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The hetero-Diels-Alder reaction of 1-(2-furyl)-3-(dimethylamino)-2-propene-1-thione (diene) with maleic and fumaric acids, and $\beta$-nitrostyrenes yielded 3,4-dihydro-$2H$-thiopyran derivatives. Treatment of some of those cycloadducts with acetic acid caused elimination of dimethylamine yielding stable $2H$-thiopyrans. Reaction of the diene with maleic anhydride furnished a cycloadduct which underwent spontaneous rearrangement to form an N,N-di-methylamide derivative. Cycloadditions of the diene to maleimide, N-phenylmaleimide, diethyl maleate, fumarate and butenolide, carried out in the presence of acetic anhydride, were followed by elimination of dimethylamine, afforded stable $2H$-thiopyran derivatives.