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Novel and Efficient Synthesis of Cyanidin 3-*O*-β-D-Glucoside from (+)-Catechin via a Flav-3-en-3-ol as a Key Intermediate

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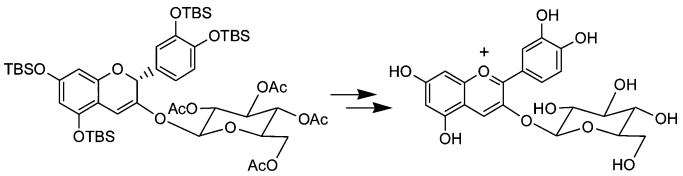
ABSTRACT



flav-3-en-3-ol 3-*O*-glucoside **8** cyanidin 3-*O*-β-D-glucoside (**1**)

A novel and efficient synthesis of cyanidin 3-*O*-β-D-glucoside (1) was accomplished the first time by a biomimetic oxidation route. From (+)-catechin, 3-OH was glucosylated, and the 4-position of the nucleus was then oxidized and dehydrated to give the 5,7,3′,4′-tetra-*O*-(*tert*-butyldimethylsilyl)flav-3-en-3-ol 3-*O*-glucoside (8) as a key intermediate. 8 was deprotected and oxidized under air in hydrogen chloride–MeOH to give 1.

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