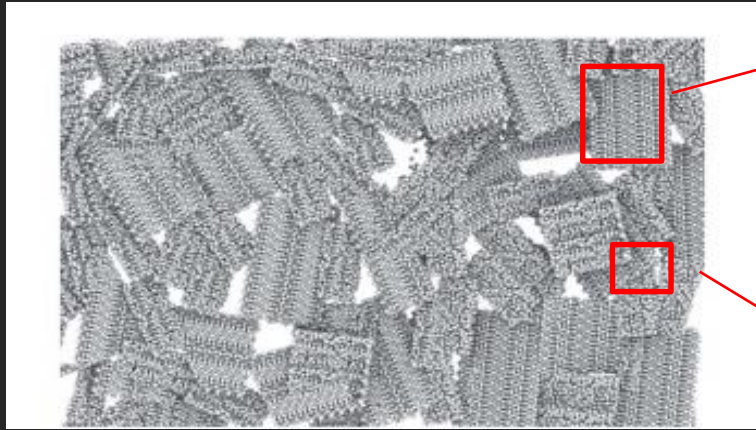
Patrizia Paradiso



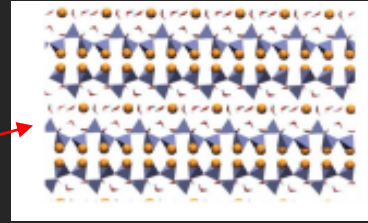
XRD analysis



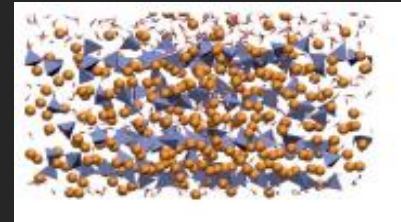
Theory of CSH morphology



Jennings (2013)



