

1. Record Nr.	UNINA9910459973603321
Titolo	Modelling degradation of bioresorbable polymeric medical devices // edited by J. Pan ; contributors, X. Chen [and three others]
Pubbl/distr/stampa	Sawston, England ; ; Waltham, Massachusetts ; ; Oxford, England : , : Woodhead Publishing, , 2015 ©2015
ISBN	1-78242-025-8
Edizione	[1st edition]
Descrizione fisica	1 online resource (271 p.)
Collana	Woodhead Publishing Series in Biomaterials ; ; Number 83
Disciplina	610.28
Soggetti	Polymers in medicine Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Cover; Modelling Degradationof Bioresorbable Polymeric Medical Devices; Copyright; Contents; List of contributors; Woodhead Publishing Series in Biomaterials; Part One Fundamental methods of modelling degradation of bioresorbable polymeric medical devices; 1Introduction to computer modelling for the design of biodegradable medical devices; 1.1 Introduction; 1.2 General modelling techniques useful in studying device degradation; 1.3 The degradation pathway and models presented in this book; 1.4 Challenges and unresolved issues; Acknowledgements; References 2Modelling degradation of amorphous biodegradable polyesters: basic model2.1 Introduction; 2.2 Hydrolysis rate equation; 2.3 Production of short chains; 2.4 Master equation for chain scission; 2.5 Summary of equations and list of symbols; 2.6 Analytical solutions of the master equation; 2.7 Numerical solution of the master equation; 2.8 Concluding remarks; References; 3Modelling degradation of amorphous biodegradable polyesters: advanced model; 3.1 Introduction; 3.2 Partition of carboxylic end groups on long and short chains; 3.3 Analytical solutions to the master equation 3.4 Numerical solution and a parametric study of the model3.5 Separation of end scission from random scission; 3.6 Contributions

from random and end scissions to polymer degradation; 3.7 Concluding remarks; References; 4Modelling degradation of semi-crystalline biodegradable polyesters; 4.1 Introduction; 4.2 Rate equation for chain scission in semi-crystalline polymers; 4.3 Actual and extended degrees of crystallinity; 4.4 Extended degree of crystallinity of chain cleavage-induced crystallisation; 4.5 Summary of governing equations for simultaneous chain scission and crystallisation 4.6 Calculation of number-averaged molecular weight4.7 Comparison between models assuming fast and normal crystallisation; 4.8 Concluding remarks; References; 5Modelling biodegradation of composite materials made of biodegradable polyesters and tricalcium phosphates (TCPs); 5.1 Introduction; 5.2 TCP dissolution and buffering reactions; 5.3 Rate equation for chain scission in presence of buffering reactions; 5.4 Governing equations for degradation of polyester-TCP composites; 5.5 Normalised equations; 5.6 TCP effectiveness map; 5.7 Concluding remarks; References 6Modelling heterogeneous degradation of polymeric devices due to short chain diffusion6.1 Introduction; 6.2 Scission rate of long chains affected by short chain diffusion; 6.3 Diffusion equation for short chains; 6.4 Collection of the governing equations; 6.5 A numerical study of size effect; 6.6 Non-dimensionalisation and degradation map; 6.7 Effect of other factors on the degradation map; 6.8 Concluding remarks; References; Part Two Advanced methods of modelling degradation of bioresorbable polymeric medical devices 7Finite element analysis (FEA) of biodegradation of polymeric medical devices

Sommario/riassunto

The use of bioresorbable polymers in stents, fixation devices and tissue engineering is revolutionising medicine. Both industry and academic researchers are interested in using computer modelling to replace some experiments which are costly and time consuming. This book provides readers with a comprehensive review of modelling polymers and polymeric medical devices as an alternative to practical experiments. Chapters in part one provide readers with an overview of the fundamentals of biodegradation. Part two looks at a wide range of degradation theories for bioresorbable polymers and devices.

2. Record Nr.	UNINA9910566099303321
Autore	Mesomedes
Titolo	Inno a Iside / Mesomede ; edizione con introduzione, traduzione, commento e altri testi del culto isiaco, Sara Lanna
Pubbl/distr/stampa	Roma, : Quasar, 2021
ISBN	978-88-549-1151-2
Descrizione fisica	260 p. ; 24 cm
Collana	SemRom : Seminari romani di cultura greca. Quaderni ; 27
Locazione	FLFBC
Collocazione	P2B 610 MESOM. 401A 2021 199.3 MESO 01
Lingua di pubblicazione	Italiano
Formato	Materiale a stampa
Livello bibliografico	Monografia