Preparation of Hydroxyapatite Nanoparticles

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ABSTRACT

Preparation of Hydroxyapatite nanoparticles from calcium hydroxide and phosphoric acid

GUIDELINES

In order to prepare 0.01 mol of hydroxyapatite, 0.10 mol of calcium hydroxide and 0.06 mol of phosphoric acid were combined. Calcium hydroxide was stirred magnetically in 200 ml of MilliQ water for 20 min until a homogeneous suspension was obtained. Phosphoric acid (diluted with 200 ml of MilliQ water) was added dropwise to this suspension over 45 min, with continuous stirring, keeping the pH above 10.5 by addition of ammonia solution, as necessary. The solution was stirred for a further 2 h, and then left overnight. The product was filtered under suction and dried at ambient conditions.

MATERIALS

MATERIALS

ammonia solution 25% **Sigma Aldrich Catalog #000000001054280**

Calcium hydroxide **Bio Basic Inc. Catalog #CB0256.SIZE.500g**

Phosphoric acid **Sigma-aldrich**

SAFETY WARNINGS

work in gloves, lab coat, and glasses

- 1 - 0.10 mol of calcium hydroxide must be stirred magnetically in 200 ml of MilliQ water for 20 min until a homogeneous suspension is obtained;
- 2 - 0.06 mol of phosphoric acid diluted with 200 ml of MilliQ water must be added dropwisely to this

suspension over 45 min, with continuous stirring, keeping the pH above 10.5 by addition of ammonia solution, as necessary;

3 - the solution was stirred for a further 2 h, and then left overnight;

4 - the product was filtered under suction and dried at ambient conditions.