Tobermorite

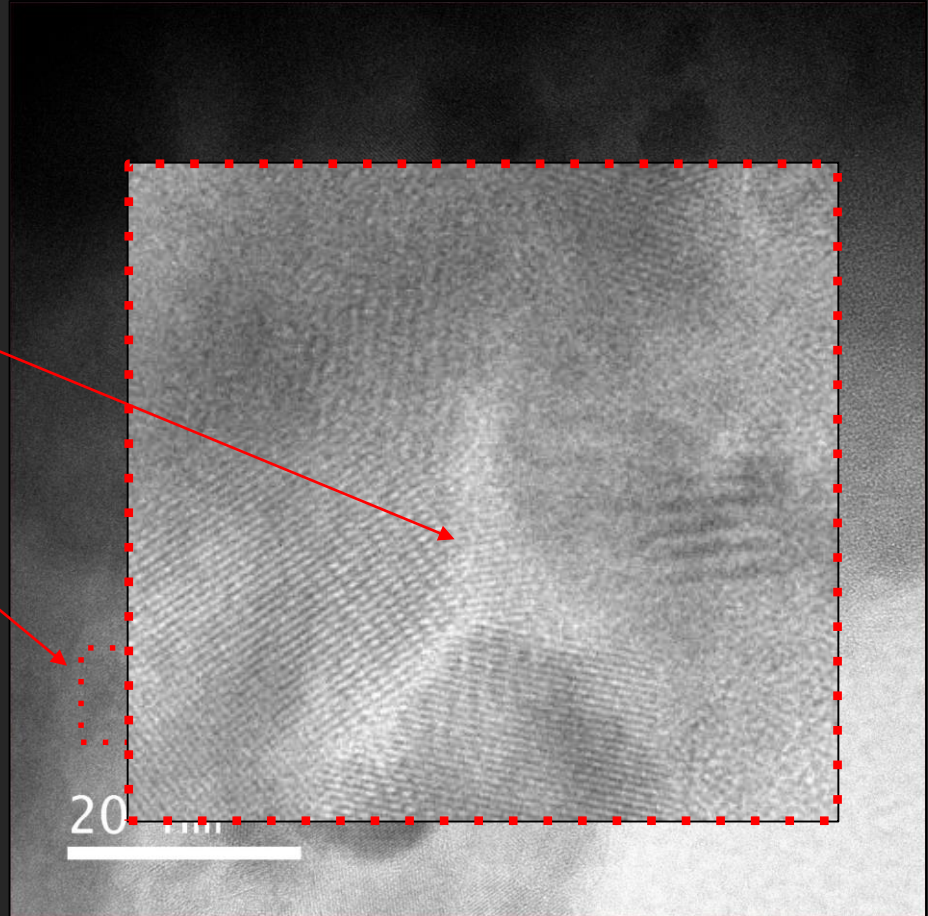


CSH gel

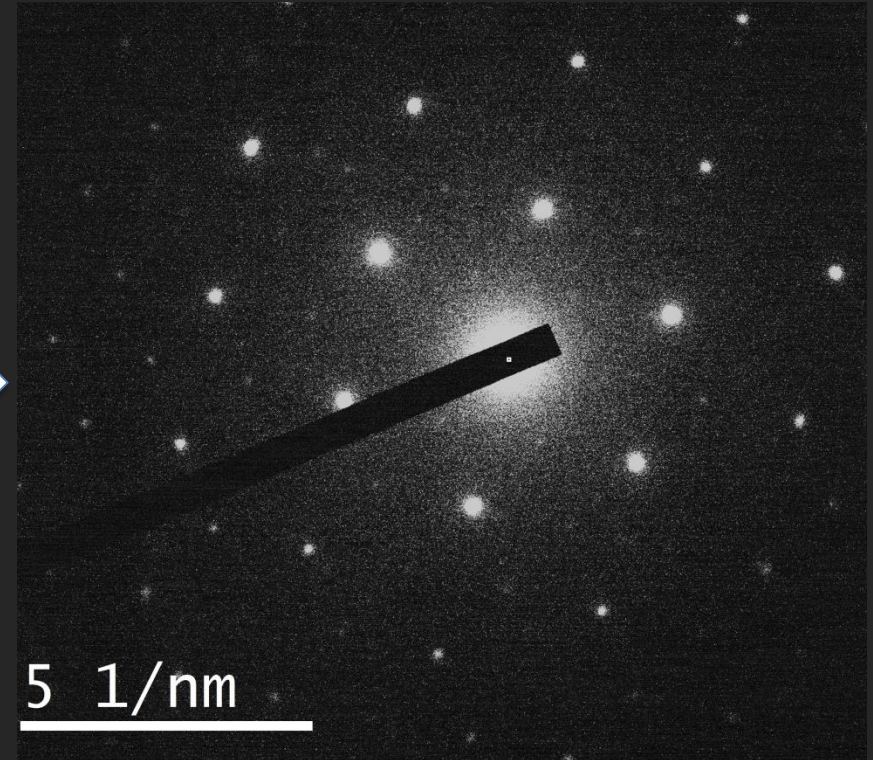
