

McMICKEN COLLEGE OF ARTS AND SCIENCES
Department of Chemistry

SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN

APPLICATION DEADLINE: March 1, 2006

The Department of Chemistry in the College of Arts and Sciences is pleased to offer the following research project for the summer of 2006. Interested students are urged to contact the faculty member(s) directing the project that most interests them. By contacting the faculty member, you can discover more about the project, learn what your responsibilities will be and if possible, develop a timetable for the twelve-week research period.

GREEN CHEMISTRY: THE CONVERSION OF AZIRIDINES TO OXAZOLIDINONES IN WATER

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Project Description

An aziridine, which is a three-membered ring compound containing nitrogen, is readily available from either the corresponding alkene or epoxide. An oxazolidinone, which is a five-membered ring compound containing a nitrogen, an oxygen, and a carbonyl, is a very useful compound for a variety of synthetic transformations. Thus, a convenient, inexpensive, and environmentally friendly method for the conversion of readily aziridines to synthetically useful oxazolidinones would be very useful. As part of Honor Organic Chemistry Laboratory 213H, we have discovered just such a reaction (see *Journal of Chemical Education* **2005**, 82, 1229-1230). A student involved in the REWU program will take what we know and extend the reaction to different aziridines including chiral compounds, to different salts, and to mixtures of solvents.