Chapter 2

AIMS AND OBJECTIVES

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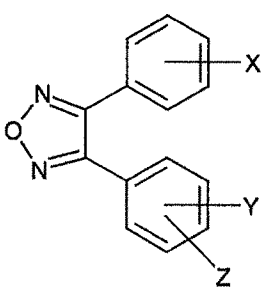
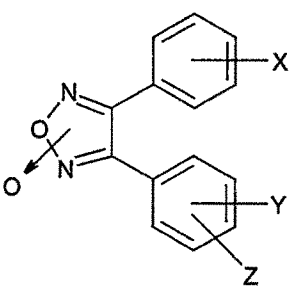
A review of literature has revealed the existence of a plethora of compounds possessing selective COX-II inhibiting activity. All these compounds have certain common characteristic features in their structures. They have a central carbocyclic/heterocyclic ring to which two aryl rings are attached on vicinal positions. In a majority of them the carbocyclic/heterocyclic ring is a five-membered ring system. Different five membered rings, which exist in these compounds are pyrazole,



(A)



(B)

imidazole, oxazole, isoxazole, furanone, thiophene and pyrrole. A 1,2,5-oxadiazole system possessing selective COX-II inhibiting activity could not be traced in the literature. Keeping this fact in mind it was aimed to prepare 3,4-diaryl-1,2,5-oxadiazoles **(A)** and 3,4-diaryl-1,2,5-oxadiazole N-oxides **(B)** and to evaluate them for their potential to act as selective COX-II inhibitors.