Electronic Supplementary Information

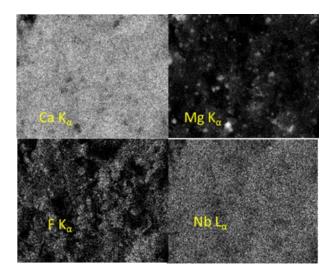


Figure S1. Elemental maps obtained by EDS for the NbF $_5$ doped Ca-RHC sample after desorption.

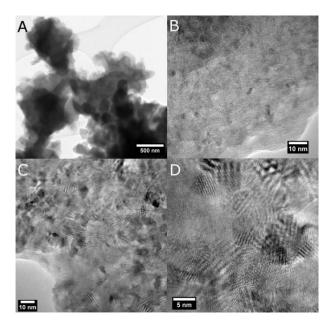


Figure S2. TEM micrographs of Ca-RHC after the first desorption displaying A) large aggregates of smaller particles, B) multiphase regions of low crystallinity C) and D) multiphase region of high crystallinity.