

# Ketoisophorone Transformation by *Marchantia polymorpha* and *Nicotiana tabacum* Cultured Cells

Mohamed-Elamir F. Hegazy<sup>a,b,\*</sup>, Toshifumi Hirata<sup>b</sup>, Ahmed Abdel-Lateff<sup>c</sup>,  
Mohamed H. Abd El-Razek<sup>d</sup>, Abou El-Hamd H. Mohamed<sup>e</sup>, Nahed M. Hassan<sup>a</sup>,  
Paul W. Paré<sup>f</sup>, and Ahmed A. Mahmoud<sup>g</sup>

<sup>a</sup> Chemistry of Medicinal Plants Department, National Research Centre, Dokki, Cairo, Egypt. Fax: 20-23370931. E-mail: elamir77@yahoo.com

<sup>b</sup> Department of Mathematical and Life Sciences, Graduate School of Science, Hiroshima University, 1-3-1 Kagamiyama, Higashi-Hiroshima 739-8526, Japan

<sup>c</sup> Department of Pharmacognosy, Faculty of Pharmacy, El-Minia University, El-Minia 61519, Egypt

<sup>d</sup> Natural Products Chemistry Department, National Research Centre, Dokki, Cairo, Egypt

<sup>e</sup> Department of Chemistry, Aswan-Faculty of Science, South Valley University, Aswan, Egypt

<sup>f</sup> Department of Chemistry and Biochemistry, Texas Tech University, Lubbock, Texas 79409-1061, USA

<sup>g</sup> Department of Chemistry, Faculty of Science, El-Minia University, El-Minia 61519, Egypt

\* Author for correspondence and reprint requests

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Stereospecific olefin (C=C) and carbonyl (C=O) reduction of the readily available prochiral compound ketoisophorone (2,2,6-trimethyl-2-cyclohexene-1,4-dione) (**1**) by *Marchantia polymorpha* and *Nicotiana tabacum* cell suspension cultures produce the chiral products (6*R*)-levodione (**2**), (4*R*,5*S*)-4-hydroxy-3,3,5-trimethylcyclohexanone (**3**), and (4*R*,6*R*)-actinol (**4**) as well as the minor components (4*R*)-hydroxyisophorone (**5**) and (4*S*)-phorenol (**6**).

**Key words:** Cultured Plant Cells, Hydrogenation, Ketoisophorone