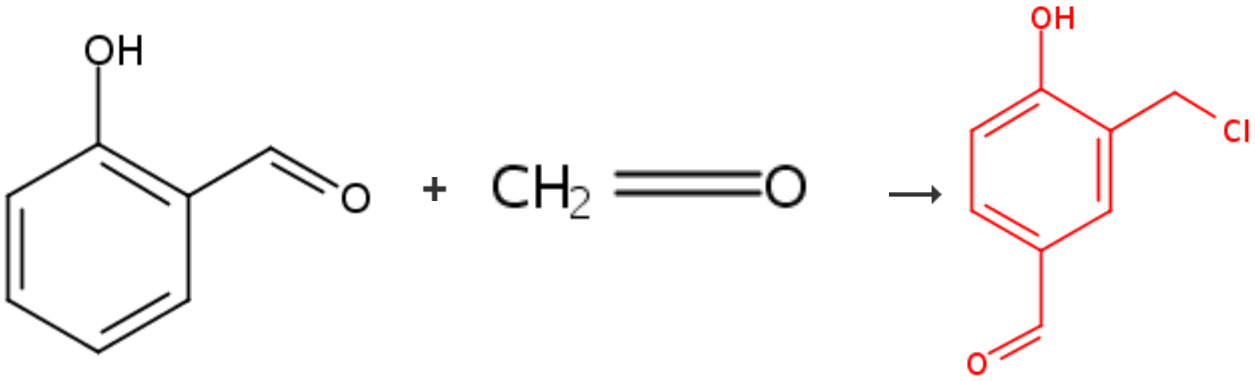
1. Single Step



73%

Overview

Steps/Stages

1.1 R:HCl, 48 h, rt

Notes

sealed flask used, paraformaldehyde used, Reactants: 2, Reagents: 1, Steps: 1, Stages: 1, Most stages in any one step: 1

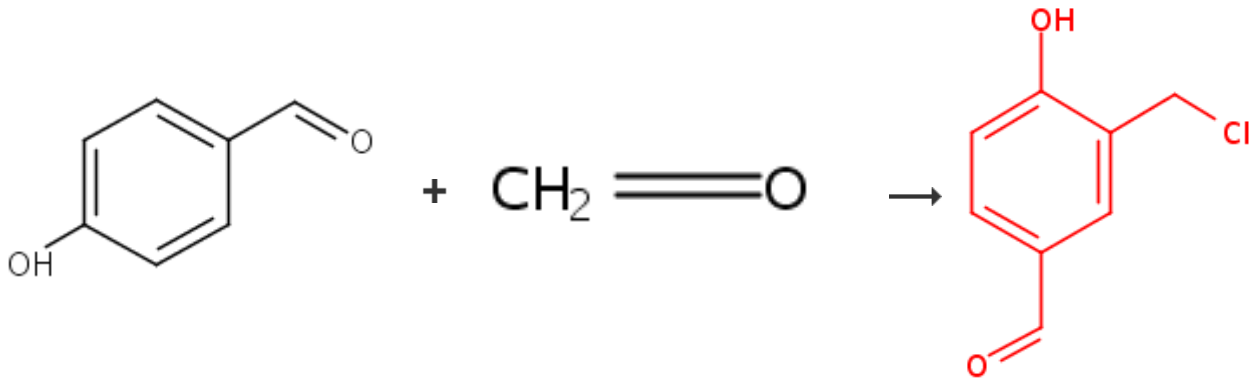
References

Synthesis and fluorescence properties of a new fluorescent compound for determination of Co2+ selectively

By Li, Rui-ji et al

From Jingxi Huagong Zhongjianti, 43(5), 46-50; 2013

2. Single Step



56%

Overview

Steps/Stages

Notes

1.1 R:

Cl

S:H_2O

Reactants: 2, Reagents: 1, Solvents: 1, Steps: 1, Stages: 1, Most stages in any one step: 1

References

Diastereoselective oxy-Michael addition of a new chiral water equivalent to electron deficient alkenes - Synthesis of 1,2-amino alcohols and beta-hydroxy malonates

