

### This is the Thesis Title

This dissertation is submitted to the University of Cambridge for the degree of Doctor of Philosophy

> Jane Doe Churchill College June 2017

### **DECLARATION**

The work described in this dissertation was carried out by the author in the Department of Chemistry at the University of Cambridge between October 2013 and June 2017. The contents are the original work of the author except where otherwise indicated and contain nothing that is the outcome of collaboration. The contents have not previously or concurrently been submitted for any other degree or qualification at the University of Cambridge or another institution. The number of words does not exceed 60000.

Jane Doe June 2017

# ACKNOWLEDGEMENTS

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Jane Doe

### Abstract

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### **ABBREVIATIONS**

AMBER assisted model building with energy refinement

CFA Coulomb field approximation

CHARMM chemistry at Harvard macromolecular mechanics

DNEB doubly-nudged elastic band

DPS discrete path sampling

FES free energy surface

GB Generalised Born

HEF hybrid eigenvector-following

L-BFGS limited-memory Broyden-Fletcher-Goldfarb-Shanno

MFET mean first encounter time

MFPT mean first passage time

MD molecular dynamics

NGT new graph transformation

PB Poisson-Boltzmann

PDB protein data bank

PE potential energy

PES potential energy surface

REMD replica exchange molecular dynamics

RMSD root-mean square distance

TZ1 tryptophan zipper (trpzip) 1

vdW van der Waals

## **PUBLICATIONS**

#### Chapter 3

J. Doe. This is the title of your paper. Journal of Some Chemistry **2014**, 6 (5), 1007–1045.

#### Chapter 4

insert title...

#### Chapter 5

insert title..

#### Other Publication(s)

I have also contributed to the following publication(s) during my PhD:

J. Doe. Other title of paper. Some Journal Name 2017.

# Contents

Introduction	1
D - C	6
References	

### 1

## Introduction

In 1951, Sanger and Tuppy's seminal work on the sequencing of insulin  $^1$  transformed our understanding of protein structure.

## References

[1] F. Sanger and H. Tuppy, Biochem. J., 1951, 49(4); 463.