This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Chemistry			
Complete synthesis of tetracycline antibiotics	<p>A method for the total synthesis of tetracyclines could lead to the discovery and development of new antibiotics. More than 50 new tetracyclines and tetracycline analogs were synthesized using a Michael-Claisen cyclization reaction. <i>In vitro</i>, all analogs were active against both Gram-positive and Gram-negative bacteria, including tetracycline-resistant strains. In mice inoculated with <i>Staphylococcus aureus</i>, one group of analogs, the alkylaminomethylpentacyclines, had efficacy comparable to that of tetracycline. Large-scale production of the fully synthetic tetracyclines and evaluation of their antibiotic properties are ongoing.</p> <p>At least five companies have tetracycline compounds in development stages ranging from preclinical to registration for a variety of indications.</p> <p>SciBX 2(1); doi:10.1038/scibx.2009.31 Published online Jan. 8, 2009</p>	Chemistry patented; licensed to Tetrphase Pharmaceuticals Inc.; unavailable for licensing	<p>Sun, C. <i>et al.</i> <i>J. Am. Chem. Soc.</i>; published online Dec. 4, 2008; doi:10.1021/ja806629e</p> <p>Contact: Andrew G. Myers, Harvard University, Cambridge, Mass. e-mail: myers@chemistry.harvard.edu</p>