

CHAPTER VI

SUGGESTIONS FOR FUTURE WORK

Future work is recommended as follows:

1. From success of the results in previous chapter that found HA with SiO₂ lower than 5.0wt% to be covered by a worm-like network of crystals at the surface, new Ca-P crystals grown in bundles of needles in the sample of HA with higher 5.0wt% SiO₂ new surface layers may be grown. Therefore, the differences of Ca-P as substrate (mainly hydroxyapatite) and the new Ca-P layer formed on the substrate after immersion in SBF can be investigated. It would be very interesting to study more specific mechanisms to develop different microstructures. Such different microstructures can be observed by TEM analysis.

2. Since the efficiency of silica and glass frit additive was found to induce whisker shapes in porous HA samples which had been fabricated by the polymeric sponge method, this phenomenon could be further investigated since it is interesting in terms of its effect on mechanical properties.

3. In the results, we conclude that the glass frit additive is a useful for accelerating bioactivity at low additive content resulting in improved mechanical property of porous HA. However, the application of these findings *in vivo* bone formation and animal testing should be examined further before any clinical applications.