

E-18
COUNTRY : Poland
CATEGORY :
ABST. JOUR. : RZKhim., No. 21 1959, No. 75947
AUTHOR : Eckstein, Z., Halweg, H., Krakowka, P., and *
INSTIT. : Not given
TITLE : On the Fungistatic Activity of 3,4-dichlorophenoxy
-acetoxyacetic Acid on Pathogenic Molds in vitro
ORIG. PUB. : Med Doswiad i Mikrobiol, 10, No 4, 487-492 (1958)
ABSTRACT : See RZKhim, 1959, 6, 20704.

CARD: 1/1 * Urbanski, T.

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Eckstein, Zygmunt

POL/ND/Organic Chemistry. Organic Synthesis.

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Abs Jour : Ref Zhur-Khimiya, No 95, 1959, 31269

Author : Socha, Andrzej; Eckstein. Zygmunt

Inst : -

Title : On the Simplified Method of Preparation of Cyclooctano.

Orig Pub : Roczn. chem., 1958, 32, No 3, 647-652

Abstract : The method of preparation of cyclooctanone (I) from cycloheptanone (II) with the application of N-methyl-N-nitroso-p-toluenesulfonamide (III) suggested earlier as a source of CH_2N_2 (Ref Zhur-Khimiya, 1955, 42923, 48859) is described. The solution of 22.5 g of KOH in 75 ml of 50 percent alcohol is added gradually to 0.75 mole of II and 0.9 mole of III

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POLAND/Organic Chemistry. Organic Synthesis.

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Abs Jour : Ref Zhur-Khimiya, No 9, 1959, 31269

in 225 ml of alcohol and 15 ml of water and stirred for 30 min after that. Then a second lot of reagent is added and all is stirred for 1 hour more, after the addition of KOH has been completed. The solution is acidified with 2 N HCl, stirred with the solution of 300 g of NaHSO₃ in 600 ml of water for 6 - 8 hours; the bisulfite compound of the non-transformed II is filtered off, washed with absolute alcohol, and the alcohol used for washing is added to the filtrate. The filtrate is boiled for 5 - 6 hours (until the oily layer disappears) and distilled with water (elimination of SO₂). The 1st fraction (700 ml) is distilled for a second time using Vigreux column; the first 350 ml collected is

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Abs Jour : Ref Zhur-Khiniya, No 9, 1959, 31269

discarded and the remainder is added to the
2nd fraction (total volume 1250 ml) which is
extracted with ether. 50.5 g of I is obtained,
boil. p. 114 - 116°/60 mm, $n_D^{21} = 1.4698$; semi-
carbazone, yield 90 percent, melt. p. 166 - 168°
(from dioxane). -- R. Topshteyn

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Country : POLAND G
Category : Organic Chemistry. Synthetic Organic Chemistry
Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15351
Author : Mikulski, J.; Eckstein, Z.; Urbanski, T.
Institut. : -
Title : On the Problem of Synthesis of Herbicides. VI.
Synthesis of 2-Aryloxyethylamines and Their
Derivatives
Orig. Pub. : Hocz. chem., 1958, 32, No 3, 661-666
Abstract : As a result of further search of active herbi-
cides (report V, see Ref Zhur-Khim, 1958,
32402), a series of $\text{ArOCH}_2\text{CH}_2\text{NHCOR}$ (I) was
synthesized. By the interaction of ArONa and
 $\text{BrCH}_2\text{CH}_2\text{Br}$ (II), $\text{ArOCH}_2\text{CH}_2\text{Br}$ (III) is obtained.
By the urotropine method, III is transformed
into $\text{ArOCH}_2\text{CH}_2\text{NH}_2$ (IV); under the influence of
 RCOOC_2H_5 (V), I is obtained from IV. 1.1 moles
of NaOH in 180 ml. of water are slowly poured
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Country :
Category :
Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15351
Author :
Institut. :
Title :
Orig Pub. :
Abstract cont'd. : into 1.1 moles of 2,5-Cl₂C₆H₃OH in 400 ml. of water and 1.2 moles of II during boiling, and boiled for five hours; III is extracted with ether, Ar = 2,5-Cl₂C₆H₃ (IIIa), yield 45%, b.p. 150-152°/3 mm. III is obtained analogously (Ar, yield in %, b.p. in °C./mm., n_D²⁰, d₄²⁰ are given): C₆H₅, 42, 112-113/4, 1.5525, 1.3555; 2-CH₃C₆H₄ (IIIb), 61, 118-120/3, 1.5114, 1.2900; 2-CH₃-4-ClC₆H₂, 40, 138-140/3.5, 1.5600, 1.3166; 2,4-Cl₂C₆H₃, 60, 147-149/4,
Card: 2/6

G

Country :
Category :

Obs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15351

Author :
Institut. :
Title :

Orig. Pub. :

Abstract : 1.5785, 1.5929; 2,4,5-Cl₃C₆H₂, 45, 158-160/2,
cont'd. -, -. 1.05 moles of IIb in 200 ml. of CHCl₃
are added to 1.1 moles of (CH₂)₆N₄ (VI) in
600 ml. of CHCl₃ at 50°, and heated for four
hours at 45°; 90% of IIIb·VI is separated out,
m.p. 172-173° (from chloroform). Similarly,
with slight alterations, IIIa·VI is obtained,
yield 80%, m.p. 176-179° (from chloroform).
0.56 mole of IIIb·VI is poured into 460 g. of
concentrated HCl and 700 ml. of CH₃OH, mixed

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Country	:		G
Category	:		
Abs. Jour	:	Ref Zhur - Khim., No 5, 1959,	No. 15351
Author	:		
Institut.	:		
Title	:		
Orig Pub.	:		
Abstract cont'd.	:	: at 40° for four hours, the solvent is distilled off, the residue is alkalized by NaOH and IV is extracted with ether, Ar=2-CH ₃ C ₆ H ₄ , yield 62%, b.p. 90-91°/2 mm.; hydrochloride (HC), m.p. 212-213°. Analogously, from the corresponding III-VI, IV is synthesized (Ar, yield in %, b.p. in °C./mm., m.p. in °C. of HC are given): C ₆ H ₅ , 45, 101-103/4, 215-216; 2-CH ₃ -4-ClC ₆ H ₃ , 58, 136-138/2, 165; 2,4-Cl ₂ C ₆ H ₃ , 51, 164-165/3, 188-191; 2,5-Cl ₂ C ₆ H ₃ , 42, 162-164/4, 253-254;	
Card:	:	4/6	

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Country :
Category :

Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15351

Author :
Institut. :
Title :

Orig. Pub. :

Abstract : 2,4,5-Cl₃C₆H₂, 49, 168-171/5, 244-246. 0.02 mole
cont'd. of V, R=Cl₂CH or Cl₃C, in 5 ml. of alcohol,
is added to 0.015 mole of IV in 5 ml. of alco-
hol, heated at 60-70° for two hours, and I is
separated out (Ar, R, yield in %, m.p. in °C.
are given): C₆H₅, CHCl₂, 75, 85-86; C₆H₅, CCl₃,
77, 63-64; 2-CH₃C₆H₄, CHCl₂, 90, 93-94; 2-OH-3-
C₆H₄, CCl₃, 90, 74-75; 2-CH₃-4-ClC₆H₃, CCl₃,
67, 86-87; 2,4-Cl₂C₆H₃, CHCl₂, 70, 106-107;

