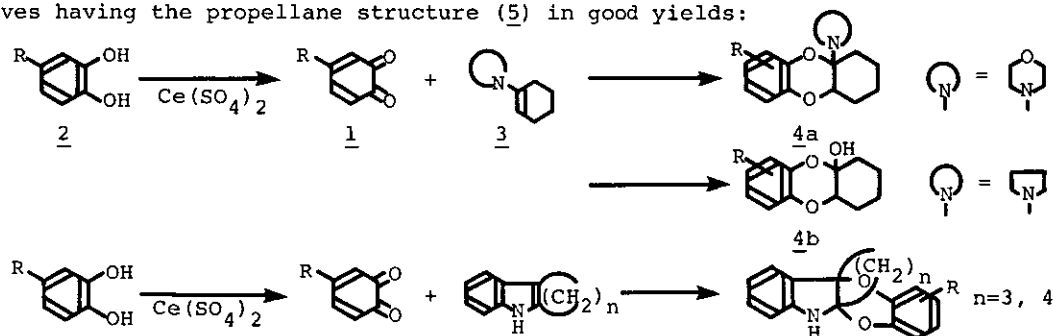


THE SYNTHESIS AND DECOMPOSITION REACTION OF 1,4-BENZODIOXINS RELATED TO o-BENZOQUINONES

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o-Benzoquinoid compounds are highly reactive and unstable compounds. Hence, some difficulties to isolate or to trap of some o-benzoquinones are still remained. During the course of the investigation of the trapping reaction of o-benzoquinones, we have found that enamines (3) reacted with o-benzoquinones (1) to afford the [4+2]-type cycloadducts, 1,4-benzodioxan derivatives (4). Also, we have found that indoles having the ring-substituent between the C-2 and C-3 position, reacted with o-benzoquinones to afford the 1,4-benzodioxan derivatives having the propellane structure (5) in good yields:



On the other hand, via the photodecomposition reaction of ozonide under mild reaction conditions, it is expected to be possible to synthesize the unstable o-benzoquinones. Hence, we have investigated the photodecomposition reaction of ozonide derived from the reaction of 1,4-benzodioxin (6) with ozone, and found that o-benzoquinones (1) were afforded in moderate yields:

