Kristalizacija CaCO₃ u Alginatom Hidrogelu uz Dodatak Nabojenih Aminoakseina Crystallization of CaCO₃ in Alginate Hydrogel with the Addition of Charged Amino Acids

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Calcium carbonate (CaCO₃) is a naturally occurring mineral that is found in various forms in the earth's crust and in biological systems. One of the most common forms is aragonite, which is the mineral found in the shells of many marine organisms. However, in biological systems, calcium carbonate is often found in different forms, such as calcite and vaterite. These different forms of calcium carbonate can have different properties and applications in various fields, such as biomineralization, tissue engineering, and materials science.

In the past, calcium carbonate was mainly used in the form of marble and limestone for construction and decorative purposes. However, in recent years, there has been a growing interest in the use of calcium carbonate in the field of biomineralization, where it is used to form new minerals in biological systems. This process is known as biomineralization, and it is a complex process that involves the interaction between living organisms and inorganic materials.

The biomineralization process is not only important in the field of materials science, but it is also important in the field of bone and tissue engineering, where it is used to repair and regenerate damaged bone tissue.

This study investigated the effect of adding charged amino acids to calcium carbonate in an attempt to control the crystal growth and morphology of calcium carbonate. The results showed that the addition of charged amino acids significantly affected the crystal growth and morphology of calcium carbonate, indicating the potential of using charged amino acids in the field of biomineralization.