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Country : G
Category :
Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15351
Author :
Institut. :
Title :
Orig Pub. :
Abstract : 2,4-Cl₂C₆H₃, CCl₃, 75, 67-68; 2,5-Cl₂C₆H₃,
cont'd. CHCl₂, 90, 120-121; 2,5-Cl₂C₆H₃, CCl₃, 95,
97-98; 2,4,5-Cl₃C₆H₂, CHCl₂, 80, 137-138;
2,4,5-Cl₃C₆H₂, CCl₃, 78, 116-117.-- V. Sko-
rodumov
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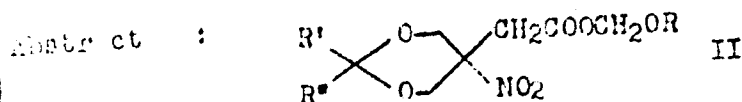
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Country : Poland G
Category : Organic Chemistry. Synthetic Organic Chemistry
No. Jour. : Ref Zhur-Khimiya, No.12, 1959, No.42379
Author : Sobótka, Wiesław; Rekstein, Zygmunt; Urbaniski, T.
Institut. : Not given
Title : Contribution to the Problem of Synthesizing
Herbicides. VII Esters of Aryloxyacetic Acids
with Aliphatic Nitroalcohols.
Orig. Pub. : Roczn. chem., 1958, 32, No.4, 963-970

Abstract : The following three groups of the esters of
aryloxyacetic acids and aliphatic nitroalcohols
were synthesized: (2, 4, 5-Cl₃C₆H₂-OCH₂COOCH₂)-
C(NO₂)R (I), substitution 1,3-dioxane (II) and
R-CH₂COOCH(CCl₃)CH₂NO₂ (III). (I) is obtained
by the action of ROCH₂COCl (IV), where R=
1,4,5-Cl₃C₆H₂ (IVa), on RC(NO₂) (V) in CHCl₃ in
the presence of pyridine (method A). (II) is
synthesized by the action of IV on the corres-
ponding alcohols in pyridine (method B).

Country : Poland G
 Category : Organic Chemistry. Synthetic Organic Chemistry
 Abs. Jour. : Ref Zhur-Khimiya, No.12, 1959, No.42379
 Author :
 Institut. :
 Title :

Orig. Pub. :



III cannot be obtained by methods A and B but is formed by the reaction of ROCH_2COCl (VI) with $\text{NO}_2\text{CH}_2\text{CH}(\text{CCl}_3)\text{OH}$ (VII). (II) ($\text{R}=\text{2,4,5-Cl}_3\text{C}_6\text{H}_2$, $\text{R}'=\text{R}''=\text{CH}_3$) (IIa) under the action of alcohol. HCl opens the ring, forming $\text{2,4,5-Cl}_3\text{C}_6\text{H}_2\text{OCH}_2\text{-COOCH}_2\text{C}(\text{NO}_2)(\text{CH}_2\text{OH})_2$ (VIII). 0.02 mole V and 0.04 mole IVa in 40 ml. of CHCl_3 and 12 ml. of ... for 30 minutes; the

REMOVED IS REMOVED IN VACUUM; I IS SEPARATED.

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Country : Poland G
 Category : Organic Chemistry. Synthetic Organic Chemistry
 Jour. : Ref Zhur-Khisiya, No.12, 1959, No.42379
 Author :
 Institut. :
 Title :
 Orig. Pub. :

Abstract : (The article cites R, yield in %, and the melting point in °C (from alcohol) as follows):
 2,4,5-Cl₃C₆H₂OCH₂, 20, 108; Cl, 25, 113; Br, 22, 105; CH₃, 17, 138; C₂H₅, 17, 125. 0.03 mole IV is added to 0.02 mole 5-nitro-5-oxymethyl-2,2-dimethyl (or 2-phenyl)-1,3-dioxane in 15 ml. of C₅H₅N at 0°. The mixture is heated for 30 minutes at 60-65°, then poured into 200ml. of water with ice; II is separated. (The article cites R, R', R'', yield in % and the melting

Country : Poland G
Category : Organic Chemistry. Synthetic Organic Chemistry

abs. Jour. : Ref Zhur-Khimiya, No.12, 1959, No.42379

Author :
Institut. :
Title :

Orig Pub. :

Abstract : point in C° (from alcohol) as follows):
2,4,5-Cl₃C₆H₂, H, C₆H₅, 20,115; 2,4-Cl₂C₆H₃, H,
C₆H₅, 30, 148; 2-CH₃-4-ClC₆H₃, H, C₆H₅, 38, 103;
2,4,5-Cl₃C₆H₂, CH₃, CH₃, 25, 128; 2,4-Cl₂C₆H₃,
CH₃, CH₃, 31, 105; 2-CH₃-4-ClC₆H₃, CH₃, CH₃,
(IIb), 10,98. 4 g of absolute AlCl₃ are grad-
ually added to the mixture of VI and VII in the
amounts of 0.04 mole of each in 20 ml CCl₄. The
mixture is heated at about 100° until the se-
paration of HCl has stopped; the solvent is

Country : Poland
Category= : Organic Chemistry. Synthetic Organic Chemistry

Abs. Jour. : Ref Zhur-Khimiya, No.12, 1958, No. 42379

Author :
Institut. :
Title :

Orig. Pub. :

Abstract : removed in vacuum; the residue is extracted with ether; the extract is flushed with water; III is separated. (The article cites R, yield in % and the melting point in $^{\circ}\text{C}$ (from petroleum ether ethylacetate) as follows): 2,4- $\text{Cl}_2\text{C}_6\text{H}_3$ (IIIa), 28, 65 (2,4- $\text{Cl}_2\text{C}_6\text{H}_3\text{ONH}_2\text{COOC}_6\text{H}_3\text{Cl}_2$ -2',4' is obtained together with IIIa); 2,4,5- $\text{Cl}_3\text{C}_6\text{H}_2$, 30, 80. 14 moles of IIIa in 30 ml. of alcoholic HCl are boiled for 5 minutes, then poured into 300 ml. of NaHCO_3 ; the yield is one g of VIII,

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Country : Poland G
Category : Organic Chemistry. Synthetic Organic Chemistry
Abs. Jm. : Ref Zhur-Khimiya, No.12, 1959, No.42379
Author :
Institut. :
Title :

Orig Pub. :

Abstract : the melting point is 80-82° (from chloroform).
IIB and IIIa proved to be most significant from
the standpoint of herbicide activity. See
Report VI in Ref Zhur-Khimiya, 1959, No.5,
15351. -- V. Skorodurov.

ECKSTEIN, Z.

Some problems of obtaining weed killers. IX. The action of active bromine on phenoxyacetic acids. p.1357.

ROZNIKI CHEMII. Warszawa, Poland. Vol. 32, no. 6, 1958.

Monthly List of East European Accessions (EEAI), IC. Vol. 8, No. 9, September 1959
Uncl.

POLAND/Chemical Technology. Chemical Products and Their
Application. Pesticides.

H-18

Abs Jour: Ref Zhur-Khim., No 2, 1959, 5860.

Author : Eckstein, Zygmunt; Hetmariski, Bodunil; Urbanski, Tadeusz.
Inst :
Title : Chemical Means of Control of Fungi. II. Concerning Some
Derivatives of N-Alkyl- and -Phenylmercurobenzoxazolone
and 6-Chlorobenzoxazolone.

Orig Pub: Przen. chem., 1958, 37, No 1, 44-46.

