

## COMMENTS

BULLETIN OF THE CHEMICAL SOCIETY OF JAPAN, VOL. 48 (5), 1684 (1975)

### Products of the Palladium-catalyzed Dehydrogenation of *o*-Cyclohexylphenol. A Correction

Kimiaki IMAFUKU

*Department of Chemistry, Faculty of Science, Kumamoto University, Kurokami, Kumamoto 860*

(Received November 18, 1974)

Previously, we reported,<sup>1)</sup> on the basis of vpc analysis, that the dehydrogenation of *o*-cyclohexylphenol (I) over palladium-on-charcoal gave *o*-phenylphenol (II), dibenzofuran (III), and diphenyl ether (IV'). However, we have now confirmed that the structure of the compound which was previously assumed to be diphenyl ether (IV') is really diphenyl (IV); confirmation was made by its isolation and on the basis of its spectral data. It was found that the diphenyl was produced by the hydrogenolysis of *o*-phenylphenol (II) in the presence of the same catalyst.

The procedure was as follows. A mixture of *o*-cyclohexylphenol (I) (5 g) and 5% palladium-on-charcoal (1 g) was heated at 220–230 °C for 3 hr under a nitrogen atmosphere. The reaction mixture was then dissolved in benzene, and the catalyst was filtered off.

The filtrate was chromatographed on a silica gel column (Wakogel C-100, 500 g) with chloroform. The resulting solid from the first fraction was recrystallized from ethanol, giving diphenyl (IV) (370 mg, 8.5%) (mp 69–70 °C (mixed mp 68.5–70 °C)). Its spectral data were also consistent with those of the authentic material.

In addition, a mixture of *o*-phenylphenol (II) (2 g) and 5% palladium-on-charcoal (0.4 g) was heated at 220–230 °C for 3 hr under a hydrogen atmosphere and treated such as above, thus giving diphenyl (IV) (260 mg, 14%).

#### Reference

- 1) H. Matsumura, K. Imafuku, I. Takano, and S. Matsuura, *This Bulletin*, **44**, 567 (1971).