

## Synthesis and Characterization of Vanadium-Strontium Apatite Type Structures

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Scientists attention in compounds with apatite like structures had increased in the last years due to their applications as bioactive materials with high biocompatibility[1,2]. A lot of those compounds, with general formula  $M_{10}(XO_4)_6Y_{10}$ , had been synthesized by a "chimie douce" method which consists of a precipitation reaction occurring at a well-defined pH value[3]. In this work a vanadium-strontium apatite was synthesized and next treated thermally at temperatures in the range of 600°C and 800°C. Polycrystals formation in the strontium hydroxiavanadate was confirmed and characterized by Scanning Electron Microscopy (SEM), Transmission Electron Microscopy (TEM), Energy Dispersive Spectroscopy (EDS) and X-Ray diffraction techniques. The SEM microphotographs show multiple agglomerates while the X-Ray spectra shows corresponding apatite phase peaks

### References

- [1] Adriana Bigi et al., *Inorganica Chimica Acta*. 360 (2007) 1009-1016.
- [2] Carlos Bauer Boechat et al., *Phys. Chem. Chem. Phys.* 2 (2000) 4225-4230
- [3] S.Denis et al., *J. Power Sources*. 81-82 (1999) 79-84

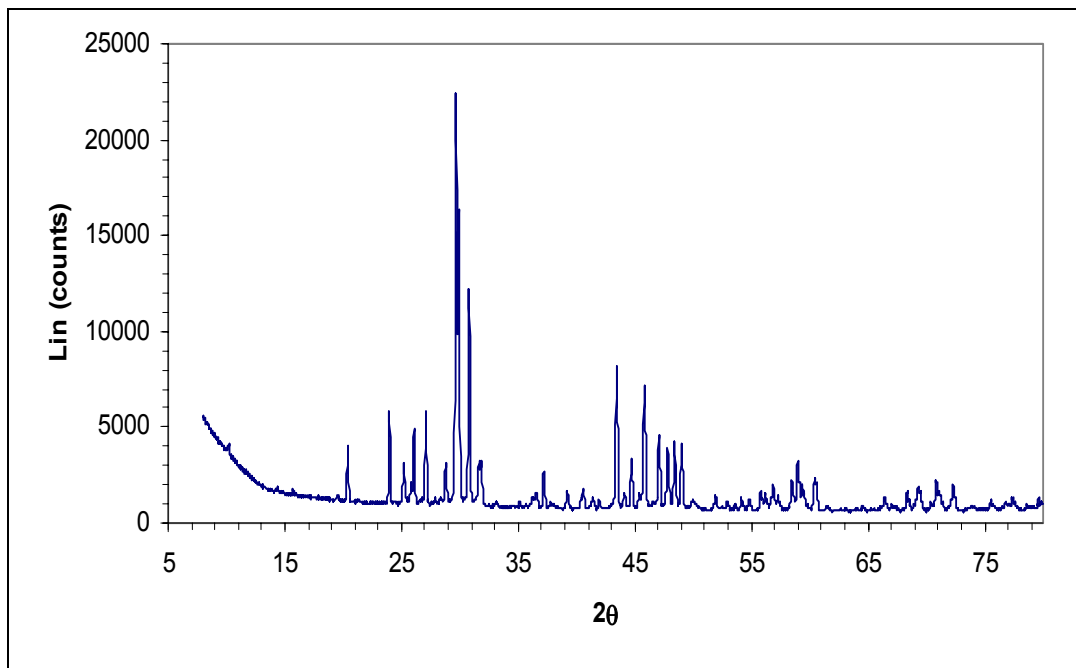


FIG 1 Energy dispersive X-Ray spectra of a strontium hydroxiavanadate showing corresponding apatite phase peaks.

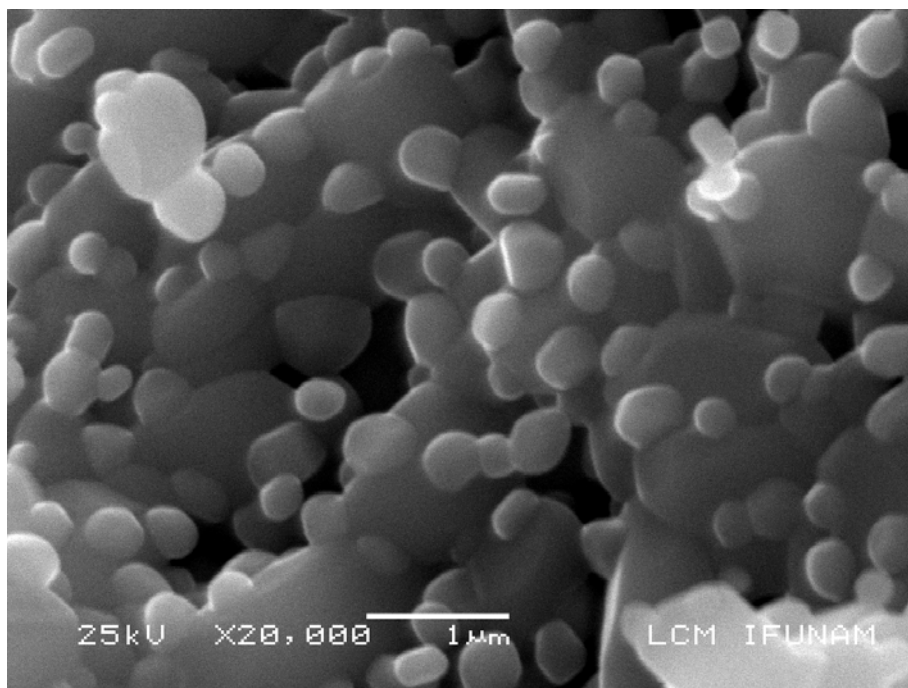


FIG 2 Scanning Electron Microscopy of a strontium hydroxiavanadate showing typical agglomerates