



**Synonym(s):** Malvidin 5-glucoside 3-rhamnoside

**CAS Registry Number:** 53925-29-4

**Molecular Formula:**  $C_{29}H_{35}O_{16}^{(+)}$

**Molecular Weight:** 639.586

**Accurate Mass:** 639.192515

**Percentage Composition:** C 54.46%; H 5.52%; O 40.02%

**Biological Source:** Isol. from *Lathyrus* spp. and *Pisum* spp.

>>**Derivative:** 3-*O*-β-D-Galactopyranoside

**Synonym(s):** Primulin. Uliginosin

**CAS Registry Number:** 30113-37-2

**Molecular Formula:**  $C_{23}H_{25}O_{12}^{(+)}$

**Molecular Weight:** 493.443

**Accurate Mass:** 493.134605

**Percentage Composition:** C 55.98%; H 5.11%; O 38.91%

**Biological Source:** Isol. from many plant spp.

**Use/Importance:** Antibacterial agent

**Physical Description:** Bronze needles or prisms +  $5\frac{1}{2}H_2O$  (MeOH/HCl) (as chloride)

**Sigma:** P7522

>>**Derivative:** 3-*O*-β-D-Glucopyranoside

**Synonym(s):** Malvidin 3-glucoside. Oenin. Ligulin. Enin. Enoside

**CAS Registry Number:** 7228-78-6

**Molecular Formula:**  $C_{23}H_{25}O_{12}^{(+)}$

**Molecular Weight:** 493.443

**Accurate Mass:** 493.134605

**Percentage Composition:** C 55.98%; H 5.11%; O 38.91%

**Biological Source:** Pigment of skins of black grapes, also in other plants

**Physical Description:** Violet cryst. with yellow metallic cast by transmitted light, bronze by reflected light (as chloride)

**Optical Rotation:**  $[\alpha]_D -421$  (0.1% HCl aq.)

>>**Derivative:** 3-*O*-β-D-Glucopyranoside, 5-*O*-(2-*O*-sulfo-β-D-glucopyranoside)

**CAS Registry Number:** 160206-01-9

**Molecular Formula:**  $C_{29}H_{35}O_{20}S^{(+)}$

**Molecular Weight:** 735.649

**Accurate Mass:** 735.144245

**Percentage Composition:** C 47.35%; H 4.80%; O 43.50%; S 4.36%

**Biological Source:** Constit. of the flowers of *Babiana stricta*

>>**Derivative:** 3-*O*-β-D-Glucopyranoside, 5-*O*-(6-*O*-acetyl-β-D-glucopyranoside)

**CAS Registry Number:** 190908-38-4

**Molecular Formula:**  $C_{31}H_{37}O_{18}^{(+)}$

**Molecular Weight:** 697.623

**Accurate Mass:** 697.197995

**Percentage Composition:** C 53.37%; H 5.35%; O 41.28%

**Biological Source:** Constit. of *Geranium* var. Johnson's Blue, *Pelargonium* spp. and others

>>**Derivative:** 3-*O*-β-D-Glucopyranoside, 5-*O*-(6-*O*-malonyl-β-D-glucopyranoside)

**CAS Registry Number:** 160206-02-0

**Molecular Formula:**  $C_{32}H_{37}O_{20}^{(+)}$

**Molecular Weight:** 741.632

**Accurate Mass:** 741.187825

**Percentage Composition:** C 51.83%; H 5.03%; O 43.15%

**Biological Source:** Constit. of the flowers of *Babiana stricta*