Abstract: N-alkyl- or N-phenylmercurobenzoxazolones and corres-
ponding derivative 6-halidebenzoxazolones, as well as
corresponding derivatives of 6-halidebenzoxazolones of the
general formula (I) are prepared by the action of R(Hal)
or $C_6H_5HgOOCOR$ on Na or Ag salts of benzoxazolone (II)
and 6-halidebenzoxazole. 0.01 mole of IV is added to

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POLAND/Chemical Technology. Chemical Products and Their
Application. Pesticides.

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Abs Jour: Ref Zhur-Khim., No 2, 1959, 5860.

the solution of 0.01 mole of C_3H_7HgCl (or C_3H_7HgBr),

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POLYD/Chemical Technology. Chemical Products and Their
Application. Pesticides.

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Abs Jour: Ref Zhur-Khin., No 2, 1959, 5860.

stirred for 15 min., 25 ml of water is added, and I
(R = C₂H₅, Y = H) is obtained; yield 50.5%, melt. p.
105 - 107° (from 50% alcohol). The following were
prepared in a similar way (Ys, Rs, yield in % and
melting points in °C are enumerated): H, C₂H₅, 42.9,
156 - 158; H, C₄H₉, 50.6, 133.5 - 135.5; H, n-C₄H₉,
56.4, 96 - 98; H, n-C₆H₁₃, 48.8, 92-93.5; Cl, C₂H₅,
10.5, 193 - 195; Cl, C₂H₅, 52.5, 161 - 163; Cl, n-
C₄H₉, 65.9, 117.5 - 119; Cl, n-C₆H₁₃, 44.2, 95 - 97;
Cl, n-C₈H₁₇, 34.5, 83.5 - 84.5; Br, n-C₄H₉, 53.2, 111 -
112; I, n-C₄H₉, 44.2, 108.5 - 110. 1.7 g of 6-chloro-
benzoxazolone and later 3.4 g of CH₃COOAgC₂H₅ in 20 ml
of absolute alcohol are added to the solution of 0.2 g
of Na in 25 ml of absolute alcohol. After stirring,

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POLAND/Chemical Technology. Chemical Products and Their
Application. Pesticides.

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Abs Jour: Ref Zhur-Khin., No 2, 1959, 5860.

15 ml of water is added and I ($R = C_6H_5$; $Y = Cl$) is obtained, yield 73.3%, melt. p. 216 - 218° (from the mixture alcohol : water : acetone = 43 : 7 : 25). I ($R = C_6H_5$, $Y = Cl$) [sic] was obtained in a similar way, yield 70.7%, melt. p. 200 - 202°. N-alkyl derivatives in the concentration of 0.00005% suppress the growth of *Fusarium culmorum*, *Alternaria tenuis* and *Rhizoctonia solani*. The N-phenyl derivatives are less active. See RZhKhin, 1958, 15568 for part I. - A. Grapov.

Card : 4/4

POLAND/Chemical Technology - Chemical Products and Their
Application. Pesticides.

H.

Abs Jour : Ref Zhur - Khimiya, No 10, 1959, 36163

Author : Eckstein, Z., Hetnarski, B., Urbanski, T.

Inst : _____

Title : Chemical Means in the Struggle Against Fungi. III.
Concerning Certain S-Alkyl- and S-Phenylmercury Deriva-
tives of 2-mercaptobenzimidazole and 2-mercaptobenzoxa-
zole.

Orig Pub : Przem. chem., 1958, 37, No 3, 160-161.

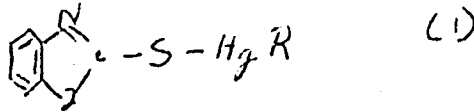
Abstract : 2-(S-alkylmercurmercupto)-benzimidazole and -benzoxazole
of the general formula (I) - where R is CH₃, C₂H₅,
n-C₃H₇, n-C₄H₉, n-C₅H₁₁, C₆H₅, and Z is NH, O - are ob-
tained by the action of RH₂X (where X = Cl, Br, I or
CH₃COO) on the Na salt of 2-mercaptobenzimidazole or
2-mercaptobenzoxazole (II). To a solution of CH₃ONa,
obtained from 0.013 mol of Na and 40 ml of CH₃OH,

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POLAND/Chemical Technology - Chemical Products and their Application. Pesticides.

Abs Jour : Ref Zhur - Khimiya, No 10, 1959, 3616?

0.01 g sol of n-C₁₁H₂₃Cl or n-C₁₁H₂₃Br are added, stirred with activated C for 10 minutes, and I is obtained (R = n-C₁₁H₂₃; Z - NH); yield, 37.7%; melting point, 134-135.5° from CH₃OH). Analogously,



there are synthesized (Z, R, yield in percentages, melting point in centigrades are indicated): NH, n-C₄H₉, 48.8, 146-148; O, CH₃, 54.1, 114-115.5; O, C₂H₅, 60.5, 64.65; O, n-C₃H₇, 33.8, 56-58; O, n-C₄H₉, 36, 6, 38-39.5. To a solution of C₂H₅ONa from 0.2 g of Na and 25 ml of absolute alcohol, 1.5 g of II are added, and then

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POLAND / Chemical Technology. Chemical Products and Their H Application. Pesticides.

Abs Jour: Ref Zhur-Khimiya, No 9, 1959, 32580.

Abstract: 139-141^o). Similarly, 5,7-dibromobenzoxazolone (yield, 40%; melting point, 250-252^o) is obtained from 3,5-dibromosalicylhydroxamic acid. I is obtained also by the action of 275 g. of $\text{ClCOOC}_2\text{H}_5$ on a solution of 222 g. of o-aminophenol in 200 ml. of 30% NaOH with a subsequent treatment of concentrated NH_3 and 10% HCl (acid) (yield, 37% melting point, 230-233^o/30 mm., melting point, 140-141^o). Nitration of I with HNO_3 (d 1.42) at 40-50^o produces 6-nitro-I (II) (yield, 75%; melting point, 241-242^o) (from alcohol). At the reduction of 60 g. of II by 90 g. of Zn in 300 ml. of HCl (acid), the hydrochloride of 6-amino-I (the base - III) (yield, 75%) is separated at 60^o in 5 hours. 5 g. of III, heated with 4 g. of ni-

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POLAND / Chemical Technology. Chemical Products and H
Their Application. Pesticides.

Abs Jour: Ref Zhur-Khimiya, No 9, 1959, 32580.

Abstract: trourea in 100 ml. of water at 60-65° and later at 75-80°, are transferred into 5.7 g. of 6-carbamino-I (starts melting at 350°). 36 g. of the hydrochloride of III in 40 ml. of HCl (acid) are diazotized at a temperature range from -5° to 0° by 14 g. of NaNO₂ in 20 ml. of water and later on, with the addition of 50 ml. of 30% HBF₄, boron fluoride of benoxazolyl-6-diazonium (IV) is obtained (yield, 71%; melting point, 158-160°) (with decomposition). IV, by the action of boiling alcohol in the presence of Cu, is converted into I (yield, 63%). 6-fluorine-I (yield, 30%; melting point 185-186°). 1 g. of III is converted, according to Sandacoyer into 0.7 of 6-chlorine-I (V) (melting point 189-190° -

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POLAND / Chemical Technology. Chemical Products and H
Their Application, Pesticides.

