



**Melting Point:** Mp 154° (132°)  
**Optical Rotation:**  $[\alpha]_{\text{D}}^{20} +23.7$  (c, 0.18 in CHCl<sub>3</sub>).  $[\alpha]_{\text{D}}^{20} +183$  (c, 1.84 in CHCl<sub>3</sub>)

>>**Derivative:** 11β,13-Dihydro, Ac  
**Synonym(s):** Acetylbalchanolide

**Molecular Formula:** C<sub>17</sub>H<sub>24</sub>O<sub>4</sub>  
**Molecular Weight:** 292.374  
**Accurate Mass:** 292.16746  
**Percentage Composition:** C 69.84%; H 8.27%; O 21.89%  
**Biological Source:** Constit. of yarrow (*Achillea millefolium*)  
**Physical Description:** Cryst. (diisopropyl ether)  
**Melting Point:** Mp 125°  
**Optical Rotation:**  $[\alpha]_{\text{D}}^{20} +128.1$  (c, 3.8 in CHCl<sub>3</sub>)

>>**Variant:** (1(10)*E*,4*E*,6α,8β)-form  
**Synonym(s):** Eupatolide

**CAS Registry Number:** 6750-25-0

**Molecular Formula:** C<sub>15</sub>H<sub>20</sub>O<sub>3</sub>  
**Molecular Weight:** 248.321  
**Accurate Mass:** 248.141245  
**Percentage Composition:** C 72.55%; H 8.12%; O 19.33%  
**Biological Source:** Constit. of *Eupatorium formosanum* and *Eupatorium cannabinum*  
**Use/Importance:** Antineoplastic agent  
**Physical Description:** Cryst. (EtOAc/Et<sub>2</sub>O)  
**Melting Point:** Mp 187-188°  
**Optical Rotation:**  $[\alpha]_{\text{D}}^{22} +20$  (c, 0.011 in Me<sub>2</sub>CO)  
**Calculated Log P Data:** Log P 1.5 (calc)

>>**Derivative:** Ac  
**Synonym(s):** Epitulipinolide

**CAS Registry Number:** 24164-13-4

**Molecular Formula:** C<sub>17</sub>H<sub>22</sub>O<sub>4</sub>  
**Molecular Weight:** 290.358  
**Accurate Mass:** 290.15181  
**Percentage Composition:** C 70.32%; H 7.64%; O 22.04%  
**Biological Source:** Isol. from *Liriodendron tulipifera*  
**Use/Importance:** Antineoplastic agent  
**Physical Description:** Cryst. (petrol)  
**Melting Point:** Mp 91-92°  
**Optical Rotation:**  $[\alpha]_{\text{D}}^{25} +75$  (c, 3.2 in CHCl<sub>3</sub>)  
**Calculated Log P Data:** Log P 2.45 (calc)

>>**Derivative:** 8-(2-Hydroxymethyl-2*E*-butenoyl)

**CAS Registry Number:** 70550-00-4

**Molecular Formula:** C<sub>20</sub>H<sub>26</sub>O<sub>5</sub>  
**Molecular Weight:** 346.422  
**Accurate Mass:** 346.178025  
**Percentage Composition:** C 69.34%; H 7.56%; O 23.09%  
**Biological Source:** Constit. of *Eupatorium serotinum*  
**Physical Description:** Cryst. (MeOH)  
**Melting Point:** Mp 110°  
**Optical Rotation:**  $[\alpha]_{\text{D}}^{22} +47.5$  (c, 0.12 in CHCl<sub>3</sub>)