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# HAp powder and HAp precursors as filler changing the PVDF phase formation of the polymeric fibers.

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PVDF is a thermoplastic polymer with wide application in several areas due to its special properties [1]. Among the properties that stand out most for this polymer is polymorphism. PVDF has five distinct phases that can be obtained during and after processing. The most easily obtained phase is the α phase, however, when talking about applications in the biomedical area, the β phase is the most recommended due to its greater biocompatibility and piezoelectricity [1], [2]. With this application in mind, it is necessary to be aware of the influence of processing and materials incorporated into the polymer matrix on the formation of PVDF phases. Thinking about the final application and the effect of fillers on this product, PVDF fibers made by electroblowing were carried out to check the effects of the presence of hydroxyapatite (HAp) in powder and HAp precursors on the formation of the β phase. The PVDF fiber samples obtained using the electroblowing technique were analysed by XRD, SEM, EDS and FTIR to observe how the fillers interfere in the presence of the α and β phase. In the end, the addition of 5% HAp powder and 5% HAp precursors proved to be an approach with great effects on the morphology of the fibers obtained, increasing their diameter and also influencing the conversion from the phase α to the phase β [3]. Furthermore, it was observed that the fibers were easier to handle due to the lower electrostatic interactions between the fibers with HAp powder and HAp precursors. Another change observed was the formation of a calcium phosphate structures that joins the fibers and makes it possible to obtain a final product in the form of a blanket.