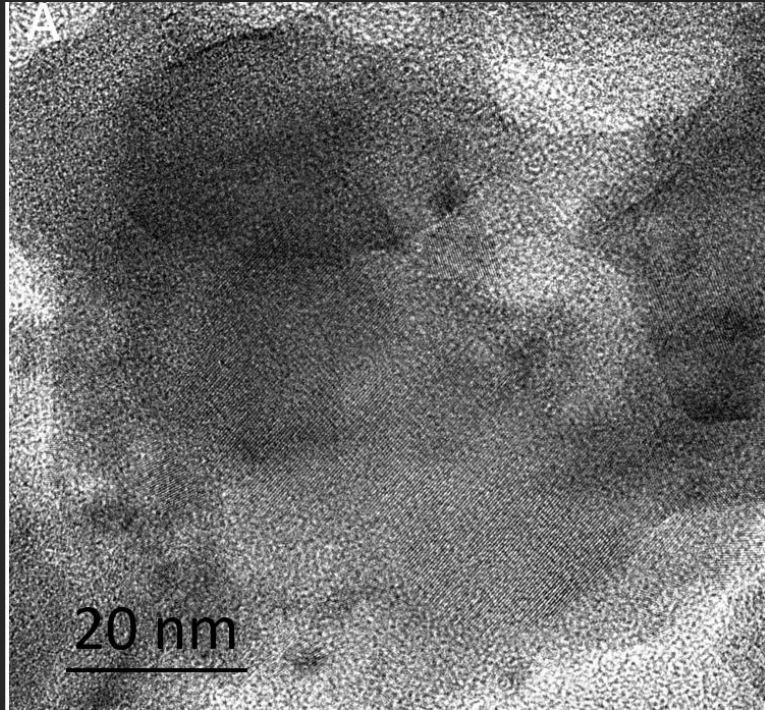
Cartoon representation of CSH



