List of Tables and Illustrations

List of Tables:

1.1 Common ubiquitin like modifiers (Ubls). 4
2.1 Leishmanial diseases, parasites and treatment regimens by region 10
4.1 Structures used as template to develop homology model for LdUrm1 60
5.1 Primer sequences used to amplify LdUrm1 and LdUba4 from *L. donovani* 79
5.2 Primer sequences used to prepare LdUrm1^WT^ and LdUrm1^ΔG^ constructs for transfection in *L. donovani*. 81
5.3 List of proteins identified as LdUrm1 targets in *L. donovani* 92

List of Illustrations

2.1 Interaction of *Leishmania sp.* with mammalian host cells 16
2.2 Interaction of *Leishmania sp.* with invertebrate host cells 17
2.3 Sandfly and taxonomic classification 18
2.4 Nutrient acquisition by *Leishmania* via interaction with the endosomal and autophagosomal systems of the macrophage and lysosomal membrane transporters 29