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THE REACTIONS OF DIALKYL PHOSPHITES AND PHOSPHINE OXIDES WITH IODOSYLBENZENE

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The reaction of iodosylbenzene with >P(O)H type of acids (dialkyl phosphites, secondary phosphine oxides) was studied. The acids of >P(O)H type add to iodosylbenzene to yield intermediate ***6*** *which in the aprotic solvents yields oxidation products, it means >P(O)OH acids and/or anhydride of >P(O)OP(O)< type. On the other hand if the reaction is performed in alcohol as a solvent in the presence of sodium alcoholate >P(O)OR ester is the major product.*

Keywords: Alkyl phosphinates; dialkyl phosphates; H-phosphonates; iodosylbenzene; phosphine oxides; tetraalkyl pyrophosphate

INTRODUCTION

Organic compounds of polycoordinated iodine have long been known, however, it is only recently that iodine compounds in the oxidation state +3 have gained synthetic and mechanistic significance, as described in several reviews.[1–6]

Iodosylbenzene, PhIO, is the most important and best investigated member of the family of iodosyl compounds. It has found wide synthetic application as a starting material in the preparation of numerous iodine(III) compounds and as an effective oxidant. However, to the best of our knowledge, iodosylbenzene hasn't been explored in phosphorus chemistry.

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