Jennings (2013)



Diffraction pattern



space group P-1

$a=6.93 \text{ \AA}$

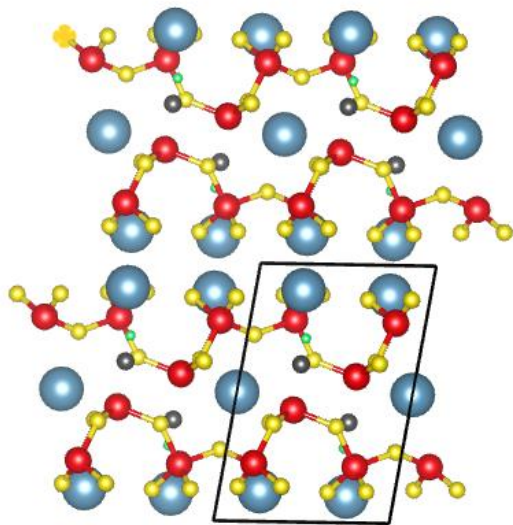
$b=6.91 \text{ \AA}$

$c=9.52 \text{ \AA}$

$\alpha=100.63^\circ$

$\beta=96.13^\circ$

$\gamma=114.76^\circ$



Calcium



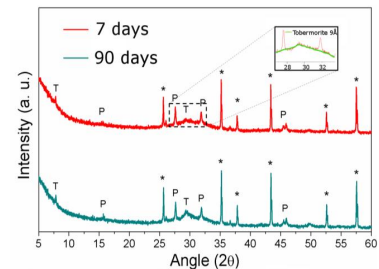
Silicio

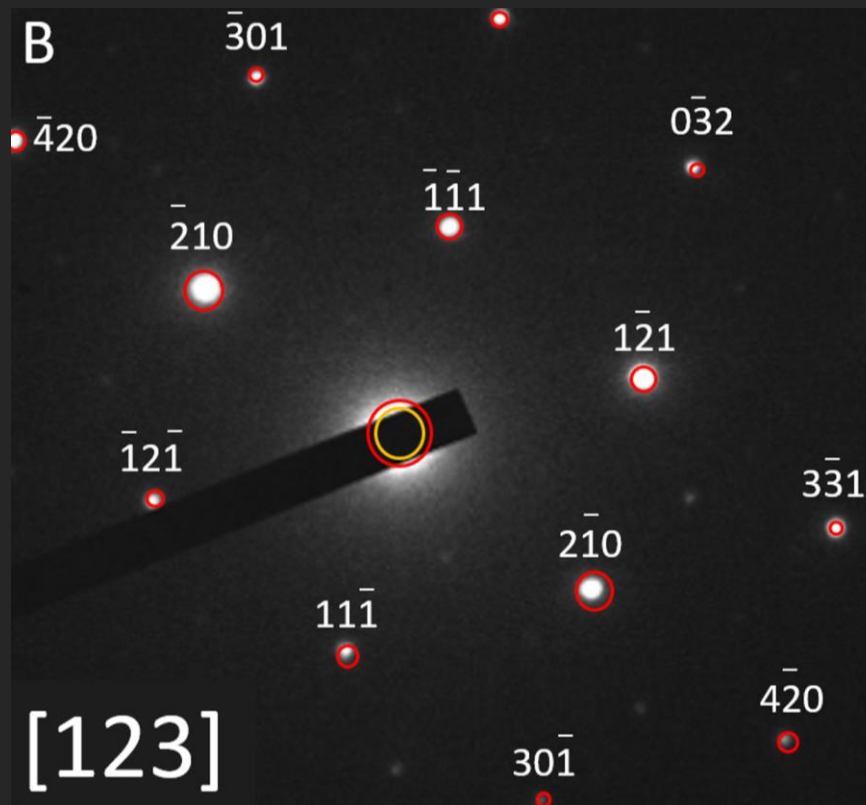


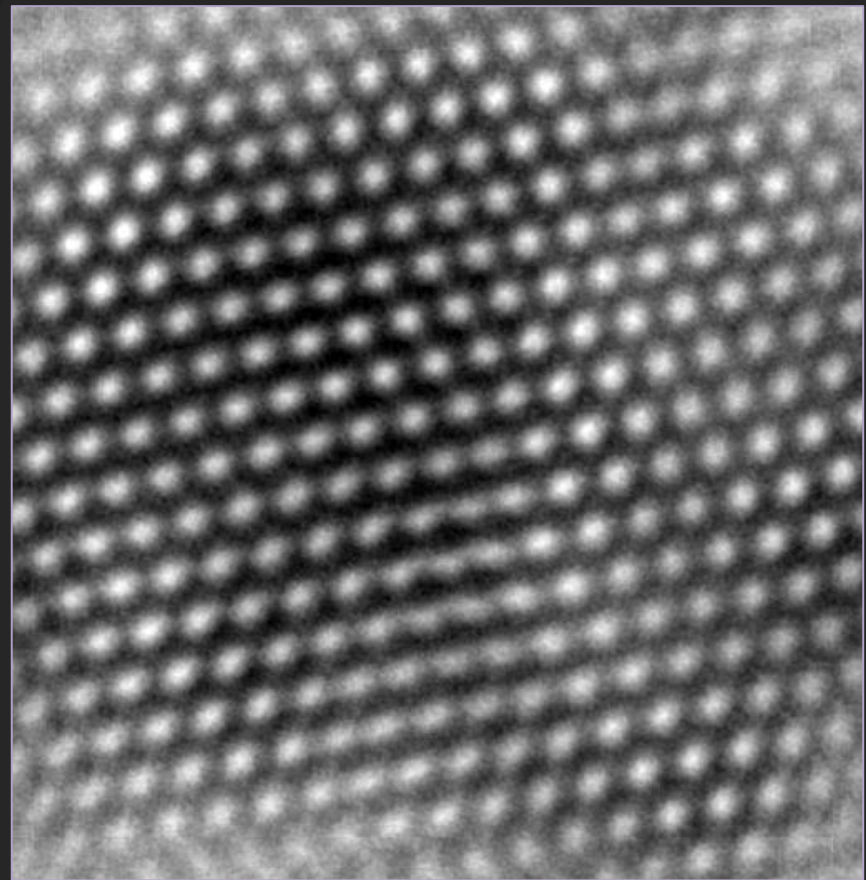
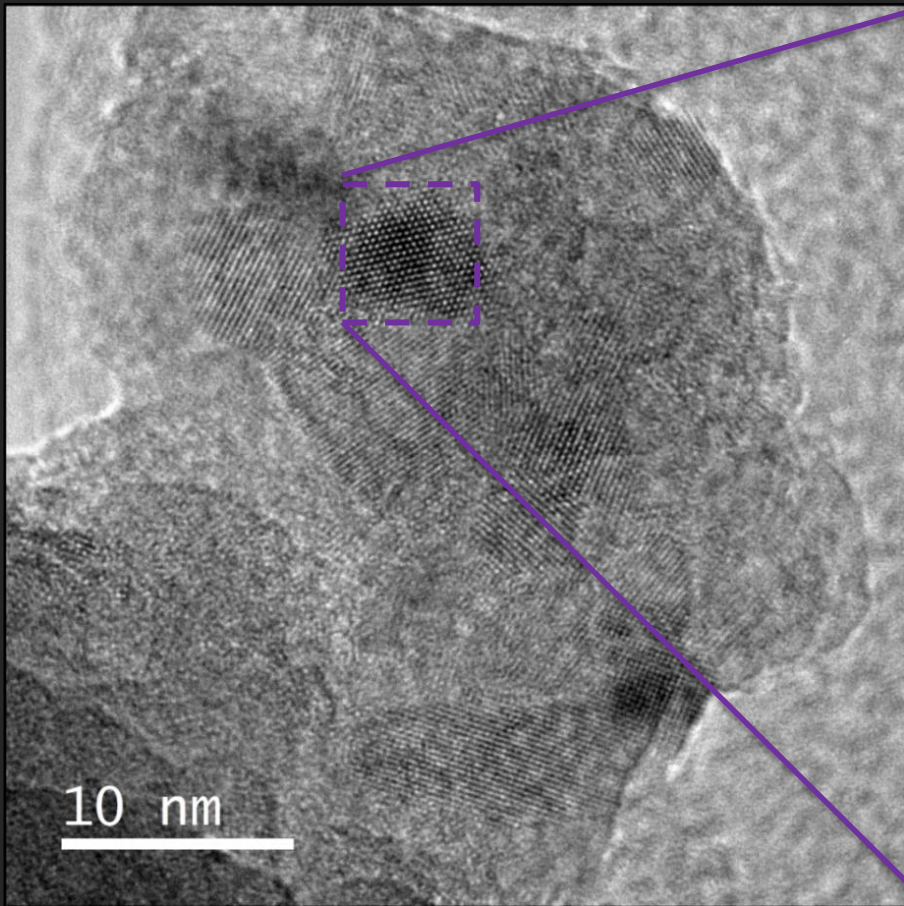
Oxigenio

