HETEROCYCLES FROM PHOTOLYSIS OF β-(o-HETEROATOM-SUBSTITUTED-PHENYL)VINYL BROMIDES

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Photolysis of vinyl halides produces the vinyl cations together with the vinyl radicals. By using these reactive intermediates heterocycles can be synthesized. We report here the formation of heterocycles from photolyses of ortho-heteroatom-substituted vinyl bromides (1). Photolysis of o-methoxyphenylvinyl bromides gave benzofurans along with the rearranged ones. In the case of the thio derivatives benzothiophens were obtained. An o-aryloxyphenylvinyl bromide, however, afforded a dibenz[b,f]oxepin derivative. The details will be discussed from the mechanistic standpoint.