Preparation and characterisation of Alginate/κ-Carrageenan Hydrogel Beads for drug delivery Applications

Dissertation submitted to
Mahatma Gandhi University, Kottayam
In partial fulfilment of the requirements for the award of the degree of
Master of Science in Chemistry

By,

FATHIMA RAHMAN

Register No: 120011008196

Under the Guidance of
Dr.Jinu George

Department of Chemistry, Sacred Heart College, Thevara, Kochi
March 2014

CERTIFICATE

This is to certify that the Project Work Titled "**Preparation and characterisation of Alginate/κ-Carrageenan Hydrogel Beadsfor drug delivery Applications**" is a bonafide work of Ms Fathima Rahman carried out in partial fulfilment of the requirements for the award of the degree of M.Sc. Chemistry of Mahatma Gandhi University under the guidance of Dr.Jinu George, Assistant Professor, Dept. of Chemistry, S H College, Thevara.

Dr Joseph John
Head and Associate professor
Dept. of Chemistry,
S.H College, Thevara

CERTIFICATE FROM THE GUIDE

This is to certify that the Project Work Titled **"Preparation and characterisation of Alginate/κ-Carrageenan Hydrogel Beads for drug delivery Applications"** is a bonafide work of Ms **Fathima Rahman** carried out in partial fulfillment of the requirements for the award of the degree of M.Sc. Chemistry of Mahatma Gandhi University under my guidance. This project work is original and not submitted earlier for the award of any degree / diploma or assistantship of any other University/ Institution.

Place: Thevara
Date:
Department of Chemistry

Dr.Jinu George
Assistant Professor,
Sacred Heart College, Thevara

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SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Popa, Elena G., Manuela E. Gomes, and Rui L. Reis. "Cell Delivery Systems Using Alginate–Carrageenan Hydrogel Beads and Fibers for Regenerative Medicine Applications", Biomacromolecules, 2011. Publication	%11
2	repositorium.sdum.uminho.pt Internet Source	%9
3	PaÅŸcalÄƒu, V., V. Popescu, G.L. Popescu, M.C. Dudescu, G. Borodi, A. Dinescu, I. PerhaiÅ£a, and M. Paul. "The alginate/k-carrageenan ratio's influence on the properties of the cross-linked composite films", Journal of Alloys and Compounds, 2012. Publication	%6
4	www.sciencedirect.com Internet Source	%6
5	Akamatsu, K.. "Drastic difference in porous structure of calcium alginate microspheres prepared with fresh or hydrolyzed sodium	%3

	alginate", Journal of Colloid And Interface Science, 20111115 Publication	
6	mdpi.com Internet Source	%3
7	Submitted to Mansoura University Student Paper	%3
8	Mohamadnia, Z., M. J. Zohuriaan-Mehr, K. Kabiri, A. Jamshidi, and H. Mobedi. "Ionically cross-linked carrageenan-alginate hydrogel beads", Journal of Biomaterials Science Polymer Edition, 2008. Publication	%2
9	Submitted to University of Pune Student Paper	%2
10	Ke, Dan, Xiaoyong Wang, Qianqian Yang, Yumeng Niu, Shaohu Chai, Zhiyun Chen, Xueqin An, and Weiguo Shen. "Spectrometric Study on the Interaction of Dodecyltrimethylammonium Bromide with Curcumin", Langmuir, 2011. Publication	%2
11	pharmacologyonline.silae.it Internet Source	%2
12	www.ijpsonline.com Internet Source	%2

13	www.studymode.com Internet Source	%2
14	Varghese, Jina Susan, Nisha Chellappa, and Nishter Nishad Fathima. "Gelatin–carrageenan hydrogels: Role of pore size distribution on drug delivery process", Colloids and Surfaces B Biointerfaces, 2014. Publication	%1
15	Submitted to University Tun Hussein Onn Malaysia Student Paper	%1
16	docplayer.net Internet Source	%1
17	Ana Grenha. "Development of new chitosan/carrageenan nanoparticles for drug delivery applications", Journal of Biomedical Materials Research Part A, 2009 Publication	%1
18	www.ncbi.nlm.nih.gov Internet Source	%1
19	Taqieddin, E.. "Enzyme immobilization in novel alginate-chitosan core-shell microcapsules", Biomaterials, 200405 Publication	%1
20	Xiao-yan Li. "Preparation of alginate-gelatin capsules and its properties", Frontiers of	%1

	Materials Science in China, 09/2008 Publication	
21	Bajpai, S. K., M. Bajpai, and Farhan Ferooz Shah. "Alginate dialdehyde (AD)-crosslinked casein films: synthesis, characterization and water absorption behavior", Designed Monomers & Polymers, 2016. Publication	%1
22	Submitted to University of Durham Student Paper	%1
23	teresas.ac.in Internet Source	%1
24	eprints.utm.my Internet Source	<%1
25	Belyaeva, E.. "New approach to the formulation of hydrogel beads by emulsification/thermal gelation using a static mixer", Chemical Engineering Science, 200407 Publication	<%1
26	Submitted to University of New South Wales Student Paper	<%1
27	www.scribd.com Internet Source	<%1
28	www.safaribooksonline.com Internet Source	<%1

29	journal-cdn.frontiersin.org Internet Source	<%1
30	K.B. Jose. "The mechanism of aromatic nucleophilic substitution reaction between ethanolamine and fluoro-nitrobenzenes: an investigation by kinetic measurements and DFT calculations", Journal of Physical Organic Chemistry, 08/2011 Publication	<%1
31	A.H. Bhat, H.P.S. Abdul, A. K.. "Chapter 3 Thermoplastic Polymer based Modified Red Mud Composites Materials", InTech, 2011 Publication	<%1
32	Submitted to University of Ulster Student Paper	<%1
33	strathprints.strath.ac.uk Internet Source	<%1
34	kinam.com Internet Source	<%1
35	ethesis.nitrkl.ac.in Internet Source	<%1
36	Z. Mohamadnia. "pH-Sensitive IPN Hydrogel Beads of Carrageenan-Alginate for Controlled Drug Delivery", Journal of Bioactive and Compatible Polymers, 05/01/2007 Publication	<%1

37	Chi, M.C.. "Characterization of Bacillus kaustophilus leucine aminopeptidase immobilized in Ca-alginate/k-carrageenan beads", Biochemical Engineering Journal, 20080415 Publication	<%1
38	"ABSTRACTS FROM THE UK-PHARMSCI CONFERENCE, 1-3 SEPTEMBER 2010", Journal of Pharmacy and Pharmacology, 09/03/2010 Publication	<%1
39	Beneke, Carien E., Alvaro M. Viljoen, and Josias H. Hamman. "Polymeric Plant-derived Excipients in Drug Delivery", Molecules, 2009. Publication	<%1
40	George, M.. "Gas-Phase Nazarov Cyclization of Protonated 2-Methoxy and 2-Hydroxychalcone: An Example of Intramolecular Proton-Transport Catalysis", Journal of the American Society for Mass Spectrometry, 200905 Publication	<%1

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