

**Committee on Undergraduate Research and Scholarship (CURS)
CURS Funding Spring 2011 Final Report**

Faculty Member:	Tom Crute, Chemistry & Physics
Amount of Award:	\$835.00
Student(s) Involved (if any):	Tyler Chavous
Specific Outcomes:	Tellurophene was successfully synthesized in multigram quantities. Multiple options for formylation were explored with successful formation of the desired 2-substituted derivative. The required azidoester reagent was successfully prepared and multiple studies conducted on the condensation of this reagent with the formyltellurophene. Research results were presented at the 2011 Phi Kappa Phi Honors Conference.
Discussion and Comments:	<p>Tellurium-containing amino acid analogs have the potential to facilitate X-Ray crystallographic studies of proteins into which they are incorporated. Synthesis of these analogs is necessary in order to incorporate them into the proteins. A synthetic approach similar to that previously applied to selenium analogs was pursued. Formation of the tellurium-containing ring and functionalization to place a formyl group in the 2-position were successful. Condensation of this material with the prepared azidoester proved problematic and led to a mixture of products at best during multiple attempts. Further work on optimizing the condensation step is necessary prior to proceeding to the final cyclization step of the planned synthesis.</p>