Abs Jour: from ClF; analogously, 6-bromo-I (VI) (melting point 190-191° - from ClF) is obtained. 40 g. of I in 400 ml. of frozen CH₃COOH and 200 ml. of HCl (acid) (d 1.19) are chlorinated by a solution of 12 g. of NaOCl in 50 ml. of water at 15-20° in 2 hours (yield, of V, 70%). VI, by the same method, is obtained with the yield of 70%. 5 g. of I in 50 ml. of CHCl₃ are brominated by 6 g. of Br₂ in 20 ml. of CHCl₃ and VI is obtained with a quantitative yield. 0.7 g. of III are diazotized, as usually, and by the action of 5 g. of KI in 10 ml. of water, are transferred to 6-iodine-I (yield, 12%; melting point, 211-212°) (from 50% alcohol). The diazonium solution, obtained from 15 g. of III, is added to the solution of CuCN.NaCN, obtained from 21.5 g. of CuSO₄.5H₂O and 16.5 g. of CaCN at 30-40°. The

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POLAND / Chemical Technology. Chemical Products and H
Their Application. Pesticidos.

Abs Jour: Ref Zhur-Khimiya, No 9, 1959, 32580.

Abstract: precipitate is filtered off and 30 mg. of CH_3COOH are acetylated and, after the usual treatment, 3-acetyl-5-cyanogen-I (VII) (yield, 12.5%; melting point $160-161^\circ$ - from 50% alcohol) are obtained. 2.5 g. of VII, after treatment with an aqueous solution of NaHCO_3 at 50° , yield 0.75 g. of 6-cyanogen-I (melting point, $222-223^\circ$) (from water alcohol). 6-fluorine-3-acetyl-I (yield, 90%, melting point, $137-138^\circ$), 6-bromine (yield, 95%; melting point, $153-154^\circ$) and 6-iodine analogues (yield, 95%; melting point, $187-188.5^\circ$) are obtained, according to the method described previously (RZhKhim, 1956, 46999). The tests of the fungicide properties indicated that V and VI

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POLAND / Chemical Technology. Chemical Products and H
Their Application. Pesticidos.

Abs Jour: Ref Zhur-Khimiya, No 9, 1959, 32580.

Abstract: are the most active, inhibiting the growth of
Fusarium culmorum in a concentration of 0.05%,
and Alternaria tenuis and Rhizoctonia solani
in a concentration of 0.01%. -- A. Grapov.

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Eckstein, Z.
POLAND / Organic Chemistry--Synthetic organic chemistry.

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Abs Jour : Ref Zhur - Khimiya, No 14, 1959, No. 49477

Author : Eckstein, Z.; Sobotka, W.

Inst : Not given

Title : On the Synthesis of Herbicides. XI. Synthesis of
Y-(2,4-dichlorophenoxy)-butyric (2,4-DB) and Y-(2-
methyl-4-chlorophenoxy)-butyric (ACPB) Acids

Orig Pub : Przemysl Chem, 37, No 8, 537-539 (1958)

Abstract : The action of Cl in statu nascendi on 2-RC₆H₄O-
(CH₂)₃COOH (Ia,b), where Ra = H, Rb = CH₃) results in
the chlorination of the latter to 2-R-4-ClC₆H₃O(CH₂)₃
COOH (IIa,b where Ra = Cl, Rb = CH₃). A general
procedure for the synthesis of II is proposed based on
the reaction scheme: 2-R-4-R'C₆H₃OCH₂CH₂Br (III) + CH₂
(COOC₂H₅)₂ (IV) → 2-R-4-R'C₆H₃OCH₂CH₂CH(COOC₂H₅)₂ (V) →
2-R-4-R'C₆H₃OCH₂CH₂CH(COOH)₂ (VI) → II (R' = Cl). The

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POLAND / Organic Chemistry-- Synthetic organic chemistry.

G-2

Abs Jour : Ref Zhur • Khimiya, No 14, 1959, No. 49477

synthesis of I by the above route is also feasible: the decarboxylation of VI (R = R' = H) (VIa) gives Ia and for VI (R = CH₃, R' = H), the above reaction yields Ib. In addition IIb has also been obtained by the scheme: 2-CH₃-4-ClC₆H₃O(CH₂)₃Br (VII) → 2-CH₃-4-ClC₆H₃O(CH₂)₃CN (VIII) → IIb. 0.3 mol Ib in 200 ml CH₃COOH and 64 ml conc HCl are treated with 0.0108 mol NaClO₃ in 20 ml water (50 min at 65°), the solution is stirred for 15 min at 70 - 75°, 200 ml water are added, and on cooling 67% IIb are obtained, mp 100 - 101° (from dil alc). IIIa is synthesized by an analogous procedure, yield 64%, mp 119 - 119.5°. 2.58 mol III (R = CH₃, R' = H) are added over 20 min to a solution of 2.58 mol IV and 2.58 mol Na in 1 ml [sic] abs alc, the solution is boiled until an alkaline test is no longer obtained (ca. 48 hrs), the solvent is vacuum distilled, and the

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POLAND / Organic Chemistry-- Synthetic organic chemistry.

G- 2

Abs Jour : Ref Zhur - Khimiya, No 14, 1959, No. 49477

residue is diluted with water; ether extraction gives V (R = CH₃, R' = H) (Va), yield 52%, bp 150 - 152°/0.5 mm, n_D²⁰ 1.4904, d₄²⁰ 1.0856. Application of an analogous procedure gives the following V (R, R', the yield in %, bp in °C/mm, n_D²⁰, d₄²⁰ are given in that order): H, H, 50, 163/2, 1.4920, 1.1016; CH₃, Cl, 55, 212/3.5, 1.5669, 1.1724; Cl, Cl, 58, 190 - 200/1, -, -. 2.5 mols KOH in 150 ml water are added to one mol Va at a rate sufficient to keep the solution boiling, the solution is boiled for 1.5 hrs, 150 ml solvent are added, and VIb is obtained in 98.5% yield by the addition of 140 ml H₂SO₄ in 350 ml water, mp 127 - 128°. The following VI are obtained by an analogous procedure (R, R', the yield in %, and the mp in °C are given in that order): H, H, 75, 158 - 160; CH₃, Cl (VIc), 77, 140 - 142 (decomp);

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G-4

POLAND / Organic Chemistry--Synthetic organic chemistry.

G-2

Abs Jour : Ref Zhur - Khimiya, No 14, 1959, No. 49477

C1, C1, 38, 135 - 136 (decomp). 0.5 mol VIc is heated for 15 min at 150 - 160°, the melt is dissolved in 500 ml water containing 25 gms NaOH, and IIb is separated in 90% yield by acidification. A similar procedure gives IIa (mp 119 - 119.5°) in 65% yield; Ia (mp 65 - 66°) in 90% yield; and Ib (mp 76 - 78°) in 96% yield. 0.2 mol VII, 0.3 mol NaCN in 20 ml water, and 100 ml alcohol are refluxed for 24 hrs, the excess alcohol is distilled off, the residue is dissolved in a small amount of water, and the solution is extracted with ether to give VIII, yield 53%, bp 163 - 167°/2 mm. 0.04 mol VIII is saponified with 4 gms NaOH in 20 ml water and 20 ml alcohol (reflux 4 hrs) to give IIb, yield 82%. IIa,b in the form of their Na salts are of practical value as herbicides with selective biological action and are suitable for use against weeds in the cultivation of

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POLAND / Organic Chemistry--Synthetic organic chemistry.

G-2

Abs Jour : Ref Zhur - Khimiya, No 14, 1959, No. 49477

long-fiber flax. It is marketed by foreign firms under the trade name 'Tropotox'. For the preceding communication see RZhKhim, No 12, 1959, 42379. -- V. Skorodumov

Card 5/5

G-5

COUNTRY : Poland 1-18
CATEGORY : Chemical Technology. Chemical Products and
Their Applications. Pesticides.
ABS. JOUR. : RZKhim., No. 20 1959, No. 72403
AUTHOR : Bekstein, Z.
TITL. :
TITLE : The Prospects of Practical Utilization of
Nitroparaffins in Synthesis of Chemical
Plant-Protective Agents
ORIG. PUB. : Przem. chem., 1958, 37, No 10, 630-634
ABSTRACT : No abstract.

