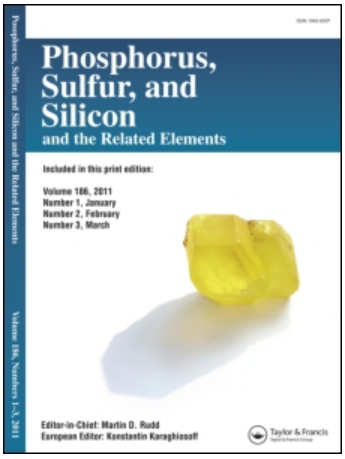

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Antibacterial and Antifungal Activity of Sulfur-Containing Compounds from *Petiveria Alliacea* L.

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Antibacterial and Antifungal Activity of Sulfur-Containing Compounds from *Petiveria Alliacea* L.

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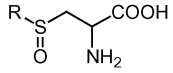
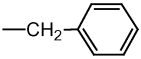
Department of Chemistry, State University of New York at Albany, Albany, USA

Eighteen organosulfur compounds originating from *Petiveria alliacea* L. roots have been tested for their antibacterial and antifungal activities.

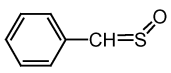
Nonvolatile precursors:



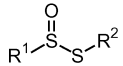
R = —CH_2–  (**1**)

—CH_2CH_2OH (**2**)

Primary products:



(**3**)



R^1 = —CH_2–  , R^2 = —CH_2CH_2OH (**4**)

R^1 = —CH_2CH_2OH, R^2 = —CH_2–  (**5**)

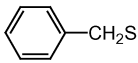
$R^1 = R^2$ = —CH_2–  (**6**) $R^1 = R^2$ = —CH_2CH_2OH (**7**)

Secondary products:

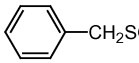
R^1—$(S)_n$—R^2 R^1 = —CH_2–  , R^2 = —CH_2CH_2OH, n = 1 (**9**), n = 2 (**12**), n = 3 (**15**)

$R^1 = R^2$ = —CH_2–  , n = 1 (**8**), n = 2 (**11**), n = 3 (**14**)

$R^1 = R^2$ = —CH_2CH_2OH, n = 1 (**10**), n = 2 (**13**), n = 3 (**16**)



(**17**)



(**18**)

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These represent compounds occurring in fresh homogenates as well as those present in various macerates, extracts, and other preparations made from *P. alliacea*. Of the compounds assayed, the thiosulfinates, trisulfides, and benzylsulfinic acid were observed to be the most active, with the benzyl-containing thiosulfinates exhibiting the broadest spectrum of antimicrobial activity. The effect of plant sample preparation conditions on the antimicrobial activity of the extract is discussed.