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## Synthesis of $^{13}\text{C}$ -Labeled Ubiquinone-Acetogenin Hybrid Inhibitors of Mitochondrial Complex I

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### Abstract:

Natural acetogenins are the most potent inhibitors of mitochondrial complex I. By synthesizing a ubiquinone-acetogenin hybrid inhibitor (named Q-acetogenin), we previously showed that a  $\gamma$ -lactone ring of acetogenins is completely substitutable with a ubiquinone ring. In this study, to open a new experimental approach to the study of acetogenin-complex I interaction, we report procedures for synthesizing  $^{13}\text{C}$ -labeled Q-acetogenins, wherein the carbonyl carbon at the 1- or 4-position of the ubiquinone ring is specifically  $^{13}\text{C}$ -labeled.

### Keywords:

mitochondrial complex I, acetogenin, ubiquinone

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