INTRODUCTION

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Phenols and biphenols are very reactive substances and undergo various reactions very readily. They are also the starting materials for the synthesis of many natural products of therapeutic value and also commercially important compounds. It is not possible to enumerate all the reactions carried out on phenols and the biphenols in the space of a few pages nor is such a listing of reactions necessary as some of them are quite well-known and form the subject matter of text books. Brief reviews of the work done on phenols and biphenols as far as the reactions studied in the present work are concerned are given under the relevant chapters.

The present work deals with the applications of some reactions to a few negatively substituted resorcinols and to 2,2'- and 4,4'-biphenols and their methyl ethers.

In chapter I the chloromethylation of some negatively substituted resorcinols, 2,2'-and 4,4'-dihydroxy-biphenyls and their methyl ethers has been studied. The chloromethyl derivatives have been converted into various other derivatives.

Chapter II deals with the synthesis of biflavonyl derivatives through the condensation of C-acyl and C-formyl biphenols with aromatic aldehydes and ketones respectively and the cyclization and dehydrogenation of the bichalconyls so obtained with selenium dioxide. The structures of these products have been confirmed by independent synthesis by

the Ullmann reaction on iodoflavones.

Chapter III deals with the Friedel-Crafts succinoylation and phthaloylation of the methyl ethers of biphenols and their conversion into bitetralonyl and bianthraquinonyl derivatives respectively.

Chapter IV deals with the application of Mannich reaction to 2,2'-and 4,4'-biphenols.

The synthesis of 3,3'-dimethyl-5,5'-bibenzofuranyl starting with 4,4'-dihydroxy-3,3'-diacetyl biphenyl is incorporated in the appendix.