



N-Thiolated β -lactams: A New Class of Antibiotic for Multidrug Resistant Bacteria

Researchers at the University of South Florida have developed a new class of beta-lactam antibiotic for use against dangerous bacteria, such as methicillin-resistant *Staphylococcus aureus* (MRSA). Drug-resistant microbes like MRSA have created an urgent need for new antibiotics due to the sharp increase in clinical complications and numerous deaths caused by these opportunistic pathogens.

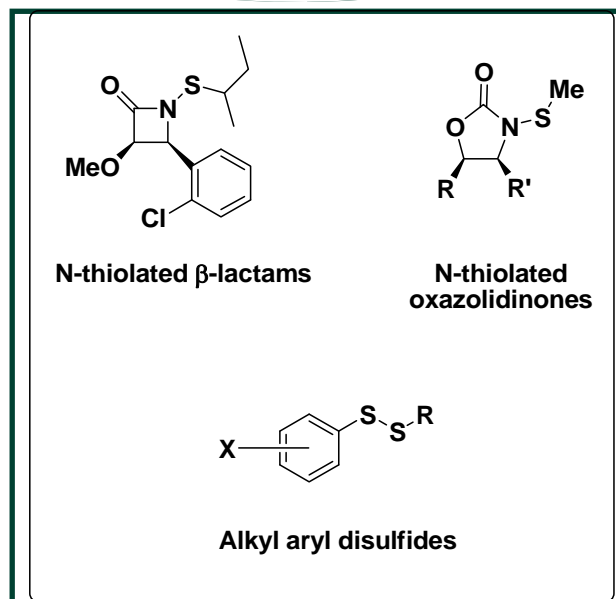
These N-thiolated beta-lactams exhibit potent antibacterial activity against MRSA as well as other microbes, such as *Bacillus anthracis* and *Neisseria gonorrhoea*, while operating through a unique mechanism of action.

The N-thiolated beta-lactams are further complemented by the N-thiolated oxazolidinones and alkyl-aryl disulfides, two additional families of bacteriostatic compounds developed by USF researchers as a means to exert powerful control over MRSA and other life-threatening bacteria. Each family of antibiotics can be prepared through straightforward chemical syntheses.

Advantages:

- Effective against drug-resistant bacteria, such as MRSA
- Novel mechanism of action
- Exhibit bacteriostatic properties
- Structurally simple
- Easy to synthesize

Potent against
drug-resistant microbes



**New Antibiotics developed at USF
for Drug-resistant Bacteria**

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