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Synthesis of saccharin derivatives containing moieties of [4 + 2]cycloadducts

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Saccharin derivatives have been widely studied for phytocides, herbicides, non-caloric sweetener, and phamaceutic aid. In order to obtain new agricultural chemical product, *N*-Chloromethylsaccharin as one of saccharin derivatives was synthesized by oxidation and chlorination of saccharin. Reaction of *N*-Chloromethylsaccharin with furfurylamine was proceeded at room temperature (2-([Furan-2-ylmethl)-amino]-methyl)-1,1-dioxo-1,2-dihydro-1 λ^6 -benzo[*d*]isothiazol-3-one). We synthesized product, 5-([(1,1,3-Trioxo-1,3-dihydro-1 λ^6 -benzo[*d*]isothiazol-2-ylmethyl)-amino]-methyl)-7-oxa-bicyclo[2.2.1]hepta-2,5-diene-2,3-dicarboxylicacid. It was synthesized by treatment of obtain 2-([Furan-2-ylmethl)-amino]-methyl)-1,1-dioxo-1,2-dihydro-1 λ^6 -benzo[*d*]isothiazol-3-one and DMAD (dimethyl acetylene dicarboxylate). Continually, we will try to synthesize new agricultural chemical products with reaction of *N*-Chloromethylsaccharin containing aromatic hererocyclic ring and active dienophile.