SUPPLEMENTARY MATERIAL

Gracilone, a new sesquiterpene lactone from *Tanacetum gracile* (Tansies)

Gulzar A. Bhat ^{a,b}, Akbar Masood ^b, Bashir A. Ganai ^f, Baseerat Hamza ^c, Showkat Ganie ^c, Tasfi Shafi ^d, Ahmed Idris ^e, Abdul S. Shawl ^{a,*}, Mudasir A. Tantry ^{f,*}

^a *Natural Products Chemistry Division, CSIR-Indian Institute of Integrative Medicine, Srinagar, Kashmir 190005, India*

^b *Department of Biochemistry, University of Kashmir, Srinagar, Kashmir 190006, India*

^c *Department of Clinical Biochemistry, University of Kashmir, Srinagar, Kashmir 190006, India*

^d *Department of Zoology, MLB College, University of Bhopal, Bhopal 462026, India*

^e *Department of Pharmaceutical Sciences, Oregon State University, Corvallis, Oregon 97331, USA*

^f *Phytochemistry Laboratories, Centre of Research for Development, University of Kashmir, Srinagar, Kashmir 190006, India*

* Corresponding author. Tel.: + 91 0194 2431509; fax: + 91 0194 2441331

Email address: mudaek@gmail.com (Mudasir Tantry); asshawl@gmail.com (Abdul S. Shawl)

Abstract

The methanolic extract of the *Tanacetum gracile* afforded the isolation of new sesquiterpene lactone, named gracilone (**1**) along with four known compounds as 14 α -taraxeran-3-one (**2**), 14 α -taraxeran-3-ol (**3**), apigenin (**4**) and β -sitosterol (**5**). The structure of compound **1** was elucidated on the basis of 1D, 2D NMR and MS spectroscopic analysis. Antimicrobial, antioxidant and anticancer activities of all compounds were evaluated, from which gracilone (**1**) showed a moderate antibacterial activity, while as apigenin (**4**) showed comparatively more antibacterial activity against both gram- positive and gram-negative tested strains.

Keywords: *Tanacetum gracile*; Gracilone; Antibacterial; Antioxidant; Anticancer activity

Supplementary information

Fig. S1: Structure of compounds (2-5)

Fig. S2 Significant 2D NMR correlations of compound **1**

Supplementary information

Fig. S3: ^1H -NMR of compound **1**

Supplementary information

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Fig. S4: ^{13}C -NMR of compound **1**

Supplementary information

Fig. S5: DEPT 135° of compound **1**

Fig. S6: ^1H - ^1H COSY of Compound 1

Fig. S7: HSQC of Compound 1

Fig. S8: HMBC of Compound 1

Fig. S3: ESI-MS of compound 1

Fig. S9: Mass of Compound 1

Fig. S10: IR of compound **1**