

UNITED STATES PATENT OFFICE.

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PHENYLETHYLCYANOACETIC ESTER.

1,036,625.

Specification of Letters Patent.

Patented Aug. 27, 1912.

No Drawing.

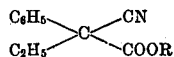
Application filed January 31, 1912. Serial No. 674,474.

To all whom it may concern:

Be it known that I, HEINRICH HÖRLEIN, doctor of philosophy, chemist, citizen of the German Empire, residing at Vohwinkel, near Elberfeld, Germany, have invented new and useful Improvements in Phenylethylcyanoacetic Ester, of which the following is a specification.

I have found that the hitherto unknown phenylethylcyano-acetic esters can be obtained by treating the phenylcyano-acetic esters with ethylbromid. The new esters are valuable intermediate products for the production of substituted barbituric acids which are valuable therapeutic compounds. Upon treatment with caustic alkali they are split up into alcohols and a mixture of phenylethylmalonic acid and phenylethylacetic acid.

The esters of the present invention have the following formula:



(R=alkyl, aralkyl, aryl).

In order to illustrate the new process more fully the following example is given, the parts being by weight:—189 parts of phenylcyanoacetic ester



and 120 parts of ethyl bromid (BrC_2H_5)

are added to a solution of 23 parts of sodium in 300 parts of alcohol (free from water). The resulting mixture is then heated to boiling in a vessel provided with a reflux condenser until the liquid shows a neutral reaction to lacmus. The liquid is filtered, the alcohol is distilled off and the ester is isolated in the usual way. The new phenylethylcyanoacetic ethyl ester is a limpid oil boiling at 155°C . under a pressure of 18 mm.

I claim:—

1. As new products, the phenylethylcyanoacetic esters being liquids which are split up by the action of caustic alkali into alcohols and a mixture of phenylethylmalonic acid with phenylethylacetic acid, substantially as described.

2. As a new product, the phenylethylcyanoacetic ethyl ester, being a limpid oil boiling at 155°C . under a pressure of 18 mm. and split up by the action of caustic alkali into alcohol and a mixture of phenylethylmalonic acid and phenylethylacetic acid, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HEINRICH HÖRLEIN. [L. s.]

Witnesses:

HELEN NUFER,
A. NUFER.