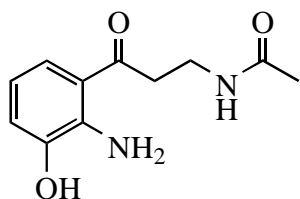


## O-36: SYNTHESIS OF <sup>13</sup>C-LABELED EREBUSINONE AND EREBUSINONAMINE

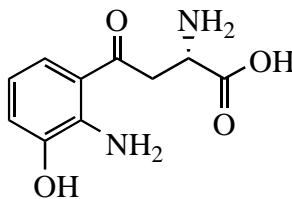
Solomon T. Weldegirma,<sup>1</sup> YoungChul Park,<sup>1</sup> Charles D. Amsler,<sup>2</sup> James B. McClintock<sup>2</sup> and Bill J. Baker<sup>1</sup>

<sup>1</sup>University of South Florida, Department of Chemistry, 4202 E Fowler Ave. CHE 205, Tampa, FL 33620; <sup>2</sup>Department of Biology, University of Alabama at Birmingham, Birmingham, AL 35294-1170

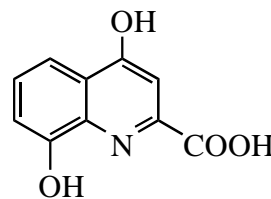
Molt inhibition as a chemical defense mechanism was first proposed for the sponge metabolite erebusinone (**1**), which was found to reduce molting and proportionally increase mortality in a sympatric predatory amphipod. A yellow pigment in the Antarctic sponge *Isodictya ernacea*, erebusinone may be acting as a 3-hydroxykynurenine (**2**) mimic. 3-Hydroxykynurenine is a tryptophan catabolite intermediate in the biosynthesis of xanthurenic acid (**3**), a known crustacean molt inhibitor. In order to study the biosynthetic role of erebusinone, we have made a [2-<sup>13</sup>C]erebusinone and [3'-<sup>13</sup>C]erebusinonamine. We herein report the synthesis of [2-<sup>13</sup>C]erebusinone, which we have achieved in an overall yield of 38 % involving seven steps. We also report the synthesis of [3'-<sup>13</sup>C]erebusinonamine, which we have achieved in an overall yield of 42 % involving eight steps.



**1**



**2**



**3**