enol-anion 114 reacts with oxygen to form benzil (115) and the hydroperoxide anion, which can then attack benzil (not benzoin) to give benzoic acid (116).

A mechanism analogous to the one above can be written for the decomposition of the acyloin-diketone mixture as follows:

The reaction of 75 with the hydroperoxide ion may take the following course, analogous to the reaction of peracids with ketones: 64

![Diagram showing chemical reactions and structures](attachment:chemical_diagram.png)