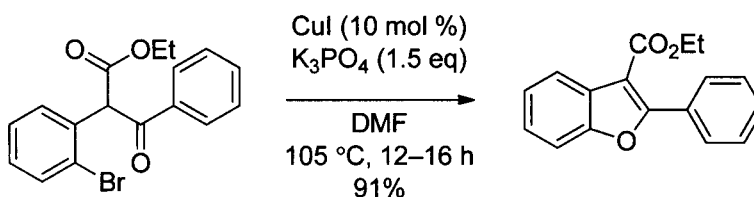


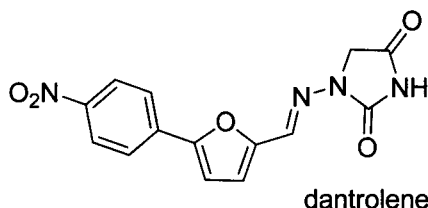
(2-bromophenyl)-3-oxo-3-phenylpropanoate, with copper(I) iodide in the presence of potassium phosphate gave the corresponding benzofuran in 91% yield.



#### 4.2.3 Synthesis of Furan- and Benzofuran-Containing Drugs

The syntheses of several commercially available furan and benzofuran based pharmaceuticals have been published. The examples below are meant to illustrate some of the more general methods employed in the synthesis of these important compounds. Note that the majority of the syntheses highlighted below take advantage of preformed or readily available furan or benzofuran derivatives.

Dantrolene is a muscle relaxant that is currently the only effective treatment for malignant hyperthermia, a rare and life-threatening disorder that can be triggered by general anesthesia in some patients. Dantrolene has been synthesized by a number of different routes starting from readily available furaldehyde and its derivatives.



The original synthesis of dantrolene by Snyder and co-workers (shown below) employed a Meerwein arylation to produce the corresponding 5-aryl-2-furaldehyde intermediate.<sup>66,67</sup> Condensation of this intermediate with 1-aminodantoin under acidic conditions produced the target compound dantrolene.