This study focus on synthesis of novel compounds as potential agents for the therapy of mycoses. The following four novel compounds were synthesized:

1-(4-(octylsulfanyl)-3-(trifluoromethyl)phenyl)guanidine,

1,1-dimethyl-3-(4-(octylsulfanyl)-3-(trifluoromethyl)phenyl)guanidine,

1-(4-(decylsulfanyl)-3-(trifluoromethyl)phenylguanidine,

3-(4-(decylsulfanyl)-3-(trifluoromethyl)phenyl-1,1-dimethylguanidine.

All intermediary and final crystalline products formed were thoroughly purified and characterized by Thin Layer Chromatography (TLC) and Melting points. Structures were elucidated on the basis of Infrared (IR) and Nuclear Magnetic Resonance (NMR) spectroscopy. 1-(4-(octylsulfanyl)-3-(trifluoromethyl)phenyl)guanidine was evaluated for in vitro antimicrobial activity on different fungal and bacterial strains.