

### Reaction of phloroglucinol with sodium borohydride

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PHLOROGLUCINOL, on treatment with an excess of sodium borohydride in aqueous solution, is converted into resorcinol. The reaction presumably occurs by initial reduction of the phloroglucinol to the dihydro compound, followed by dehydration.

Catechol, resorcinol, quinol, pyrogallol, and  $\beta$ -naphthol were unchanged after similar treatment with sodium borohydride.

#### EXPERIMENTAL

A solution of phloroglucinol dihydrate (2.3 g) in water (100 ml) was added during 30 min to a stirred solution of sodium borohydride (3.1 g) in water (20 ml). The stirring was continued for a further  $1\frac{1}{2}$  hr, and then the excess of sodium borohydride was decomposed by the cautious addition of dilute hydrochloric acid. The resulting aqueous solution was evaporated under reduced pressure, and the residue was extracted with benzene in a Soxhlet apparatus for 12 hr to give, after evaporation of the solvent, crude resorcinol (1.4 g, 90 per cent), m.p.  $100-107^\circ$ ; recrystallisation from benzene afforded a pure specimen, m.p. and mixed m.p.  $109-110^\circ$ . The dibenzoate had m.p.  $117-117.5^\circ$ , undepressed on admixture with an authentic specimen.

In similar experiments with catechol, resorcinol, quinol, pyrogallol and  $\beta$ -naphthol, the starting materials were recovered in 80-90 per cent yields. The experiment with  $\beta$ -naphthol was carried out at the reflux temperature.

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