A New Germacranolide and a New Ceramide from *Salvia nubicola* (Lamiaceae)

Muhammad S. Ali\(^a\), Syed A. Ibrahim\(^a\), Shakeel Ahmed\(^a\), and Emil Lobkovsky\(^b\)

\(^a\) H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences (ICCBS), University of Karachi, Karachi-75270, Pakistan
\(^b\) Baker Laboratories, Cornell University, Ithaca, New York 14853-1301, USA

Reprint requests to Dr. Muhammad Shaiq Ali. Fax: (+92)-21-4819018.
E-mail: shaiq303@hotmail.com


The methanol-soluble part of *Salvia nubicola* has yielded a new germacranolide and a new ceramide named nubtrienolide and nubenamide, respectively. Structures of both the isolated constituents were elucidated with the aid of spectroscopic techniques; the nubtrienolide structure was further confirmed via single crystal X-ray diffraction analysis. Among both the metabolites, nubtrienolide showed strong growth inhibition against *Pseudomonas aeruginosa* while during phytotoxicity testing, the same compound promoted the growth of *Lemna minor* L. instead to inhibit it.

**Key words:** Nubtrienolide, Nubenamide, *Salvia nubicola*, X-Ray Crystallography, Bioactivity