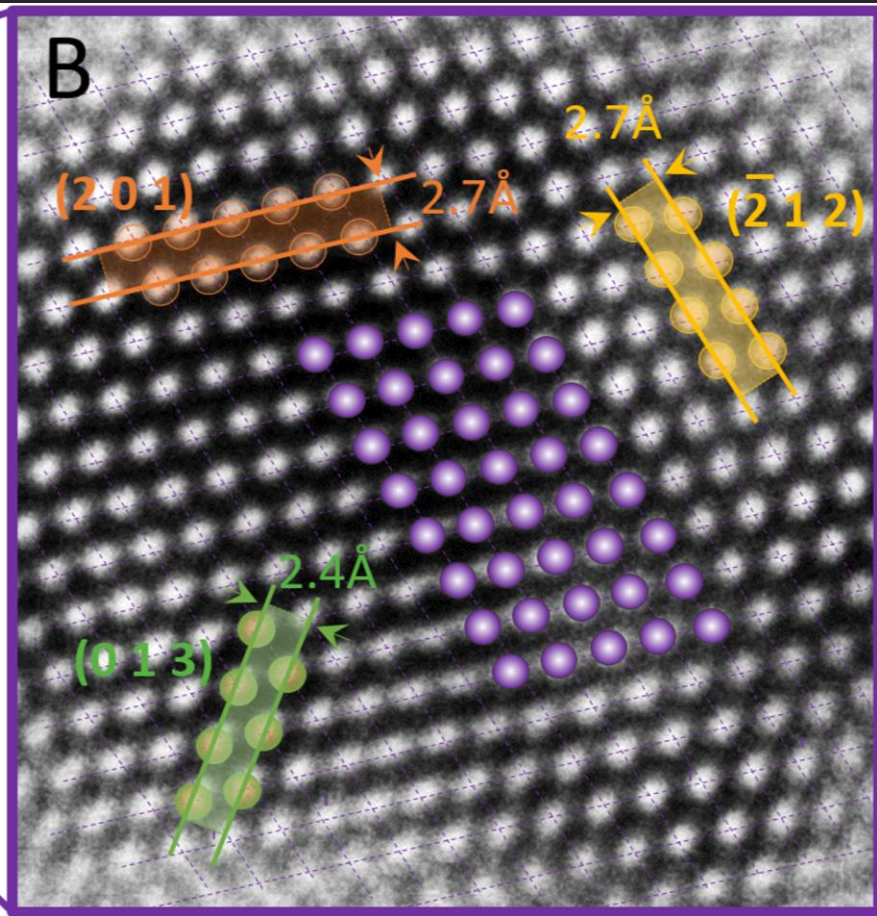
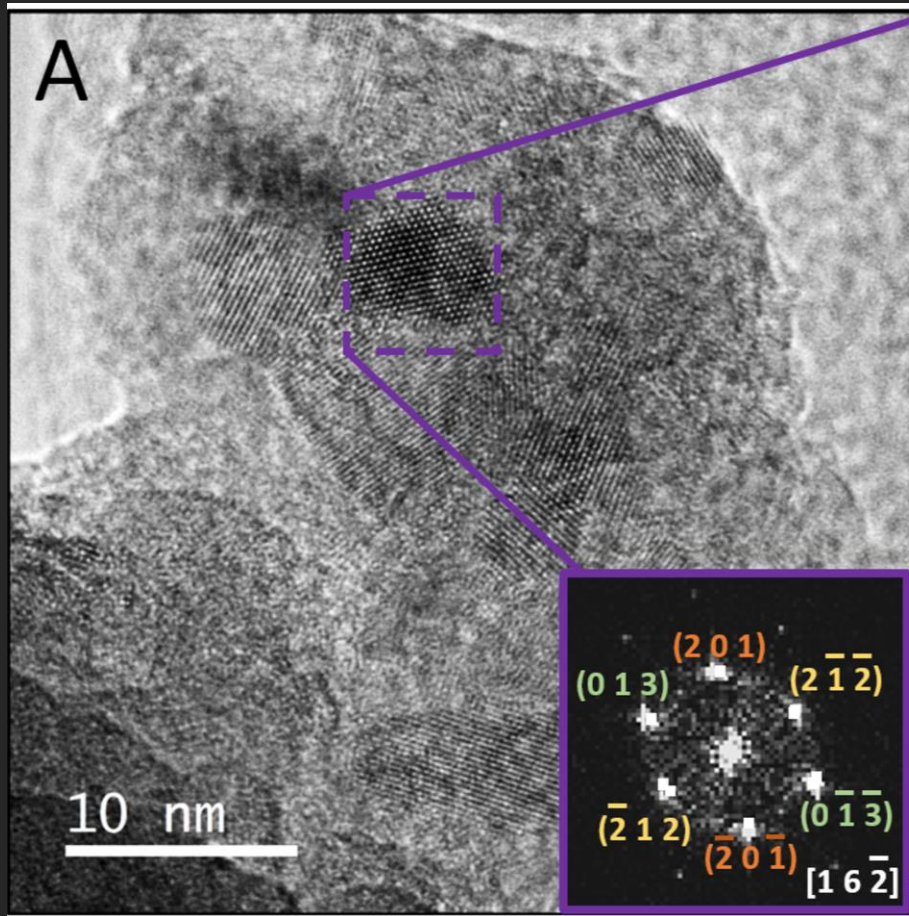


