

PREFACE

Investigation described in the dissertation entitled " CHEMICAL INVESTIGATION OF THE POLYSACCHARIDES OCCURRING IN THE PLANT SEEDS " has been carried out in the Chemistry Department of Shivaji University, Kolhapur (India) during the year 1989 to 1991. In this investigation, the seeds of the plant Adenanthera pavonina have been analysed and attempt has been made to assign the structure to the polysaccharide present. This dissertation has been divided into three parts.

Part I, Section (A) contains a general introduction to the plant polysaccharides in which their industrial and medicinal uses have been highlighted. In Section (B), a review on the structure of the recently investigated galactomannans occurring in the seeds of the different plants is given.

Part II has been divided into two sections. In Section (A), the morphology of the plant Adenanthera pavonina Linn. and the characteristics of its constituents have been discussed. Section (B), dealing with different phases of the present investigations has been further sub-divided into three chapters.

Chapter I describes the isolation, purification and preliminary analysis of the polysaccharide. It also includes the result of electrophoretic analysis, which has helped to establish the homogeneity of the polysaccharide.

In Chapter II, complete acid hydrolytic studies have been reported in order to get relevant informations about the constituent sugars present in the polysaccharide.

The methylation studies of the polysaccharide have been incorporated in Chapter III along with the relevant discussions. This ultimately led to (i) the elucidation of the types of linkage which occur between the different sugars, (ii) deduction of the number of residues in the average repeating unit and (iii) the nature of the terminal units and the units at which branching occurs, in the polysaccharide occurring in A. pavonina seeds.

Part III comprises two sections, (A) and (B). Description of few important methods and techniques utilised in connection with this work is included in the Section (A), while other experimental details have been described in Section (B).

The work described above is original and helps to get relevant informations on the structure of the galactomannan occurring in the seeds of A. pavonina plant, which has remained uninvestigated so far. It may be further stated that the subject matter of the present dissertation has not formed the basis for the award of a degree or any other distinction of any university or institution.
