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zeinodin@cc.iut.ac.ir

soleiman@cc.iut.ac.ir

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¹ Calcium Phosphate

⁵ Bone Tissue Engineering Scaffolds

⁹ Fracture Toughness

¹³ Vitronectin

¹⁷ Biomineralization

² Hydroxyapatite

⁶ Bioactivity

¹⁰ Wettability

¹⁴ Agglomeration

¹⁸ Strain

³ Biological Fixation

⁷ Nano-crystalline

¹¹ Osteoblast

¹⁵ Sol-gel

¹⁹ Serratia

⁴ Implants

⁸ Sintering

¹² Alkaline Phosphatase

¹⁶ Electrochemical Precipitation

²⁰ Phosphatase

PTCC 1187

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²¹ *Serratia marcescens*

²⁵ Para-nitro Phenyl Phosphate

²⁹ Phosphatase Enzyme Activity Index

³³ TRIS Buffer

³⁷ Centrifuge

²² Persian Type Culture Collection

²⁶ Incubation

³⁰ Calcium Chloride

³⁴ Hydrochloric Acid

³⁸ Filter Paper

²³ Nutrient Broth

²⁷ Optical Density

³¹ Tri-Sodium Citrate

³⁵ Suspension

³⁹ Calcination

²⁴ Pompei

²⁸ Spectrophotometer

³² Glycerol 2-Phosphate

³⁶ Shaking

⁴⁰ Crystallinity

pH

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⁴¹ Autoclave

⁴⁴ **T**ransmission **E**lectron **M**icroscopy

⁴⁷ Pang and Bao

⁵⁰ Extracellular Polymeric Matrix

⁵³ Phases

⁵⁶ **A**merican **S**tandard for **T**esting and **M**aterials

⁴² **X**-**R**ay **D**iffraction

⁴⁵ **F**ourier **T**ransform **I**nfrared **S**pectroscopy

⁴⁸ Sata

⁵¹ Peak

⁵⁴ Tri-Calcium Phosphate

⁴³ **S**canning **E**lectron **M**icroscopy

⁴⁶ Williamson-Hall

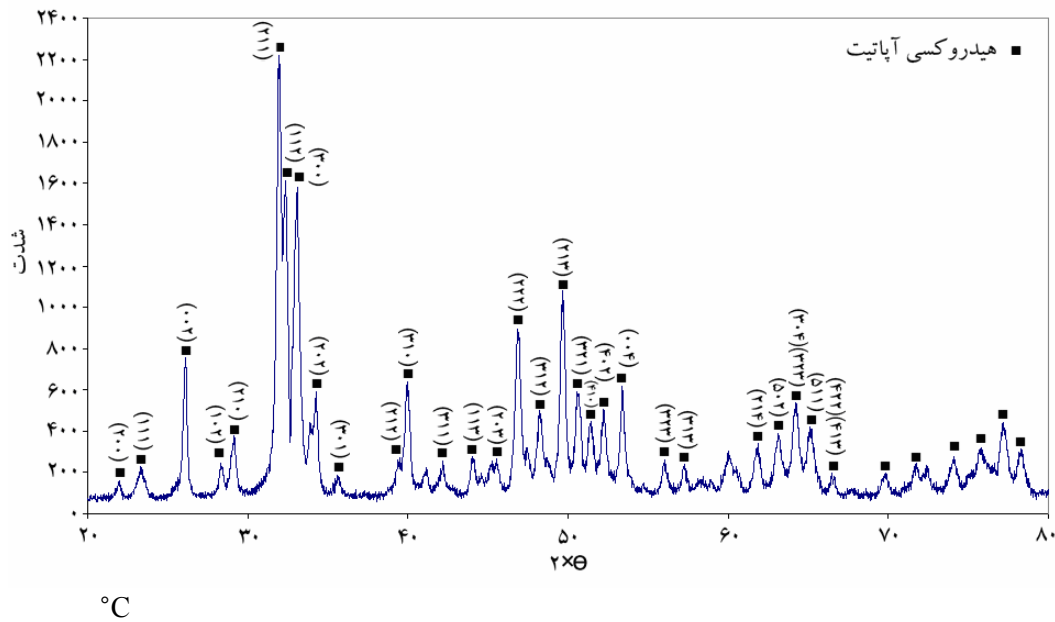
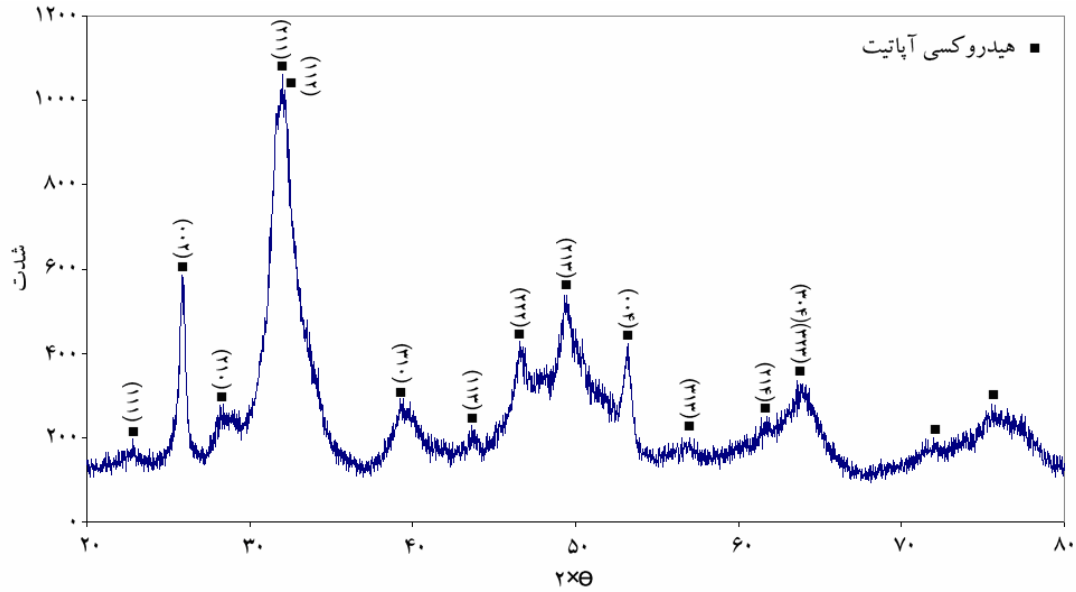
⁴⁹ Enterobacteriaceae

