

Supporting Information

Convenient Synthesis of Aryloxyalkyl Esters from Phenolic Esters Using Halogenated Alcohol

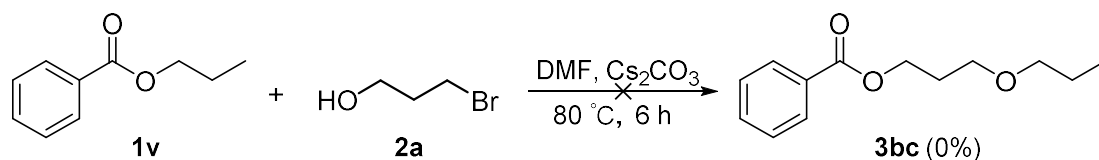
Preparation of acetate flavonoids

5-hydroxy-4-oxo-2-phenyl-4H-chromene-6,7-diyl diacetate (6,7-diacetyl baicalein). A mixture of baicalein (1 g, 3.7 mmol) and sodium acetate (759 mg, 9.3 mmol, 2.5 equiv) were loaded into a flask (50 mL) under atmosphere of argon. Acetic anhydride (20 mL) was then added. The mixture was heated at 70 °C for 5 h and then the reaction mixture was concentrated under reduced pressure. 20 mL of EtOAc and 20 mL of water were added. The organic layer was separated and the aqueous layer was extracted with EtOAc (3 × 20 mL), and the combined organic layers were dried over anhydrous Na₂SO₄, and filtration and removal of solvent under vacuum. The crude material was purified by column chromatography (DCM: MeOH 100:1) to afford 6,7-diacetyl baicalein as slightly yellow solids (903 mg, 69%). ¹H NMR (300 MHz, CDCl₃, δ ppm): 12.83 (s, 1H, -OH), 7.92 (d, *J* = 8.1 Hz, 2H), 7.49-7.57 (m, 3H), 6.67 (s, 1H), 6.49 (s, 1H), 2.17 (s, 3H), 2.14 (s, 3H); MS (ESI): *m/z* = 353.1 [M-H]⁻; R_f = 0.5 (DCM: MeOH 50:1).

5,6-dihydroxy-4-oxo-2-phenyl-4H-chromen-7-yl acetate (7-acetyl baicalein). A mixture of baicalein (1 g, 3.7 mmol) and sodium acetate (303 mg, 3.7 mmol, 1.0 equiv) were loaded into a flask (50 mL) under atmosphere of argon. Acetic anhydride (20 mL) was then added. The mixture was heated at 60 °C for 3 h and then the reaction mixture was concentrated under reduced pressure. 20 mL of EtOAc and 20 mL of water were added. The organic layer was separated and the aqueous layer was extracted with EtOAc (3 × 20 mL), and the combined organic layers were dried over anhydrous Na₂SO₄, and filtration and removal of solvent under vacuum. The crude material was purified by column chromatography (DCM: MeOH 80:1) to afford 7-acetyl baicalein as yellowish solids (842 mg, 73%). ¹H NMR (300 MHz, CDCl₃, δ ppm): 12.79 (s, 1H, -OH), 8.93 (s, 1H, -OH), 7.96 (d, *J* = 8.2 Hz, 2H), 7.50-7.59 (m, 3H), 6.57 (s, 1H), 6.38 (s, 1H), 2.20 (s, 3H); MS (ESI): *m/z* = 353.1 [M-H]⁻; R_f = 0.6 (DCM: MeOH 30:1).

5-hydroxy-8-methoxy-4-oxo-2-phenyl-4H-chromen-7-yl acetate (7-acetyl wogonin). A mixture of wogonin (568 mg, 2 mmol) and sodium acetate (213 mg, 2.6 mmol, 1.3 equiv) were loaded into a flask (25 mL) under atmosphere of argon. Acetic anhydride (10 mL) was then added. The mixture was heated at 70 °C for 3 h and then the reaction mixture was concentrated under reduced pressure. 10 mL of EtOAc and 10 mL of water were added. The organic layer was separated and the aqueous layer was extracted with EtOAc (3 × 10 mL), and the combined organic layers were dried over anhydrous Na₂SO₄, and filtration and removal of solvent under vacuum. The crude material was purified by column chromatography

(DCM: MeOH 100:1) to afford 7-acetyl wogonin as yellowish solids (528 mg, 81%).
¹H NMR (300 MHz, CDCl₃, δ ppm): 12.63 (s, 1H, -OH), 7.94 (d, *J* = 7.9 Hz, 2H), 7.55-7.59 (m, 3H), 6.63 (s, 1H), 6.49 (s, 1H), 3.89 (s, 3H, -OCH₃), 2.13 (s, 3H); MS (ESI): *m/z* = 325.2 [M-H]; *R*_f = 0.5 (DCM: MeOH 50:1).



Scheme s1. Standard conditions: alkyl ester (**1v**, 82 mg, 0.5 mmol), 3-bromo-1-propanol (**2a**, 48 μL, 0.525 mmol), Cs₂CO₃ (489 mg, 1.5 mmol), 80 °C in DMF (1.5 mL) for 6 hrs under an Ar atmosphere. Isolated yields.

NMR spectra:

