

Scopus

[Search](#) [Sources](#) [Alerts](#) [Lists](#) [Help](#) [SciVal](#) [Register](#) [Login](#)

Document details

[Back to results](#) | 1 of 2 [Next](#) >

[Export](#) [Download](#) [Print](#) [E-mail](#) [Save to PDF](#) [Add to List](#) [More...](#) >

[Full Text](#) [View at Publisher](#)

IOP Conference Series: Materials Science and Engineering

Volume 205, Issue 1, 9 June 2017, Article number 012013

2017 2nd International Conference on Materials Engineering and Nanotechnology, ICMEN 2017; Kuala Lumpur; Malaysia; 12 May 2017 through 14 May 2017; Code 128591

Effect of Poly(Vinyl Alcohol) Addition on the Properties of Hydrothermal Derived Calcium Phosphate Cement for Bone Filling Materials

(Conference Paper)

Razali, N.N.¹, Sopyan, I.², Mel, M.³, Salleh, H.M.³, Rahman, M.M.⁵, Singh, R.⁴¹Department of Manufacturing and Materials Engineering Department, Faculty of Engineering, International Islamic University Malaysia, PO Box 10, Kuala Lumpur, Malaysia²Department of Biotechnology Engineering, Faculty of Engineering, International Islamic University Malaysia, Kuala Lumpur, Malaysia³Department of Mechanical Engineering, Faculty of Engineering, Universiti Tenaga Nasional, Selangor, Kajang, Malaysia

View additional affiliations >

Abstract

[View references \(11\)](#)

The effect of addition of poly(vinyl alcohol) on hydrothermal derived calcium phosphate cement has been studied. The precursors used to prepare the cement were calcium oxide (CaO) and ammonium dihydrogen phosphate (NH₄H₂PO₄); the reaction was conducted in water at 80-100°C. To improve properties of CPC, poly(vinyl alcohol) (PVA) of 1wt% and 2wt% was added to the liquid phase of CPC and the results were compared to CPC without PVA addition. The addition of PVA was proved to bring remarkable effects on cohesion, setting time and mechanical strength of CPC which make it suitable physically for injectable bone filler applications. © Published under licence by IOP Publishing Ltd.

Reaxys Database Information

[View Compounds](#)

Indexed keywords

Engineering controlled terms: [Bone](#) [Bone cement](#) [Calcium](#) [Calcium phosphate](#) [Cements](#) [Nanotechnology](#)Compendex keywords: [Ammonium dihydrogen phosphate](#) [Bone filling materials](#) [Bone-fillers](#) [Calcium phosphate cement](#) [Effect of addition](#)[Liquid Phase](#) [Poly \(vinyl alcohol\) \(PVA\)](#) [Setting time](#)Engineering main heading: [Polyvinyl alcohols](#)

ISSN: 17578981

Source Type: Conference Proceeding

Original language: English

DOI: 10.1088/1757-899X/205/1/012013

Document Type: Conference Paper

Sponsors:

Publisher: Institute of Physics Publishing

References (11)

[View in search results format](#) >
 All [Export](#) [Print](#) [E-mail](#) [Save to PDF](#) [Create bibliography](#)

- 1 Sari Ibrahimoglu, K., Leeuwenburgh, S.C.G., Wolke, J.G.C., Yubao, L., Jansen, J.A.
Effect of calcium carbonate on hardening, physicochemical properties, and in vitro degradation of injectable calcium phosphate cements


(2012) *Journal of Biomedical Materials Research - Part A*, 100 A (3), pp. 712-719. Cited 20 times.
doi: 10.1002/jbm.a.34009

[View at Publisher](#)

Metrics

0 Citations in Scopus

0 Field-Weighted Citation Impact

 PlumX Metrics
Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 0 documents

Inform me when this document is cited in Scopus:

Related documents

Find more related documents in Scopus based on:

[Authors](#) > [Keywords](#) >