CARD:

ECKSTEIN, Z.; CZERWINSKA, E.

On properties and fungicidal activities of aryloxyacetohydroxamic acids. II. The influence of bromine as a substituent. *Bul Ac Pol chim* 7 no.4:223-227 '59. (EAI 9:7)

1. Department of Organic Technology, Warsaw Technical University. Mycological Laboratory, Institute of Organic Industry. Presented by T.Urganski.

(Acetohydroxamic acid) (Aryloxy groups)
(Fungicides) (Bromine)

MIKULSKI, J.; ECKSTEIN, Z.

Synthetic growth stimulator herbicides. Preparation of ^{36}Cl labeled
2,4-dechloro- and 2,4,5-trichlorophenoxy acetic acid. Bul Ac Pol
chim 7 no.5:285-288 '59. (EEAI 9:9)

1. Instytut Baden Jadrowych, Krakow i Instytut Syntezy Organicznej
PAN. Vorgelegt von T.Urbanski.

(Dichlorophenoxyacetic acid) (Chlorine)
(Radioisotopes) (Herbicides)
(Trichlorophenoxyacetic acid)

ECKSTEIN, Z.; GROCHOWSKI, E.; URBANSKI, T.

On the fungicidal activity of derivatives of 2-nitropropanediol-1,3.
Bul Ac Pol chim 7 no.5:289-294 '59. (EEAI 9:9)

1. Institute of Organic Synthesis, Polish Academy of Sciences.
Presented by T.Urbanski.
(Nitropropanediol) (Fungicides)

ECKSTEIN, Z.

5
1-988 (MS)

The reaction of Schiff bases with formic acid. I. Reduction with formic acid of the Schiff bases from ethylenediamine and aromatic aldehydes. Z. Eckstein and A. Lukaszewicz. Zakład Syntezy Org. P.A.N., Warsaw. *Bull. Acad. Polon. Sci. Sér. Sci. Chim., Sect. C (1969) 7, 789-96* (1969) in German. — Heating $(CH_2NH_2)_2$ with ArCHO in anhyd. alc. followed by an azotropic distn. of H_2O with C_6H_6 or PhMe afforded the Schiff bases, $ArCH=NCH_2CH_2N:CHAr$ (I). I with HCO_2H (a) heated 30 hrs. or (b) heated 10 hrs. with addn. of alkali salts of org. acids, gave $ArCH_2NHCH_2CH_2NH_2$ (II) and $ArCH_2NHCH_2CH_2NHCH_2Ar$ (III). II and III with salicylaldehyde gave $o-HOC_6H_4CH_2NCH_2CH_2NHCH_2Ar$ and 2-(*o*-hydroxyphenyl)-1,3-methylenecarylimidazolidine (IV), hydrolyzed easily to II and III. Ar of I m.p., I % yield, II % yield by a and b, III % yield by a and b, IV m.p., and II.HCl m.p., were: 1- FC_6H_4 , 95-97°, 49, 30, —, 24, —, 103-9°, 284-6°; 2- ClC_6H_4 , 66-7°, 67, 20, 20, 24, 20, 141-2°, 251-3°; 3- ClC_6H_4 , 90.0-90.6°, 39, 30, 22, 36, 58, 85-6°, 261.0-1.6°; 4- ClC_6H_4 , 144-5°, 80, 29, 22, 26, 51, 104.0-5.5°, 272-4°; 4- BrC_6H_4 , 156.5-7.5°, 63, —, 25, —, 43, 167.5-8.5°, 286-8°; 4- IC_6H_4 , 100.0-1.5°, 93, —, 23, —, 42, 144.5-0°, over 292°; 2- NO_2 , 110.5-11.5°, 26, 25, 23, 20, 45, 172-3°, 216-17.5°; 3- $O_2NC_6H_4$, 161.5-2.5, 97, 28, 20, 32, 57, 99-9°, 230-40°; 4- $O_2NC_6H_4$, 200.5°, 82, 29, 17, 27, 53, 161.5-3°, 244° (decompn.); 2- HOC_6H_4 , 125-0°, 98, —, —, —, —, —; 3- HOC_6H_4 , 197° (decompn.), 90, —, —, —, —, —; 4- $MeOC_6H_4$, 111-12°, 87, 35, 37, 13, 28, 93.5-9.5°, 243.5-5.0°; 2,3-(MeO) $_2C_6H_3$, 119-20°, 98, —, 27, —, 32, 100-7°, 232° (decompn.); 2,5-(MeO) $_2C_6H_3$, 92.5-3.5°, 89, —, —, —, —, —; 1-naphthyl,

134.5-5.5°, 90, —, 29, —, 9, 190.5-2.0°, 110° (decompn.); 2-naphthyl, 212-13.5°, 76, —, 21, —, 46, 128.5-9.5°, 276-8°; 2,3- $HOC_2MeOC_6H_3$, 165.5-0.5°, 98, —, —, —, —, —; 4- $Me_2NC_6H_4$, 181-2.5°, 92, —, —, —, —, —, —, —; and 4- $Et_2NC_6H_4$, 131.5-2.5°, 84, —, —, —, —, —, —, —. Curves of yields of II and III against time were given for a few examples. Fungicidal activities of I against *Fusarium culmorum*, *Alternaria tenuis*, and *Rhizoctonia solani* were examd.; the salicyl and 2-hydroxy-3-methoxy derivs. showed strong activity. This was attributed to the possibility of binding heavy cations with chelate formation. II. Action of aromatic aldehydes on *N,N'*-di-formylethylenediamine in formic acid solution. A. Lukaszewicz and Z. Eckstein. *Ibid.* 797-802. $HCONHCH_2CH_2NHCHO$ (1 mole) boiled 10-30 hrs. in HCO_2H with 0.5, 1, or 2 moles ArCHO afforded a mixt. of $ArCH_2NHCH_2CH_2NH_2$ with $ArCH_2NHCH_2CH_2NHCH_2Ar$ (I), where Ar was Ph, 2-, 3-, or 4- ClC_6H_4 , or $O_2NC_6H_4$, 4- $MeOC_6H_4$, or 2-naphthyl. The yield of I was notably raised on addn. of HCO_2Na or HCO_2K . The reaction studied was probably an intermediate stage in the reactions described before (cf. above). J. Stecki

ECHESTER, Z.; MIKULSKI, J.; SOLOTKA, W.

On the Birnbaum-Simonini reaction of some derivatives of phenoxyacetic acid. p.77.

RCCZNIKI CHEMII. Warszawa, Poland. Vol. 33, no. 1, 1959.

Monthly List of East European Accessions (EEAI), IC. Vol. 8, No. 9, September 1959
Uncl.

ECKSTEIN, Z.; WERANSKI, T.; MIKULSKI, J.

Some problems of obtaining weed killers. XIII. Preparation of 5-nitro-5-hydroxymethyl-3-phenoxyethyltetrahydro-1, 3-oxazine. p. 519

ROCZNIKI CHEMI. (Polska Akademia Nauk) Warszawa, Poland, Vol. 33, no. 2, 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 9, September 1959.
Uncl.

ECKSTEIN, Z.; MIKULSKI, J.

Preparation of phenoxyethylzides of phenoxyacetic acids. p. 529

ROCZNIKI CHEMII. (Polska Akademia Nauk) Warszawa, Poland, Vol. 33, no. 2, 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 9, September 1959.
Uncl.