Hidrogenio

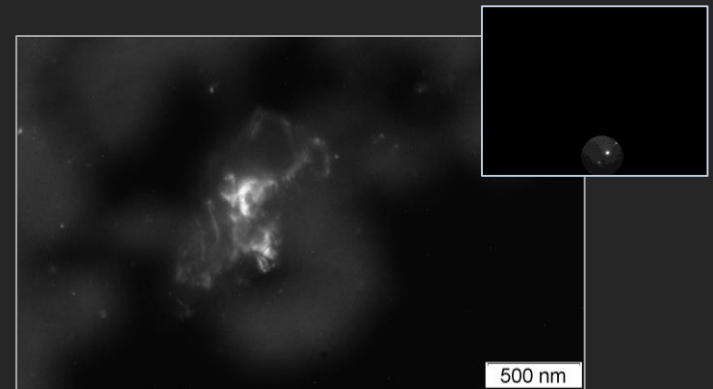
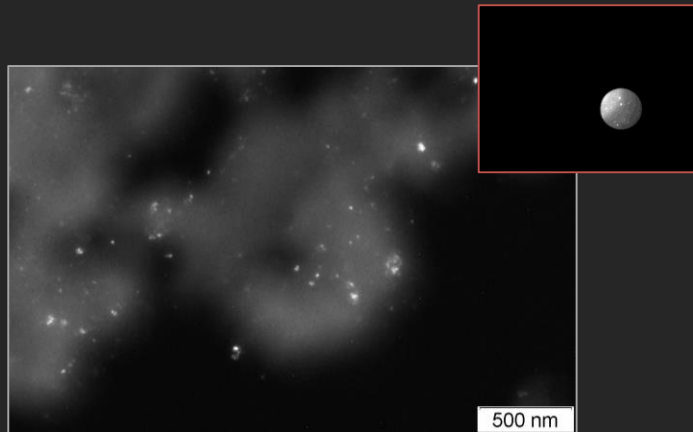
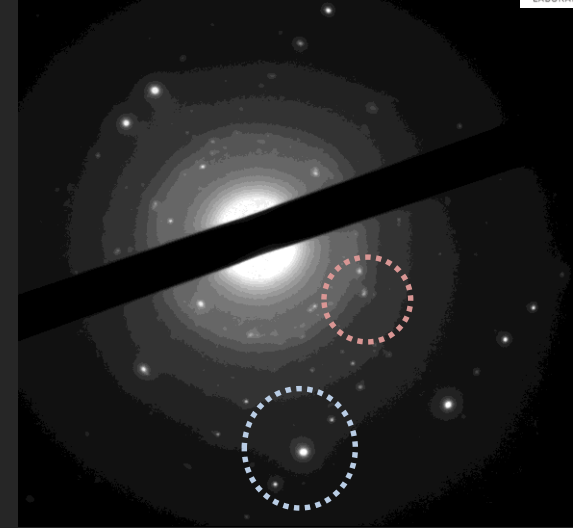
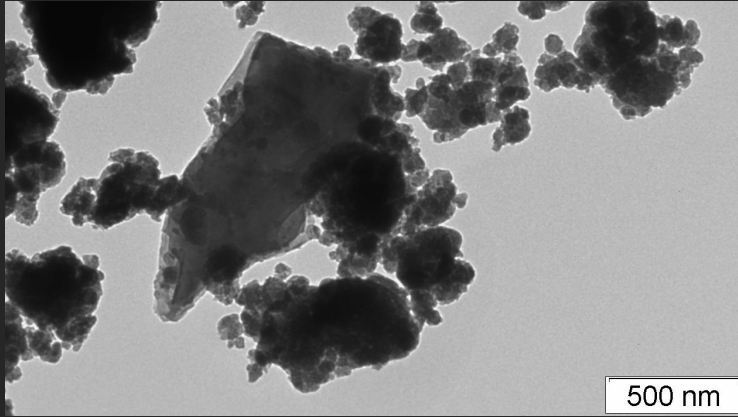








Amorfo 1.4 hidratado activado Na_2SiO_3



Dark field

Thank you!





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Full length article

Formation of nanocrystalline tobermorite in calcium silicate binders with low C/S ratio



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