⁵² Thackray

⁵⁵ Calcium Oxide

PTCC

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$Y = \frac{1}{X + \frac{\lambda}{d}}$ ()

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$X_c = -(V / I)$ ()

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I Xc
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cm⁻¹) OH-

cm⁻¹) PO₄³⁻

CO₃²⁻

HPO₄²⁻

$B \cos\theta = \frac{\lambda}{d} + \epsilon \sin\theta$ ()

B

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CO₃²⁻

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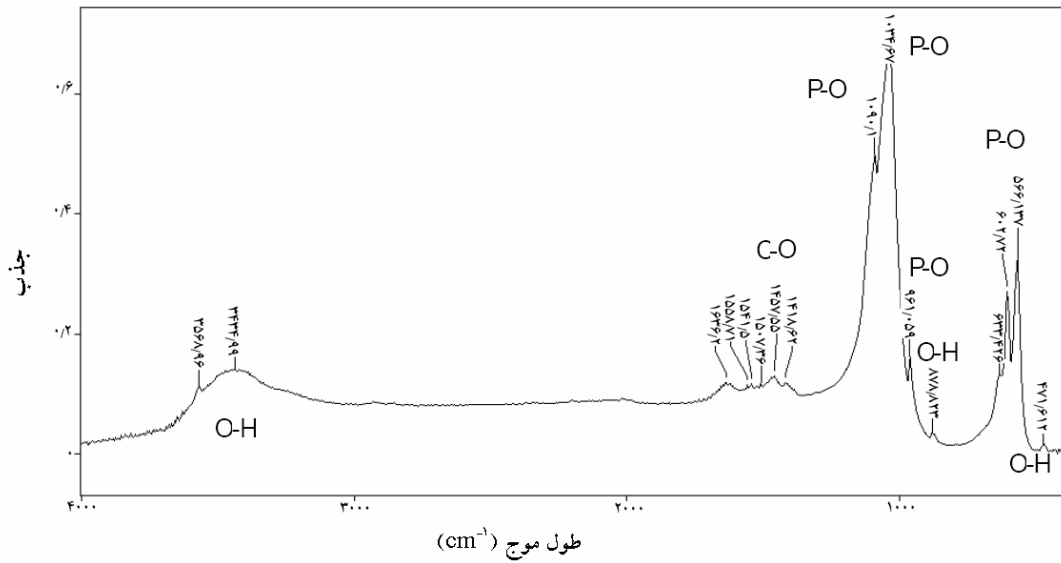
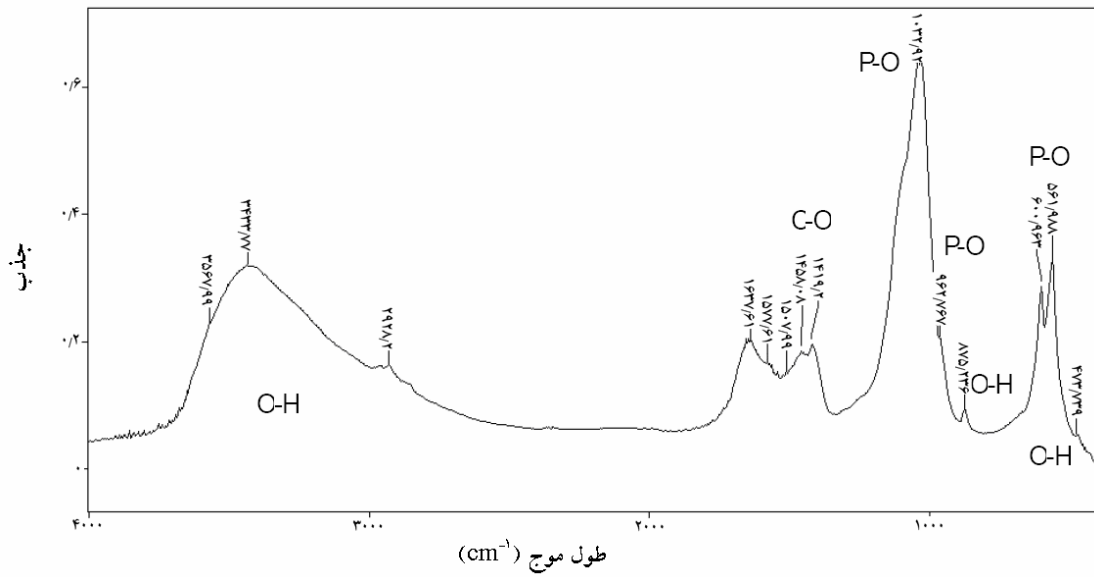
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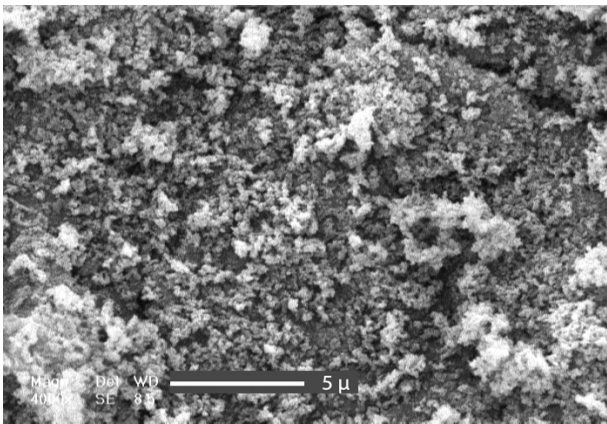
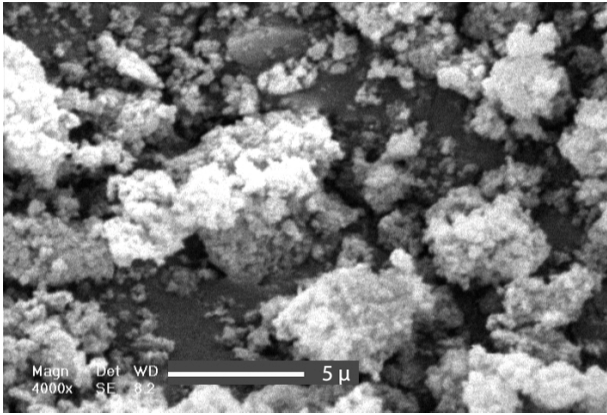
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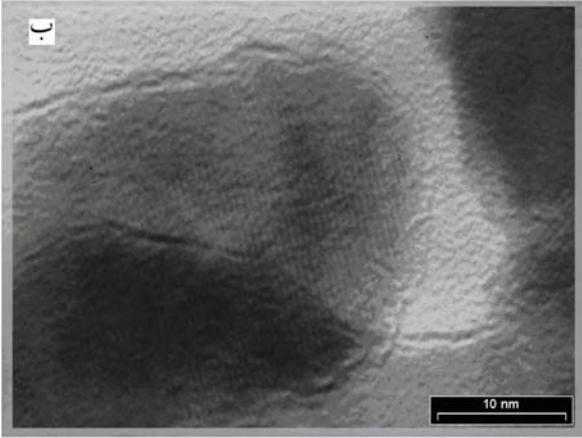
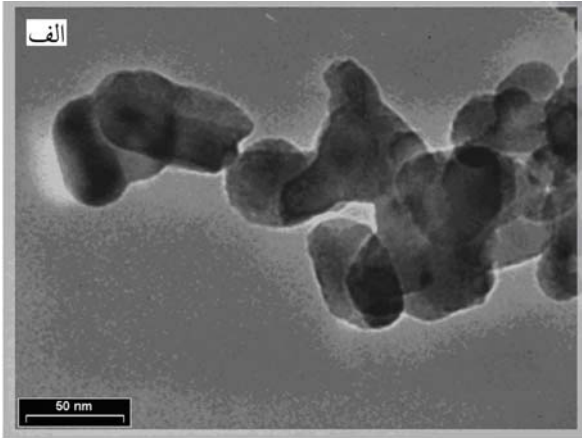
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