CONTENTS

INTRODUCTION 1-47

Selective COX-II inhibitors as safer NSAIDs 2
Transformation of conventional nonselective COX-Inhibitors to selective COX-II inhibitor 5
Nitric oxide releasing NSAIDs 10
COX and 5-LOX dual inhibitors 17
NSAIDs and antioxidants 23
Plants as source of antiulcer remedies 38
NSAID-antioxidant mutual prodrugs 40

RESEARCH ENVISAGED 48-50

RESULTS AND DISCUSSION 51-117

Synthesis of diclofenac-OCH₂COO-phytophenols/alcohol mutual prodrugs 51
Synthesis of diclofenac-OCH₂CH₂CH₂O-phytophenols mutual prodrugs 67
Synthesis of prodrugs of antioxidants 79
Attempts to prepare diclofenac-antioxidant prodrugs without spacer 83
Pharmacological activity evaluation 88
Physicochemical properties evaluation 103

EXPERIMENTAL 118-155

Equipment and material 118
Chemistry 119
Synthesis of diclofenac-OCH₂COO-phytophenols/alcohol mutual prodrugs 119
Synthesis of diclofenac-OCH₂CH₂CH₂O-phytophenols mutual prodrugs 132
Synthesis of prodrugs of antioxidants 145
Attempts to prepare diclofenac-antioxidant prodrugs without spacer 150
Pharmacological activity evaluation 152
Physicochemical properties evaluation 153

REFERENCES 156-178