

Crystallization of calcium phosphates from the prototype of the oral liquid in presence of fluoride and chloride ions

© Olga A Golovanova,^{1*} Alexandra S. Strogina,² and Vasilij I. Blinov¹

¹ Department of Inorganic Chemistry; ² Department of Applied and Medical Physics.

F.M. Dostoevskiy Omsk State University. Pr. Mira St., 55-A. Omsk, 644077. Russia.

Phone: +7 (3812) 66-69-31. E-mail: golovanoa2000@mail.ru

*Supervising author; +Corresponding author

Keywords: hydroxyapatite, brushite, fluoride-ion, synthesis, crystallization, solid phase, mother liquor, thermal analysis.

Abstract

In present work conditions for the formation of calcium phosphates in human oral liquid in the presence of fluoride and chloride ions are studied. It is shown that at the least concentration of fluorides-ions there is a crystallization of brushite takes place, and at the concentration increase hydroxylapatite is formed. In the presence of chloride ions in the least and average concentration joint crystallization of brushite and hydroxylapatite is observed, and when concentration increases hydroxylapatite is formed. It is established that the best solubility is observed in the deposits obtained in the presence of fluoride and chloride ions at pH = 5.50, and in calcinating the greatest change of their weights is observed.