URBANSKI, Tadeusz; CHIMIAK, Andrzej; ECKSTEIN, Zygmunt

The products of the reaction of methyl 2-hydroxy-3-naphthoate with formaldehyde and cyclohexylamine or benzylamine. Roczniki chemii 33 no.4/5:1201-1206 '59. (KEAI 9:9)

1. Katedra Technologii Organicznej II Politechniki, Warszawa.
(Hydroxymethylnaphthoate)
(Formaldehyde) (Cyclohexylamine)
(Benzylamine)

ECKSTEIN, Z.

1
 ✓ Nitration products of ethyl phenoxycetate and 2-methyl-phenoxycetate. Zygmunt Eckstein and Mieczysław Karcz (Politechnika, Warsaw). *Roczniki Chem.* 33, 1465-71 (1959) (English summary).—Et phenoxycetate (I) (27 g.) was slowly added (with stirring) to 75 ml. concd. H₂SO₄ at -10°, and then a mixt. of 12.5 ml. HNO₃ (d. 1.51) and 12.5 ml. H₂SO₄ was added dropwise. The product was slowly poured into a H₂O-ice mixt., filtered, and washed with ag. NaHCO₃. Crystn. from EtOH gave 68% 2,4-dinitro deriv. of I (II), m. 76.5-8.0°. Hydrolysis of II with a KOH soln. gave 2,4-dinitrophenol. 2-Me deriv. of I was nitrated to the 4,6-dinitro-2-methyl deriv. of I (III) m. 81-2° (82%) in the same way. 2-Methylphenoxycetic acid (IV) (28 g.) was nitrated with HNO₃ (d. 1.51) to the 4,6-dinitro deriv., m. 179-180°, (71%). Its Et ester did not cause any depression of m.p. when added to III. A. Kreglewski

1-92 (NB)

16/11/56

ECKSTEIN, Zygmunt; SZULCOWA, Elzbieta

Some problems of obtaining weed killers. XV. Preparation of 2,4,5 -
tribromophenoxyacetic acid (the bromine analogue of 2,4,5-T)
Rocz chemii 33 no.6:1477-1483 '59. (EEAI 9:9)

1. Katedra Technologii Organicznej II Politechniki, Warszawa.
(Tribromophenoxyacetic acid) (Herbicides)

ECKSTEIN, Z. ; CZERWINSKA, E.

Fungicidal properties and the activity of aryloxyacetoxyhydroxamic acids.
II. The influence of bromine as a substituent. p. 213.

PRZEMISŁ CHEMICZNY. Ministerstwo Przemysłu Chemicznego i Stowarzyszenie Naukowo-
Techniczne Inżynierów i Techników Przemysłu Chemicznego. Warszawa, Poland, Vol. 38,
no. 4, Apr. 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 9, September, 1959.
Uncl.

Distr: 4E2c(j)

Arylacetonitriles. Zygmunt Eckstein and Edward Grochowski (Inst. Technol., Warsaw). *Przemysl Chem.* 38, 814-18 (1959).—A brief review was given of methods for prepg. arylalkyl halides (to obtain arylacetonitriles). The synthesis of halo- and hydroxyphenylacetonitriles was studied, the diazotization of *p*-aminophenylacetonitrile chlorostannate (I) being used. The diazonium salt was subsequently decompd. in a soln. of the corresponding acid and a cuprous compd. in the presence of C_6H_6 (to prevent hydrolysis of the cyanide group). *p*-Nitrophenylacetonitrile, obtained by nitration of benzyl cyanide, was reduced by Sn or $SnCl_2$ to 95% I. 6 references.

Zdzislaw T. Bleszyński

4
1-2-9 (NB)

CAX
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Coal

ECKSTEIN, ZYGMUNT

Diatr. 422a

7

✓ Insecticides. II. Reaction products of chloral with acetonitrile derivatives. Zygmunt Eckstein and Edward Grochowski (Politechnika, Warsaw). *Przemysl Chem.* 38, 693-8 (1969) (Russian and English summaries).—Condensation of CCl_3CHO (I) with substituted acetonitriles at 20° in the presence of concd. H_2SO_4 and CHCl_3 gave diamides ($\text{R}^1\text{R}^2\text{C}(\text{CONH})_2$), CHCl_3 (II) in 19-94% yields. Some corresponding amides $\text{R}^1\text{R}^2\text{C}(\text{CONH})_2$ (III) were obtained as side-products. However, III were not reaction intermediates, since condensation of III with I gave only minute amounts of II at $110-20^\circ$. Only when $\text{R}^1 = \text{Ph}$, $\text{R}^2 = \text{R}^3 = \text{H}$, the corresponding II was formed in low yield. Other III gave mainly the carbinols $\text{RCONHCH}(\text{OH})\text{CCl}_2$ (IV). A reaction mechanism was proposed by the authors. All II were difficultly sol. in org. solvents, melted with decomposition and sublimed. Aryl derivs. were not attacked by dil. boiling acids and alkalis. II were dehydrochlorinated by alc. KOH to cryst. compds. m. without decomposition. II were slightly active against *Musca domestica* and *Calandra granaria*. Where $\text{R}^1 = 4\text{-ClC}_6\text{H}_4$ or $4\text{-O}_2\text{NC}_6\text{H}_4$ and $\text{R}^2 = \text{R}^3 = \text{H}$, 35-40% insecticidal activity of DDT was reached. The following II were prepd. (R^1 , R^2 , R^3 , m.p., and % yield given): Ph, H, H, $252-3^\circ$, 73; 2- ClC_6H_4 , H, H, $250-1^\circ$, 57; 3- ClC_6H_4 , H, H, $249-50^\circ$, 58; 4- ClC_6H_4 , H, H, $247-8^\circ$, 94; 4- FC_6H_4 , H, H, $254-5^\circ$, 92; 4- BrC_6H_4 , H, H, $246-7^\circ$, 90; 4- IC_6H_4 , H, H, $244-5^\circ$, 70; 4- $\text{O}_2\text{NC}_6\text{H}_4$, H, H, $241-2^\circ$, 63; 4- MeC_6H_4 , H, H, $232-5^\circ$, 40; 4- HOC_6H_4 , H, H, $253-6^\circ$, 85; 4- MeOC_6H_4 , H, H, $239-40^\circ$, 78; 2,4- $\text{Me}_2\text{C}_6\text{H}_3$, H, H, 232° , 35; 2,6- $\text{Me}_2\text{C}_6\text{H}_3$, H, H, $218-20^\circ$, 51; 3,5- $\text{Me}_2\text{C}_6\text{H}_3$, H, H, $245-6^\circ$, 53; 3,4,6- $\text{Me}_3\text{C}_6\text{H}_2$, H, H, $238-9^\circ$, 42; α -naphthyl, H, H, $251-3^\circ$, 88; H, H, H, — (sublimed), 19; Cl, H, H, $211-12^\circ$, 30; Cl, Cl, H, $239-40.5^\circ$, 33; Cl, Cl, Cl, H, H, $169-71^\circ$, 48. The following IV were prepd. (R, m.p., and % yield given): PhCH₂, $141-2^\circ$, 67; 4- $\text{FC}_6\text{H}_4\text{CH}_2$, $156-8^\circ$, 80; 4- $\text{ClC}_6\text{H}_4\text{CH}_2$, $167-9^\circ$, 85; 4- $\text{BrC}_6\text{H}_4\text{CH}_2$, $177-9^\circ$, 96; 4- $\text{IC}_6\text{H}_4\text{CH}_2$, $187-90^\circ$, 82; 4- $\text{O}_2\text{NC}_6\text{H}_4\text{CH}_2$, $190-8^\circ$, 85. Infrared absorption data for the majority of compds. were given.

