RNA STRUCTURE ANALYSIS USING THE RIGID BLOCK MODEL

BY MAURICIO ESGUERRA

A dissertation submitted to
Dr. Wilma K. Olson Group
Rutgers, The State University of New Jersey

New Brunswick, New Jersey
December 16, 2009

ABSTRACT OF THE DISSERTATION

RNA Structure Analysis Using the Rigid Block Model

by Mauricio Esguerra
Dissertation Director: Wilma K. Olson

RNA structure is in the forefront of our understanding of the beginning of life, also the mechanisms in life regulation. The life regulation part is new, not ten years old. Primodial in understanding the cell. The practical purpuse for the chemist is to understand how RNA folds. It's mainly a mechanical problem, therefore it's not foreing to use statistical mechanics methods, combined with detailed knownledge of atomic level structure.

Acknowledgements

the body of the acknowledgements

Dedication

the body of the dedication

Table of Contents

Chapter 1
Introduction

This is the introductory chapter.

Chapter 2
RNA Base Steps

This chapter deals with how starting from a backbone based view of RNA, we can make an interpretation at the step level using the block model.

Chapter 3
RNA Base-Pairing

The RNA base-pair is reviewed again.

3.1   Canonical and Non. Methods Paper

3.2   Clustering of Yurong's classification

Chapter 4
RNA Base Pair Steps

4.1 Analysis and Django Webserver

4.2 Persistence Length

4.3 AMBER: Persistence Length of Base-Pair Step Patterns

Chapter 5
RNA Motifs

This is the introductory chapter.

Chapter 6
Introduction

This is the introductory chapter.