## Antimicrobials, Multiple Drug Resistance & Antibiotics Resistance

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## A furan fatty acid 7,10-epoxy octadeca 7,9-dienoic acid: A synergistic antibacterial agent against multidrug-resistant *Staphylococcus aureus*

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Structural modification of natural lipids by biocatalysis can change their properties or even create novel functionalities. Hydroxy fatty acid, one of oxylipins, can be produced from the microbial bioconversion of natural vegetable oils. Recently 7,10-dihydroxy-8(E)-octadecenoic acid (DOD) was produced with high yield from olive oil containing oleic acid by bacterial strain *Pseudomonas aeruginosa* PR3, and further study confirmed that DOD contained strong antimicrobial activities against broad range of microorganisms. In this study, we tried to modify DOD molecules by physical reaction to create new functionality or to enhance the antimicrobial activity of DOD. After the harsh heat-treatment, a novel furan fatty acid (EODA) was produced from DOD. We confirmed that EODA presented strong antibacterial activity against multidrug-resistant Staphylococcus aureus and also EODA showed a recuperative effect of the beta-lactam antibiotics activity against methicillinresistant *Staphylococcus aureus* 

## Biography

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