Paul R. Steyermark

ECKSTEIN, Zygmunt

The status of research and present world situation in the field of
chemical protection of plants. Postepy nauk roln 7 no.5:71-94
S-0 '60. (EEAI 10:2)

1. Instytut Sadownictwa, Skierniewice
(Plants) (Insecticides) (Pesticides)

ECKSTEIN, Z.; DAHLIG, W.; HETNARSKI, B.; PASYNKIEWICZ, S.

A new method of presenting organic mercury compounds. *Bul chim PAN* 8
no.4:161-164 '60. (EEAI 10:9/10)

1. Instytut Chemii Organicznej PAN; Katedra Technologii Organicznej
I, II Politechnika, Warszawa. Presented by T. Urbanski.

(Mercury organic compounds)

ECKSTEIN, Z.; KOWALIK, R.

On properties and fungicidal activities of aryloxyacetohydroxamic acids. III, Influence of alkyl groups as substituents, Bul chim PAN 8 no.9:467-473 '60.

1. Department of Organic Technology, Technical University, Warsaw and Mycological Laboratory, Institute of Organic Industry, Presented by T. Urbanski.

(Fungicides) (Aryloxy group) (Acetohydroxamic acid)
(Alkyl group)

ECKSTEIN, Zygmunt; GROCHOWSKI, Edward; URBANSKI, Tadeusz

The fungicidal activity of derivatives of 2-nitropropanediol-1,3.
Rocz chemii 34 no.3/4:931-940 '60. (EKA1 10:3)

1. Zaklad Syntezy Organicznej Polskiej Akademii Nauk, Warszawa
(Nitropropanediol) (Fungicides)

ECKSTEIN, Zygmunt; SACHA, Andrzej; SOBOTKA, Wieslaw

Side products of the reaction of nitromethane-homologues with cyclic ketones. Roczniki chemii 34 no.5:1329-1337 '60.

(EEAI 10:9)

1, Zakład Syntezy Organicznej Polskiej Akademii Nauk, Warszawa i Instytut Farmaceutyczny, Warszawa.

(Nitromethane) (Ketones) (Cyclic compounds)

ECKSTEIN, Zygmunt

Development trends of the research activities and application of chemical plant protection agents in the Chinese People's Republic. Przem chem 39 no.4:205-210 Ap '60.

1. Zaklady Syntezy Organicznej, Polska Akademia Nauk, Warszawa

Distr: 4E2c(j)/4E3b/4E3d

7
1-BW(BLW)
1-JAT(NB)
3

Preparation of organomercury compounds from mercury salts and organoaluminum compounds. (Zygmunt Eckstein, Włodzisław Dąblik, Bogumił Hetnarski, and Stanisław Paszkiński (Katedra Chem. Fiz. PAN, Warszawa); *Prace Inst. Chem. PAN* 59, 225-8 (1964) English summary). — Compds. of the type R_3Al , R_2AlCl , and $RAiCl_2$ ($R = Me$ or Et) reacted with Hg salts to give corresponding org. Hg compds. in a high yield. The method was esp. valuable when $Et_2AlCl \cdot NaCl$ (I), a by-product in the manuf. of the catalyst for the low-pressure polyethylene, was used. I dissolved in most org. solvents, was easy to handle, and safe in use. To 112.8 g. $HgCl_2$ (II) in 180 cc. xylene was added dropwise with stirring 76.8 g. $Et_2AlCl \cdot NaCl$ in 180 cc. xylene, the temp. raised to 45–50°, the whole stirred 30 min., kept 12 hrs. at room temp., treated with stirring with 300 cc. H_2O at 40°, the ppt. filtered off, washed with H_2O and $EtOH$, and dried to yield 100.5 g. $EtHgCl$ (III). To 21.4 g. II in 60 cc. C_6H_6 was added dropwise during 12 min. 3 g. Et_2Al in 10 cc. C_6H_6 , and the temp. raised from 21 to 48°. After 12 hrs., 10 cc. concd. HCl in 40 cc. H_2O was

added dropwise, the ppt. filtered off, dried, and recrystd. from dil. $EtOH$ to yield 16.5 g. III. III was similarly prepd. from Et_2AlCl and $EtAlCl_2 + Et_2AlCl$. To 31.6 g. II in 160 cc. C_6H_6 was added dropwise with stirring 2.8 g. Me_2Al in 20 cc. C_6H_6 (the temp. was kept below 50°), the whole stirred 30 min., kept 4 hrs. at room temp., treated with 20 cc. concd. HCl (the temp. as before), the C_6H_6 -layer sepd. and the H_2O -layer extd. with 20 cc. C_6H_6 . To the joined solns. was added 100 cc. H_2O , C_6H_6 evapd., the ppt. filtered off, washed with H_2O and dried to yield 28 g. $MeHgCl$ (IV). IV was similarly prepd. from Me_2AlCl and $MeAlCl_2$. To 33.5 g. $Hg(OAc)_2$ in 80 cc. C_6H_6 was added dropwise with stirring 4.4 g. Et_2Al in 20 cc. C_6H_6 with the temp. kept below 50°. After 12 hrs., 50 cc. H_2O was added, C_6H_6 distd., and the ppt. filtered off to yield 20.1 g. $AcO-HgEt$; the filtrate was evapd. to dryness, extd. with $MeOH$, and the ext. evapd. to give addnl. 6.4 g. The new synthesis of alkylmercury acetates also made possible a convenient prepn. of other alkylmercury salts.

A. L. Lukaszczuk

ECKSTEIN, Zygmunt; EJMOCKI, Zdzislaw; POTOCKI, Jan; SOBOTKA, Wieslaw;
ZUKOWSKI, Edward

Obtaining of *1,4*-*di*-substituted phenoxyalkanocarboxylic acids.
Przem chem 39 no.5:275-279 M. 60.

1. Katedra Technologii Organicznej II, Politechnika, Warszawa

ECKSTEIN, Zygmunt; EJMOCKI, Zdzislaw; GWIAZDECKA, Irena

On the possibilities of utilizing trichlorobenzenes for the
synthesis of chemical plant protection agents and other pesticides.
Przem chem 39 no.10:616-621 O '60.

1. Katedra Technologii Organicznej II, Politechnika, Warszawa

ECKSTEIN, Zygmunt; KOWALIK, Romuald

On the properties and fungicidal activities of aryloxyaceto-
hydroxamic acids. III. Influence of alkylic remnant as sub-
stituents. Przem chem 39 no.12:756-759 D '60.

1. Katedra Technologii Organicznej II, Politechnika, Warszawa i
Pracownia Mykologiczna, Instytut Przemyslu Organicznego, Warszawa

MIKULSKI, J.; ECKSTEIN, Z.

On the application of 2,4 D marked with ^{14}C and ^{36}Cl for investigations on the Birnbaum-Simonini-reaction. Bul chim PAN 9 no.6:425-428 '61.

1. Instytut Badań Jądrowych, Krakow i Zakład Syntezy Organicznej, Polska Akademia Nauk. Presented by T. Urbanski.

ECKSTEIN, Z.; PLENKIEWICZ, J.

On properties of infrared absorption spectra of some derivatives of
indandione- 1,3. Pt. II. Bul chim PAN 9 no.6: '61.

1. Institute of Organic Synthesis, Polish Academy of Sciences.
Presented by T. Urbanski.

ORLOWSKI, J.; ECKSTEIN, Z.

