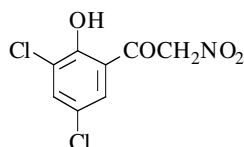


Chapter 8. Compounds derived from nitroacetic acids**1-(3,5-Dichloro-2-hydroxyphenyl)-2-nitroethanone**

[60795-15-5]

C₈H₅Cl₂NO₄

mol.wt. 250.04

**Synthesis**

-Preparation by treatment of 6,8-dichloro-4-hydroxy-3-nitro-coumarin with 4% potassium hydroxide solution at r.t. for 24 h (85%) [1221].

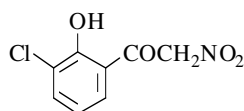
m.p. 137° [1221]; IR [1221].

1-(3-Chloro-2-hydroxyphenyl)-2-nitroethanone

[60795-09-7]

C₈H₆ClNO₄

mol.wt. 215.59

**Synthesis**

-Preparation by treatment of 8-chloro-4-hydroxy-3-nitro-coumarin with 4% potassium hydroxide solution at r.t. for 24 h (83%) [1221].

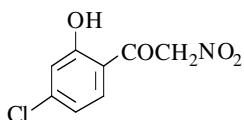
m.p. 103° [1221]; IR [1221].

1-(4-Chloro-2-hydroxyphenyl)-2-nitroethanone

[60795-11-1]

C₈H₆ClNO₄

mol.wt. 215.59

**Synthesis**

-Preparation by treatment of 7-chloro-4-hydroxy-3-nitro-coumarin with 4% potassium hydroxide solution at r.t. for 24 h (73%) [1221].

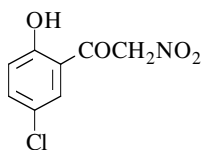
m.p. 117-118° [1221]; IR [1221].

1-(5-Chloro-2-hydroxyphenyl)-2-nitroethanone

[60795-14-4]

C₈H₆ClNO₄

mol.wt. 215.59

**Syntheses**

-Preparation by treatment of 6-chloro-4-hydroxy-3-nitro-coumarin with 4% potassium hydroxide solution at r.t. for 24 h (65%) [1221].
-Also refer to: [1134].

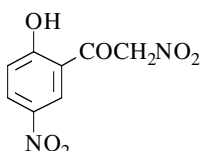
m.p. 112° [1221]; IR [1221].

1-(2-Hydroxy-5-nitrophenyl)-2-nitroethanone

[59507-91-4]

C₈H₆N₂O₆

mol.wt. 226.15

**Synthesis**

-Preparation by heating a solution of 3,6-dinitro-4-hydroxy-coumarin (m.p. 188°) in 10% aqueous sodium hydroxide at 65° for 2 h, then cooling and acidification with hydrochloric acid (91%) [145].

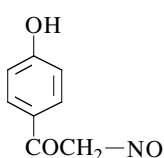
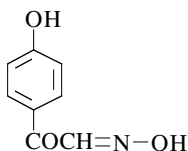
m.p. 160° [145]; ¹H NMR [145].

1-(4-Hydroxyphenyl)-2-nitrosoethanone

[143527-88-2]

C₈H₇NO₃

mol.wt. 165.15

**Synthesis**

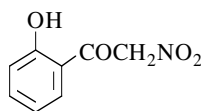
-Refer to: [1427].

1-(2-Hydroxyphenyl)-2-nitroethanone

[29378-60-7]

C₈H₇NO₄

mol.wt. 181.15

**Syntheses**

-Preparation by alkaline degradation of 4-hydroxy-3-nitro-coumarin [1407] — m.p. 177° (d) — with 5% sodium hydroxide,

*for 1.5 h at 50-60° (95%) [145];

*for 24 h at 20°, (79%) [664], (75%) [1221].

-The same compound was isolated in reactions of either some *coumarins* or some *chromenes* with 5% sodium hydroxide for 1 h at r.t. or by heating at 90-95° (70-90%) [584]:

coumarins:

3-nitro-4-(pyridylamino)coumarin	m.p. 224-225°
3-nitro-4-(3-methyl-2-pyridylamino)coumarin	m.p. 227-229°
3-nitro-4-(4-methyl-2-pyridylamino)coumarin	m.p. 243-244°
3-nitro-4-(5-methyl-2-pyridylamino)coumarin	m.p. 225-226°
3-nitro-4-(6-methyl-2-pyridylamino)coumarin	m.p. 250-252°

chromenes:

2-Hydroxy-3-nitro-4-(3-methyl-2-pyridylimino)-4 <i>H</i> -chromene	m.p. 245-246°
2-Hydroxy-3-nitro-4-(4-methyl-2-pyridylimino)-4 <i>H</i> -chromene	m.p. 250-252°
2-Hydroxy-3-nitro-4-(5-methyl-2-pyridylimino)-4 <i>H</i> -chromene	m.p. 233-234°
2-Hydroxy-3-nitro-4-(6-methyl-2-pyridylimino)-4 <i>H</i> -chromene	m.p. 274-275°

-Also refer to: [336] [552] [1045] [1134] [1135] [1220].

m.p. 106-107° [664], 106° [145], 105-106° [1221], 96-97° [584];

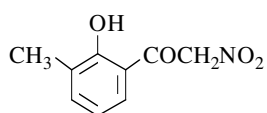
¹H NMR [145] [584] [1221], IR [145] [584] [1221].

1-(2-Hydroxy-3-methylphenyl)-2-nitroethanone

[60795-08-6]

C₉H₉NO₄

mol.wt. 195.17



Synthesis

-Preparation by treatment of 4-hydroxy-8-methyl-3-nitro-coumarin with 4% potassium hydroxide solution at r.t. for 24 h (80%) [1221].

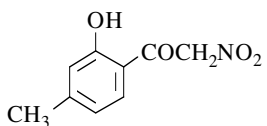
m.p. 126° [1221]; ¹H NMR [1221], IR [1221].

1-(2-Hydroxy-4-methylphenyl)-2-nitroethanone

[60795-10-0]

C₉H₉NO₄

mol.wt. 195.17



Synthesis

-Preparation by treatment of 4-hydroxy-7-methyl-3-nitro-coumarin with 4% potassium hydroxide solution at r.t. for 24 h (72%) [1221].

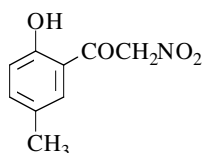
m.p. 114° [1221]; IR [1221].

1-(2-Hydroxy-5-methylphenyl)-2-nitroethanone

[60795-13-3]

C₉H₉NO₄

mol.wt. 195.17



Syntheses

-Preparation by treatment of 4-hydroxy-6-methyl-3-nitro-coumarin with 4% potassium hydroxide solution at r.t. for 24 h (88%) [1221].
-Also refer to: [1134] [1135] [1136].

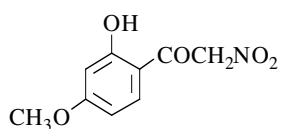
m.p. 134° [1221]; ¹H NMR [1221], IR [1221].

1-(2-Hydroxy-4-methoxyphenyl)-2-nitroethanone

[60795-12-2]

C₉H₉NO₅

mol.wt. 211.17



Syntheses

-Preparation by treatment of 4-hydroxy-7-methoxy-3-nitro-coumarin with 4% potassium hydroxide solution at r.t. for 24 h (76%) [1221].
-Also refer to: [336] [1021].

m.p. 140° [1221]; IR [1221].