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### Title

Thermal **decarboxylation** of .alpha.-amino acids. II

### Author

Chatelus, Georges

### Organization

Ecole Natl. Super. Chim., Clermont-Ferrand

### Publication Source

Bulletin de la Societe Chimique de France (1965), (4), 929-33

### Identifier-CODEN

BSCFAS

### ISSN

0037-8968

### Abstract

cf. CA 62, 5331d. Amino acids (5 g.) suspended in 50 ml. of an inert solvent (C13to C18 paraffins, squalane, dodecene, dodecylbenzene, .alpha.-methyl-naphthalene, tetralin, decalin) were decarboxylated after 4-8 hrs. of reflux in the presence of 2% of a catalyst (tetralin or decalin peroxides, tetralone, cyclohexanone, acetophenone), to give the corresponding amines in 50-90% yield. Similarly, an amino acid suspension in a high boiling ketone (nonanone, cyclo-hexanone, acetophenone, 2-, 3-, and 4-methylecyclohexanone, p-methylacetophenone, benzyl methyl ketone, propiophenone, benzophenone) yielded by decarboxylation, a Schiff base which was hydrolyzed in 3N HCl to regenerate the ketone and to give the amine-HCl. But some amino acids (isovaline, .alpha.-**phenylalanine**, .alpha.-aminoisobutyric acid, 1-aminocyclohexanecarboxylic acid) underwent transamination with the ketone; N,N-dialkyl amino acids were not decarboxylated at all. In this fashion, from isovaline and p-methylacetophenone, p-methylphenylethylamine (I) was obtained, I-HCl m. 161°, I-picrate m. 199° I-phenyl-thiourea m. 120°. In the presence of anisaldehyde, leucine was quant, decarboxylated to isoamylamine, while isovaline gave a quant, p-methoxybenzylamine and butanone. During the course of this latter decarboxylation, the Schiff base (b12 225-7°) formed between p-methoxybenzylamine and anisaldehyde, and anisoin, m. 110°, were isolated.

### Document Type

Journal

### Language

French

### IT Related Fields

#### Indexing

##### Concept Group

##### Concept Heading

Amino acids

**Text Modification**

(carboxyl group removal from, by heat)

**IT Related Fields****Indexing****Concept Group****Concept Heading**

Carboxyl group

**Text Modification**

(removal of, from amino acids by heat)

**IT Related Fields****Indexing****Concept Group****Concept Heading**

Amino acids

**Text Modification**

(resolution of)

**IT Related Fields****Indexing****Heading Parent Group****Heading Parent**

Phenethylamine

**Substituent**

p-methyl-

**Role**

PREP (Preparation)

**Text Modification**

(formation from isovaline and 4'-methylacetophenone)

**IT Related Fields****Indexing****Registry Number and Structure****CAS Registry Number**

91399-52-9

**Text Modification**

(Derived from data in the 7th Collective Formula Index (1962-1966))

**IT Related Fields****Indexing****Registry Number and Structure****CAS Registry Number**

61-90-5

**Author Substance Name**

Leucine

**Text Modification**

(carboxyl group removal from, by heat)

**IT Related Fields****Indexing****Registry Number and Structure****CAS Registry Number**

63-91-2

**Author Substance Name**

Alanine, phenyl-

**Text Modification**

(deamination of, by heat)

**IT Related Fields****Indexing****Registry Number and Structure****CAS Registry Number**

3261-60-7

**Registry Number Qualifier**

P

**Author Substance Name**

Benzylamine, p-methoxy-N-(p-methoxybenzylidene)-

**Role**

PREP (Preparation)

**Text Modification**

(formation from anisaldehyde and p-methoxybenzylamine)

**IT Related Fields****Indexing****Registry Number and Structure****CAS Registry Number**

2393-23-9

**Registry Number Qualifier**

P

**Author Substance Name**

Benzylamine, p-methoxy-

**Role**

PREP (Preparation)

**Text Modification**

(formation from isovaline in presence of anisaldehyde)

**IT Related Fields****Indexing****Registry Number and Structure****CAS Registry Number**

119-52-8

**Registry Number Qualifier**

P

**Author Substance Name**

p-Anisoin

**Role**

PREP (Preparation)

**Text Modification**

(formation from p-anisaldehyde)

**IT Related Fields****Indexing****Registry Number and Structure****CAS Registry Number**

107-85-7

**Registry Number Qualifier**

P

**Author Substance Name**

Isopentylamine

**Role**

PREP (Preparation)

**Text Modification**

(formation of, from anisaldehyde and leucine)

**IT Related Fields****Indexing****Registry Number and Structure****CAS Registry Number**

78-93-3

**Registry Number Qualifier**

P

**Author Substance Name**

2-Butanone

**Role**

PREP (Preparation)

**Text Modification**

(formation of, from isovaline in presence of anisaldehyde)

**IT Related Fields****Indexing****Registry Number and Structure****CAS Registry Number**

122-00-9

**Author Substance Name**

Acetophenone, 4'-methyl-

**Text Modification**

(isovaline decarboxylation in)

**IT Related Fields****Indexing****Registry Number and Structure****CAS Registry Number**

2943-36-4

**Registry Number Qualifier**

P

**Author Substance Name**

3-Penten-2-ol, 1-(p-tolylsulfonyl)-, benzoate

**Role**

PREP (Preparation)

**Text Modification**

(prepn. of)

**IT Related Fields****Indexing****Registry Number and Structure****CAS Registry Number**

62-57-7

**Author Substance Name**

Alanine, 2-methyl-

**Registry Number and Structure****CAS Registry Number**

595-40-4

**Author Substance Name**

Isovaline, L-

**Registry Number and Structure****CAS Registry Number**

2756-85-6

**Author Substance Name**

Cyclohexanecarboxylic acid, 1-amino-

**Text Modification**

(transamination in ketones)

**Accession Number**

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**Reference Non-Patent Information**

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