شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومـــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

Kinetics of Drugs in the Preabsorptive Phase During Their Transit-Time in the Gastrointestinal Tract

A Thesis Submitted by

Nehal Ali Kasim
M.S. Pharm. Sci. (Pharmaceutics)
University of Alexandria

In Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy
in
Pharmaceutical Sciences
(Pharmaceutics)

Department of Pharmaceutics
Faculty of Pharmacy
University of Alexandria
2001

Supervisory Committee

Prof. Dr.
Youssef E. Hammouda
Professor of Pharmaceutics
Faculty of Pharmacy
University of Alexandria

Prof. Dr.
Aly H. Nada
Professor of Pharmaceutics
Faculty of Pharmacy
University of Alexandria

Faculty of Pharmacy
University of Alexandria
Egypt

Dedicated to the memory of my professor and mentor,

Prof. Dr. Youssef E. Hammouda

with my deepest gratitude

ACKNOWLEDGEMENTS

I wish to express my sincere appreciation and gratitude to an ideal professor who was a great role model for many generations, the late Professor Dr. Youssef E. Hammouda, Professor of Pharmaceutics, Faculty of Pharmacy, University of Alexandria, Egypt. He will always be remembered for his enthusiasm towards science and for his kind heart. I deeply regret that he did not see the completion of this work.

I would like to express my deepest gratitude to Professor Dr. Aly H. Nada, Professor of Pharmaceutics, Faculty of Pharmacy, University of Alexandria, Egypt, for his infinite support, sincere cooperation and helpful guidance.

My sincere gratitude to Professor Dr. Gordon L. Amidon, Professor of Pharmaceutics, College of Pharmacy, The University of Michigan, Ann Arbor, MI, U.S.A., for making my work in his laboratories possible and for giving me the opportunity to perform all my thesis work at The University of Michigan. I thank him for his vital guidance and continual support and encouragement.

I am also grateful to Mr. John Wlodyga for his invaluable help with the animal experiments.

Also, I would like to acknowledge my colleagues in graduate school at The University of Michigan, specially Sally Choe, Jinno, Raimar, Anh and Sujatha for their support and friendship. And all my colleagues at The University of Alexandria for their kind encouragement.

I wish to thank my parents for their support, encouragement and unconditional love. I am profoundly grateful to them.

Finally, my deepest love and appreciation to Omar, Noha and Mustapha for their patience, understanding and loving support, and for making it all worthwhile.

CONTENTS