2. The Ca/P ratio in synthetic samples is found to be from 1.35 to 1.68 depending on the initial concentration of the doped ions. The value for Ca/P, closest to the hydroxyapatite stoichiometry (1.67), can be obtained at pH = 12 with hydroxyapatite of B-type being formed.

3. The effect of magnesium zinc and cadmium ions on the properties of hydroxyapatite is studied. As the concentration of these ions increases, the hydroxyapatite crystallinity and Ca/P ratio are shown to decrease.

4. It is established that in all the experiments Zn^{2+} cations lead to less imperfection of the hydroxyapatite structure, and the Ca/P ratio attains its highest values.

5. It is shown that the bioactivity of the samples containing zinc ion dopants is greater than that of other dopants.

It is found that ion doping does not affect the IR spectra form.

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