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### A CONVENIENT PROCEDURE FOR THE PREPARATION OF 2-BROMO-1-PHENYLETHANOL

S. S. Bhosale<sup>a</sup>; P. L. Joshi<sup>a</sup>; A. S. Rae<sup>ab</sup>

<sup>a</sup> National Chemical Laboratory, Pune, INDIA <sup>b</sup> Indian Institute of Chemical Technology, Hyderabad, INDIA

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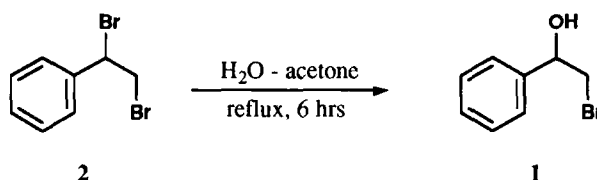
**A CONVENIENT PROCEDURE FOR THE PREPARATION OF  
2-BROMO-1-PHENYLETHANOL<sup>8</sup>**

Submitted by  
(07/16/92)

S. S. Bhosale, P. L. Joshi and A. S. Rao<sup>††</sup>

National Chemical Laboratory, Pune 411008, INDIA

2-Bromo-1-phenylethanol (**1**) is a useful intermediate in organic synthesis.<sup>1-3</sup> It can be converted to the antibiotic chloramphenicol *via*  $\beta$ -bromostyrene.<sup>4-6</sup> In connection with some synthetic studies, large amounts of **1** were needed and we have found the normally used method,<sup>2,7</sup> employing reaction of styrene with N-bromosuccinimide in moist DMSO to be unsatisfactory for the preparation of **1**, since the yields are moderate; a different route<sup>1</sup> based on the reaction of styrene with Br<sub>2</sub>-KBr-H<sub>2</sub>O also furnishes the bromohydrin **1** in moderate yields. We now report that heating dibromide **2** in aqueous acetone results in selective solvolysis of the benzylic bromine to furnish the bromohydrin **1** in 93% yield;<sup>8</sup> the dibromide **2** has been prepared quantitatively from styrene according to a known method.<sup>9</sup>



**EXPERIMENTAL SECTION**

IR spectra were recorded on a Perkin-Elmer 599B infrared spectrophotometer. <sup>1</sup>H NMR spectra were obtained on a Varian T-60 instrument with TMS as internal standard. Bps are uncorrected.

**2-Bromo-1-phenylethanol (1).**- A mixture of dibromide **2** (5.5 g, 2.08 mmol),<sup>9</sup> acetone (30 mL) and water (140 mL) was heated under reflux for 6 hrs. Most of the acetone was removed on a rotary evaporator. The residue was diluted with water (100 mL) and extracted with ether (50 mL x 3). The combined ethereal extracts were washed with water (50 mL x 2) and dried (Na<sub>2</sub>SO<sub>4</sub>). The residue obtained after evaporation of solvent was distilled *in vacuo* to furnish 3.91 g (93% yield) of bromohydrin **1**, bp. 110-111°/2 mm, (lit<sup>7</sup> bp. 110-111°/2 mm). <sup>1</sup>H NMR (CCl<sub>4</sub>):  $\delta$  3.17 (1H, s, OH disappears after D<sub>2</sub>O exchange), 3.40 (2H, m, -CH<sub>2</sub>Br), 4.77 (1H, dd, *J* = 4, 8Hz, -CHOH), 7.27 (5H, s, Ar-H). The identity of the solvolysis product was further confirmed by comparing its IR spectrum and TLC behavior with those of an authentic sample of **1**.<sup>7</sup>

We have also observed that the bromohydrin **1** can be prepared in 93% yield if acetone is replaced by methyl ethyl ketone or dioxane.

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† Present address: Indian Institute of Chemical Technology, Hyderabad 500007, INDIA

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## A CONVENIENT PREPARATION OF 4-CYCLOPROPYLPHENOL

Submitted by Bruce W. Horrom and H. Mazdiyasi\*  
(05/26/92)

*Process Research, Pharmaceutical Products Division  
Abbott Laboratories, D-45LJAP10, Abbott Park, IL 60064*

4-Cyclopropylphenol, an important intermediate<sup>1</sup> for the synthesis of agricultural and pharmaceutical products, has been obtained by a variety of reported methods<sup>2,3</sup> which however, are inefficient and low yielding. We now describe a variant of the Boissier<sup>3</sup> procedure which provides a facile and direct route to the title compound in an overall yield of 86% from 4-cyclopropylacetophenone with