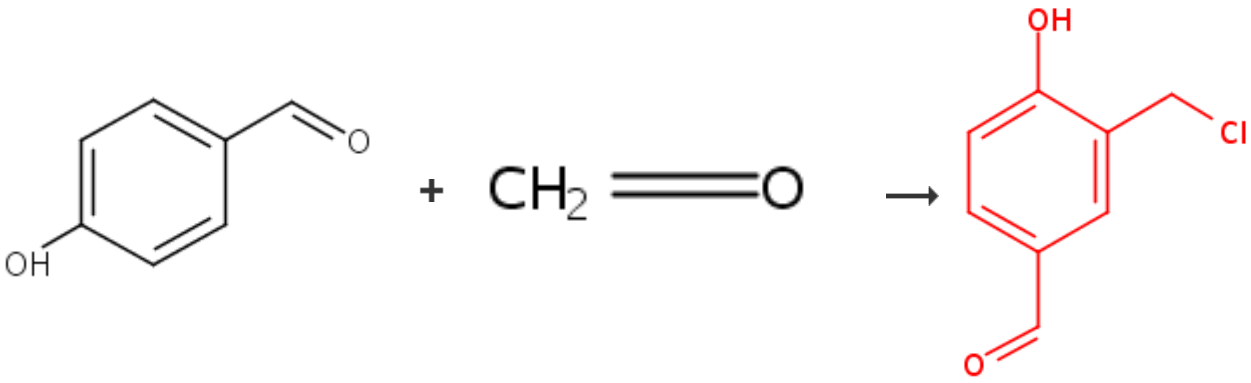
By Buchanan, David Jonathan

From null, , No pp.; 2005

Experimental Procedure

3-Chloromethyl-4-hydroxy benzaldehyde, 174: To a stirring solution of HCl (153 mL, 10.2 N, 1.56 mol) and formaldehyde (17 mL, 40 % w/w aq. soln.) at rt was added 4-hydroxy benzaldehyde 173 (23.2 g, 0.19 mol). The reaction mixture was stirred at 65 degC for 3.5 hours before the resulting pink precipitate was filtered and washed with water (20 mL). Water (20 mL) and EtOAc (40 mL) were added and the aqueous layer was separated and extracted with EtOAc (3 x 40 mL. The combined organic layers were washed with brine (15 mL), dried with MgSO4, filtered and concentrated in vacuo. Purification by trituration with DCM (60 mL) gave the title compound 174 (18.3 g, 56 %) as a white solid.

3. Single Step



56%

Overview

Steps/Stages

1.1 R:HCl, S:H_2O, 3.5 h, 65°C

Notes

Reactants: 2, Reagents: 1, Solvents: 1, Steps: 1, Stages: 1, Most stages in any one step: 1

References

A short stereoselective synthesis of (R)-salmeterol

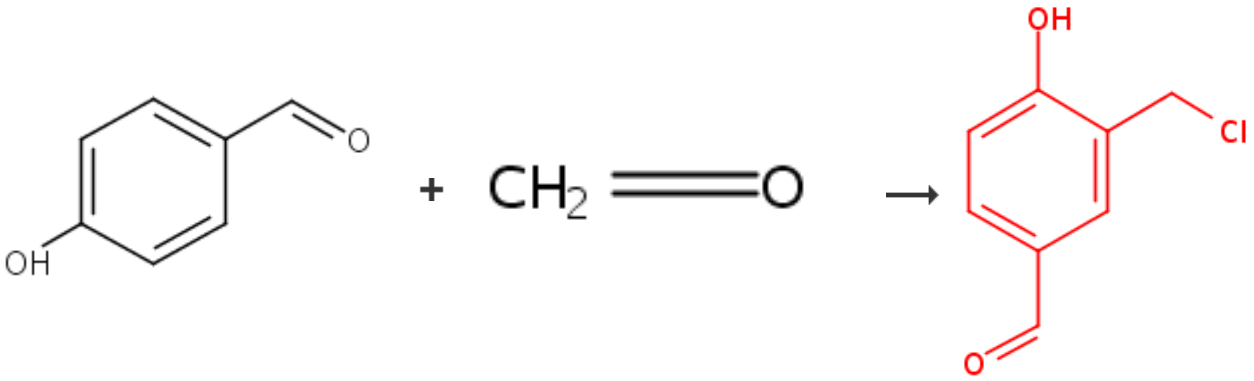
By Buchanan, David J. et al

From Synlett, (12), 1948-1950; 2005

Experimental Procedure

The synthesis of the key Michael acceptor required four steps beginning from 4-hydroxybenzaldehyde (**5**). First, chloromethylation using formaldehyde and concentrated hydrochloric acid at 65 °C for 3.5 hours afforded thechloromethyl arene **6** in 56% yield.

