THE FORMATION OF DIHYDROISOXAZOLOISOXAZOLES BY PHOTOLYSIS OF PYRIDAZINE 1,2-DIOXIDES AND OXIDATIVE CYCLIZATION OF 2-UNSATURATED 1,4-DIOXIMES

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Photolyses of 1,2-dioxides(1) of unsubstituted(a), 3-Me-(b), 4-Me-(c), 3,6-diMe-(d), 3-Ph-(e), 3-Me-6-Ph-(f), and 3,6-diPh-(g)pyridazines, have been investigated.

Dioxides(1a-g) afforded 3a,6a-dihydroisoxazolo[5,4-d]isoxazoles(2a-g) of a novel ring system. *Dioxides(1e-g) afforded* 3-phenylisoxazole(3) besides 2.

The structure of 2a was examined by X-ray crystallography.

The formation of the products which have been obtained by photolysis of pyridazine dioxides(1), can be rationalized by assuming the key intermediate, bis iminoxyl radical(4).

On the other hand, the oxidation of 1,4-diMe-, 1-Me-4-Ph-, and 1,4-diPh-2-butene-1,4-dioximes(5) with lead tetraacetate(LTA) or phenyliodoso bistrifluoroacetate (PITFA) afforded the corresponding 1 and/or 2.

These observation suggests the presence of the intermediate 4 in the oxidation of the dioximes(5).

LTA was found to be more applicable reagent for the preparation of the pyridazine dioxides(1) from the dioximes(5).