Preface

The thesis entitled “Studies on anti-cancer activity of corchorusin-D, a saikosaponin like compound isolated from Corchorus acutangulus, a wild herb” comprises of five chapters-

Chapter-1: Review of literature.
Chapter-2: Bio-assay guided isolation of Corchorusin-D.
Chapter-3: Materials and methods for biological experiments.
Chapter-4: Anti-leukemic activity of COR-D on U937 and HL-60 cells.
Chapter-5: COR-D directed apoptosis of K562 cells.
Chapter-6: Apoptotic effect of COR-D on melanoma cells.
Chapter-7: Discussion

Chapter-1 contains a brief description about cancer, its types, signaling pathways related to cancer and apoptosis. It also includes literature review about the plant under investigation Corchorus acutangulus, reported activities and chemical constituents present.

Chapter-2 describes the plant profile, geographical distribution, traditional uses, preparations of extracts, phytochemical investigation that led to the isolation of corchorusin-D (COR-D), using chromatographic techniques, and characterization by various spectroscopic techniques. This chapter also includes the quantification of corchorusin-D using HPLC.

Chapter-3 describes the different materials and methodologies used in chapters 4-6.

Chapter-4 deals with the in-vitro anti-leukemic studies done with the methanolic extract and the pure constituent isolated (COR-D) on leukemic cell lines U937 and HL60. The effect of COR-D on mitochondrial pathway of apoptosis on these two cell lines is also included.

Chapter-5 describes the in-vitro anti-leukemic activity of COR-D on Bcr-Abl positive K562 cell line. The effect on apoptotic pathways like mitochondrial and extrinsic and survival pathways like AKT/PKB and MAP kinase are described.

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Chapter-6 contains the *in vitro* as well as *in vivo* effect of COR-D on melanoma cell line (B16F10).

Chapter-7 deals with the overall discussion of findings from chapters 2, 4, 5 and 6.