ABSTRACT

The pyridinolysis of 2,4 dinitrophenyl, p-toluene sulphonate and mesitylene sulphonate have been studied in the presence of the tertiary bases, pyridine, 2,3 and 4 picolines, 2,4, 3,5 and 2,6 lutidines and 2,4,6 collidine. Dual fission, aryl-oxygen and sulphur-oxygen were observed for all bases used except 2 picoline and 2,6 lutidine. The reactions were proved to proceed by the S_N2 mechanism. Steric requirements for aryl-oxygen fissions were found to be critical.

Rates in the presence of non-sterically hindered bases for both aryl-oxygen and sulphur-oxygen fission followed the Brønsted law. 4-picoline behaves abnormally with respect to aryl-oxygen fission.

The following compounds for which there are no references in the literature were prepared and analysed:

1) The methyl pyridinium salts of p-toluene sulphonate and mesitylene sulphonate for the bases, 3 and 4 picoline, 2,4, 3,5, and 2,6 lutidine and 2,4,6 collidine; also the corresponding salts of pyridine and 2-picoline for the mesitylene sulphonate only.

2) The 2,4 dinitrophenyl pyridinium salts of p-toluene sulphonate and mesitylene sulphonate for the bases, 3-picoline, 3,5

lutidine and 2,4,6 collidine, and the corresponding pyridine salt for the mesitylene sulphonate only.

3) The ring opened compound, N-dinitrophenyl-5 amino-4 methyl penta-2,4 dienal and the corresponding 3, methyl, 3,5, 2,4 and 4,6 dimethyl derivatives.

4) 2,4 Dinitrophenyl pyridinium perchlorate.