

**EXECUTIVE SUMMARY [NON-CONFIDENTIAL, NON-TECHNICAL ABSTRACT FOR PUBLIC INFORMATION OR PROGRAM PROMOTION]:** State in layman's terms the application's broad, long-term objectives and specific aims, making reference to the potential public benefits of the project relevant to California. Do not include proprietary or confidential information. This may be distributed before the funding decision has been finalized.

The cost of new pharmaceutical drugs is directly related to the costs of research and development associated with taking the drug from an idea to a commercial product. This proposed research will examine a new approach to the synthesis of drug candidates that utilizes technology (STT™ reactor) developed by a California-based company, Kreido Laboratories in Camarillo, CA. The technology has the potential of replacing the large reactors currently used by pharmaceutical companies to synthesize drug candidates and replacing them with a Spinning Tube-In-Tube (STT™) reactor that allows for continuous production of drug candidates. The Principal Investigator on this grant proposes to examine key reaction chemistries that are utilized by pharmaceutical companies to synthesize drugs and to determine whether these chemistries will be improved when they are performed in a STT™ reactor. Successful application of an STT™ reactor to improving these reactions will not only lead to publications and external funding for the Principal Investigator but will also enhance the way that biotechnology/pharmaceutical companies synthesize pharmaceutical drugs.