

11th Global Experts Meeting on

CHEMISTRY AND COMPUTATIONAL CATALYSIS

May 18-19, 2018 Singapore



Adiel Coca

Southern Connecticut State University, USA

Preparation and antimicrobial properties of tetrazole derivatives

The tetrazole ring has been featured in several approved anti-hypertension drugs such as Losartan, Olmesartan, Irbesartan, Valsartan, Candesartan and Fimasartan. Tetrazole derivatives have also been used as lipophilic spacers, peptide chelating agents and as cis-peptide bond mimics. Perhaps the most common application of the tetrazole ring is as a bioisostere for carboxylic acids due to similar acidity and planarity. The tetrazole ring is typically synthesized via the (3+2) cyclo addition of an organonitrile and sodium azide in aprotic polar solvents such as dimethylformamide. In this work, several tetrazole derivatives were synthesized in good yields using a rare-earth metal catalyst. Microwave radiation was used to heat the reactions which were done in an aqueous solvent mixture. The antimicrobial properties of the resulting tetrazole derivatives were determined against *Escherichia coli*, *Staphylococcus aureus* and *Pseudomonas aeruginosa*. Some tetrazole derivatives showed a significant synergistic effect when used in combination with trimethoprim.

Biography

Adiel Coca had pursued his PhD from Pennsylvania State University, USA. He was a Visiting Assistant Professor at Franklin and Marshall College, Lancaster, PA. He has then moved to Southern Connecticut State University, New Haven, CT, where he is currently an Associate Professor. He was a Visiting Researcher at Oxford University, UK from July 2015 to January 2016. He currently has nine peer-reviewed publications and is serving as an Editorial Board Member of the *Journal of Modern Chemical Sciences*.

cocaa2@southernct.edu

Notes: