



**Molecular Formula:** C<sub>15</sub>H<sub>22</sub>O<sub>11</sub>  
**Molecular Weight:** 378.332  
**Accurate Mass:** 378.116215  
**Percentage Composition:** C 47.62%; H 5.86%; O 46.52%  
**Biological Source:** Constit. of *Macfadyena cinanoides*  
**Physical Description:** Amorph. powder  
**Optical Rotation:**  $[\alpha]_D^{28} -30$  (c, 2 in MeOH)

>> **Derivative:** 10-Hydroxy, 5-*O*-β-D-glucopyranoside  
**Synonym(s):** Calycinoside

**CAS Registry Number:** 75005-96-8

**Molecular Formula:** C<sub>21</sub>H<sub>32</sub>O<sub>16</sub>  
**Molecular Weight:** 540.474  
**Accurate Mass:** 540.16904  
**Percentage Composition:** C 46.67%; H 5.97%; O 47.36%  
**Biological Source:** Constit. of *Antirrhinum orontium*  
**Physical Description:** Amorph. powder  
**Optical Rotation:**  $[\alpha]_D -75$  (c, 0.8 in MeOH)

>> **Derivative:** 5-Epimer  
**Synonym(s):** Procumbide

**CAS Registry Number:** 20486-27-5

**Molecular Formula:** C<sub>15</sub>H<sub>22</sub>O<sub>10</sub>  
**Molecular Weight:** 362.333  
**Accurate Mass:** 362.1213  
**Percentage Composition:** C 49.72%; H 6.12%; O 44.16%  
**Biological Source:** Constit. of root of *Harpagophytum procumbens*  
**Physical Description:** Cryst. (EtOH)  
**Melting Point:** Mp 210-211°  
**Optical Rotation:**  $[\alpha]_D^{20} -80.9$  (c, 2.8 in EtOH)

>> **Derivative:** 5-Epimer, penta-Ac

**CAS Registry Number:** 35993-19-2  
**Molecular Formula:** C<sub>25</sub>H<sub>32</sub>O<sub>15</sub>  
**Molecular Weight:** 572.519  
**Accurate Mass:** 572.174125  
**Percentage Composition:** C 52.45%; H 5.63%; O 41.92%  
**Physical Description:** Cryst. (EtOH)  
**Melting Point:** Mp 136-137°  
**Optical Rotation:**  $[\alpha]_D^{20} -79$  (c, 0.7 in CHCl<sub>3</sub>)

>> **Derivative:** 5-Epimer, 6'-*O*-(4-hydroxycinnamoyl)  
**Synonym(s):** 6'-*O*-*p*-Coumaroylprocumbide

**CAS Registry Number:** 87686-76-8

**Molecular Formula:** C<sub>24</sub>H<sub>28</sub>O<sub>12</sub>  
**Molecular Weight:** 508.478  
**Accurate Mass:** 508.15808  
**Percentage Composition:** C 56.69%; H 5.55%; O 37.76%  
**Biological Source:** Constit. of roots of *Harpagophytum procumbens*  
**Physical Description:** Hygroscopic powder  
**Optical Rotation:**  $[\alpha]_D^{22} -58.2$  (c, 0.78 in MeOH)