4. Single Step



Overview

Steps/Stages

1.1 R:HCl, S:H_2O, 10 h, 20-25°C

Notes

regioselective, paraformaldehyde used, Reactants: 2, Reagents: 1, Solvents: 1, Steps: 1, Stages: 1, Most stages in any one step: 1

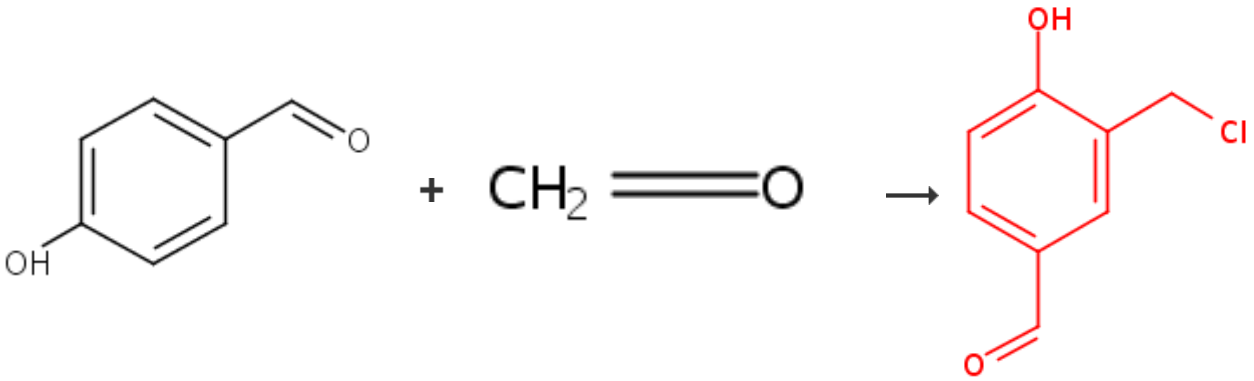
References

Process for synthesizing salbutamol and its sulfate salt via chloromethylation, hydrolysis, propylidene protection, epoxidation, aminolysis ring-opening reaction, deprotection of propylidene, and salification

By Yang, Qiaoming

From Faming Zhuanli Shenqing, 103951568, 30 Jul 2014

5. Single Step



Overview

Steps/Stages

Notes

1.1 R:HCl, R:H_2SO_4

paraformaldehyde used, literature prepn., gaseous HCl used, Reactants: 2, Reagents: 2, Steps: 1, Stages: 1, Most stages in any one step: 1

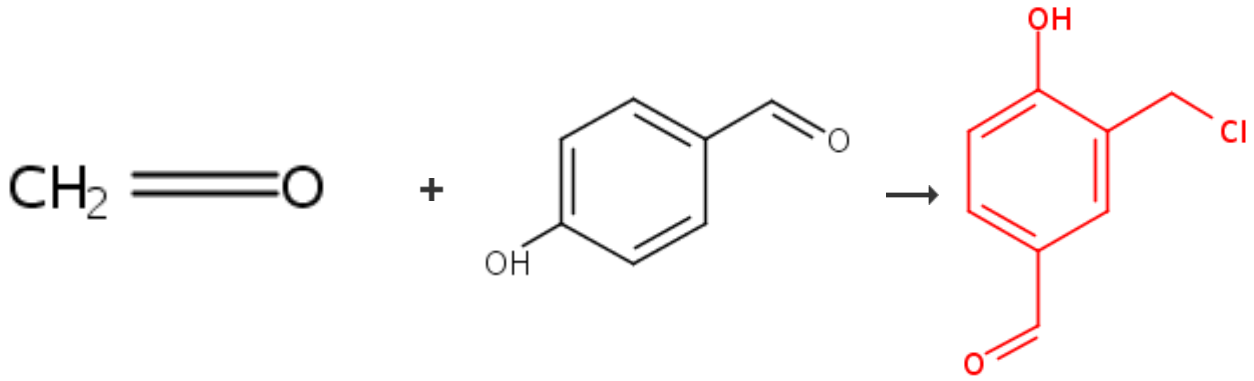
References

Enantioselective synthesis of (R)-salmeterol employing an asymmetric Henry reaction as the key step

By Guo, Zong-Liang et al

From Tetrahedron: Asymmetry, 22(13), 1395-1399; 2011

6. Single Step



Overview

Steps/Stages

1.1

Notes

Reactants: 2, Steps: 1, Stages: 1, Most stages in any one step: 1

References

Preparation of phosphorylated derivatives of L-DOPA and compositions and methods for increasing the melanin content in mammalian skin and hair

By Pawelek, John M. and Osber, Michael P.

From PCT Int. Appl., 9012016, 18 Oct 1990