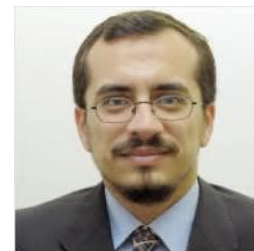


A trend in the Chemistry of Ketengem-Dithiol Reaction and transformations

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Abstract

Acid catalyzed reaction of 1-(1H-indol-3-yl)-3,3-dimercaptoprop-2-en-1-one (1) with anthranilic acid (2) was achieved to produce 2-(1H-indol-3-yl)-4-oxo-1,4-dihydroquinoline-3-carbodithioic acid (3). Reactions of (1) with some amines e.g. p-chloroaniline (4) and o-aminophenol (5) in equimolar ratios and different reaction conditions were explored to produce (E)-3-((4-chlorophenyl)imino)-3-(1H-indol-3-yl)prop-1-ene-1,1-dithiol (6) and (E)-2-(benzo[d]oxazol-2(3H)-ylidene)-1-(1H-indol-3-yl)ethan-1-one (7) respectively. While reaction of (1) with 3,5-dibromosalicylaldehyde (8) or glucose (9), (6,8-dibromo-4-hydroxy-2-mercaptochroman-3-yl)(1H-indol-3-yl)methanone (10) and 2-(dimercaptomethylene)-3,4,5,6,7,8-hexahydroxy-1-(1H-indol-3-yl)octan-1-one (11) were obtained respectively. Also 5-(1H-indol-3-yl)-3H-1,2-dithiole-3-thione (12) was obtained from the reaction of (1) with P₂S₅. On treatment (12) with different reagents as 3,5-dibromosalicylaldehyde (8) and anthranilic acid (2) gave the adducts 6,8-dibromo-3-(1H-indol-3-yl)-9a-mercapto-3H,9aH-[1,2]dithiolo[3,4-b]chromen-4-ol (13) and 3-(1H-indol-3-yl)-9a-mercapto-9,9a-dihydro-4H-[1,2]dithiolo[3,4-b]quinolin-4-one (14) respectively.

content compounds (in the form of thiols, thiones, hetrocyclic sulfur and/or combined with other elements), and study the biological activities. e. g. Anticancer, Tuberculoses, and anti-infecte micro-organisms like Bacteria, Fungi.

Speaker Publications:

1. "Oxoketene Dithiols: Synthesis of Some Heterocycles as Antimicrobials Utilizing Shrimp Chitin as a Natural Catalyst";
2. "Dithiocarbamates as Precursors in Organic Chemistry; Synthesis and Uses" Journal of Sulphur Chemistry/Vol-3, Issue-5, 300-323-2012.
3. "ChemInform Abstract: Ketoketene gem-Dithiols: Synthesis of Several Sulfur Heterocycles.;" Journal of the Arch Pharm Vol 322, Issue-11, 2006.
4. "Pyrazine Heterocycles from 2,3-Pyrazinedicarboxylic Anhydride Pyrazinderivate aus 2,3-Pyrazindicarbonsäureanhydrid"; Journal of Arch Pharm/ Vol 324, 2006.
5. "Thiafulvenes and Thiafulvalenes in Organic Chemistry: Synthesis and Chemical Reactions Journal of Phosphorous, silicon and the related elements / Vol 182, 2007 Issue-9, Pages 1945-2007

[11th International Conference on Chemistry Webinar](#)– July 20-21, 2020.

Abstract Citation:

Salem E. Zayed, A Trend in The Chemistry of Ketengem-Dithiol Reaction and Transformations, Chemistry World 2020, 11th International Conference on Chemistry Webinar July-20-21, 2020.

(<https://chemistrymeetings.conferenceseries.com/abstract/2020/a-trend-in-the-chemistry-of-ketengem-dithiol-reaction-and-transformations>)



Biography:

Salem E. Zayed Is a Lecturer at University of South Valley and his research field includes the Synthesis of some new sulfur