Catalytic and pyrolytic dehydrochlorination of the pure α -, β -, γ -
and δ -isomers of hexachlorocyclohexane (HCH) Bul chim PAN 9 no.10:
619-625 '61.

1. II Department of Organic Technology, Technical University, Warsaw,
and Institute of Organic Industry, Warsaw. Presented by T. Urbanski.

(Hexachlorocyclohexane)

BYRDY, S.; ECKSTEIN, Z.; PLENKIEWICZ, J.

On insecticidal activity of β -nitrovinylbenzene derivatives.
Bul chim PAN 9 no.10:627-631 '61.

1. Plan Protection Station, Pszczyna, Institute of Organic Industry,
Warsaw and II Department of Organic Technology, Technical University,
Warsaw. Presented by T. Urbanski.

(Nitovinyl group)

S/081/62/000/024/036/073
B101/B186

AUTHORS: Calus, H., Eckstein, Z., Sobótka, W., Urbański, T.

TITLE: Endoisomers and exoisomers of nitroolefins (1-cyclohexenyl nitromethane and cyclohexylidene nitromethane).
III. Measurement of dipole moments

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24, 1962, 276, abstract 24Zh8 (Bull. Acad. polon. sci. Sér. sci. chim., v. 9, no. 11, 1961, 725-729 [Eng.; summary in Russ.])

TEXT: Dipole moments were compared to explain the composition of a mixture of cyclohexylidene nitromethane (I) and cyclohexene-1-yl nitromethane (II) forming when 1-nitromethyl-1-hydroxycyclohexane (III) is heated. Results: $(\text{CH}_2)_4\text{C}(\text{CHRNO}_2) = \text{CH}$, (where R = H, CH_3 , and C_2H_5), $(\text{CH}_2)_n\text{C}(\text{CH}_2\text{NO}_2) = \text{CH}$ (where n = 5,6), nitrocyclohexane, cyclohexyl nitromethane, and 1-nitromethyl-4-methyl-cyclohexene-1 were found to have the same dipole moments of 3.6 ($\pm 0.1\text{D}$). The dipole moment (4.3D) of the

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Inst. Organic Chem. Polish Acad. Sci. and

ECKSTEIN, Z.; MIKULSKI, J.

Studies on the Birnbaum-Simonini-Reaction of some phenoxy acetic acid derivatives. III. *Bul chim PAN* 9 no.12:785-790 '61.

1. Zakład Syntezy Organicznej, Polska Akademia Nauk, Warszawa, 1
Instytut Badan Jadrowych, Krakow. Presented by T. Urbanski.

BIALAS, Julian; ECKSTEIN, Zygmunt; EJMOCKI, Zdzislaw; HETNARSKI, Bogumil;
SOBOTKA, Wieslaw; SZYMASZKIEWICZ, Jacek

On the properties and the fungicidal activity of some N-alkylmercury
derivatives of sulphonamides. Przem chem 40 no.10:567-570 0 '61.

1. Katedra Technologii Organiczne II, Politechnika, Warszawa i Labora-
torium Badawcze, Zaklady Chemiczne Azot, Jaworzno.

ORLOWSKI, Jan; ECKSTEIN, Zygmunt

Studies on the catalytic and pyrolytic dehydrochlorination of individual isomers of hexachlorocyclohexane. Przem chem 40 no.11:643-646 N '61.

1. Katedra Technologii Organicznej II, Politechnika, Warszawa i Instytut Przemyslu Organicznego, Warszawa.

DOMANSKA, Helena; ECKSTEIN, Zygmunt; EJMOCKI, Zdzislaw; MAJEWSKI, Krzysztof;
ZUKOWSKI, Edward

Possibilities of utilizing 2,5-dichlorophenol in the synthesis of
plant protection agents; experiments in applying 2,5-dichlorophenoxyacetic
acid as a herbicide. Postepy nauk roln 9 no.3:59-76 My-Je '62.

1. Katedra Technologii Organicznej II, Politechnika, Warszawa, i
Zaklad Ogolnej Uprawy Roln i Roslin, Szkola Glowna Gospodarstawa
Wiejskiego, Warszawa.

ECKSTEIN, Z.; GLUZINSKI, P.; PLENKIEWICZ, J.; URBANSKI, T.

On the contribution of hexahydro-*s*-triazines in the synthesis mechanism of 5-nitrotetrahydro-1,3-oxazine derivatives. Bul chim PAN 10 no.9: 487-492 '62.

1. Department of Organic Technology II, Institute of Technology, Warsaw, and Institute of Organic Synthesis, Polish Academy of Sciences, Warsaw. Presented by Urbanski.

S/081/62/000/023/003/120
B162/B180

AUTHORS: Eckstein, Zygmunt, Majewski, Krzysztof, Gluziński, Przemysław

TITLE: On some 2-aryl-5,6-dihydro-1,3-oxazine derivatives and their infrared spectra

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1962, 24, abstract 23B151 (Roczn. chem., v. 36, no. 1, 1962, 73-85 [Eng.; summaries in Pol. and Russ.])

TEXT: By interaction of 3-azidopropanol with aromatic aldehydes, 2-aryl-5,6-dihydro-1,3-oxazine are obtained, where aryl = C_6H_5 , 3'- and 4'- $CH_3C_6H_4$, 4'- FC_6H_4 , 2'-, 3'- and 4'- ClC_6H_4 , 4'- BrC_6H_4 , 2'-, 3'- and 4'- $NO_2C_6H_4$, 4'- $(CH_3)_2NC_6H_4$ (I), 4'- HOC_6H_4 (II), 4'- $CH_3OC_6H_4$, 2',3'- $(CH_3O)_2C_6H_3$, α - $C_{10}H_7$, β - $C_{10}H_7$, and their IR-absorption spectra were obtained, as also of salicylidene-aniline (III), bis-salicylidene-ethylene-diimine (IV) and bis-n-oxyphenylene-ethylene-diimine (V). The intensive absorption bands in the 1629-1659 cm^{-1} zone of all the spectra are

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On some 2-aryl-5,6-dihydro-1,3-oxazine...

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attributed to the valence vibration of the C=N bond. The electron donor substituents in the aryl radical raise the frequency of this band, but the acceptor substituents lower it. However the linear dependence of this frequency, on the Hammett σ substituent is not explicit. The linearity is especially infringed in case II. In the I-V spectra there are no bands for the valence vibration of group OH. The peculiarities observed in the spectra are attributed to the fact that strong intramolecular hydrogen bonds exist in the ortho-oxyl compounds, and the paraisomers are present in the form of inner ions. [Abstracter's note: Complete translation.]

Card 2/2

URBANSKI, Tadeusz; BELZECKI, Czeslaw; ECKSTEIN, Zygmunt

Reactions of nitroparaffins. Pt. 48. Roczniki chemii 36 no.5:
879-888 '62.

1. Department of Organic Technology II, Institute of Technology,
Warsaw.

ECKSTEIN, Zygmunt

A new method of synthesis of 6-methoxybenzoxazolone.
Przem chem 41 no.2:66-68 F '62.

1. Katedra Technologii Organicznej II, Politechnika,
Warszawa.

ECKSTEIN, Z.

"Aminoaklylation" by H. Hellmann, G. Opitz. Reviewed by
Z. Eckstein. Przem chem 41 no.5:287. Ny '62.

ECKSTEIN, Zygmunt

Problems of the chemistry of aryloxyalkanoic acids.
Pt. 1. Przem chem 41 no.7:350-353 J1 '62.

1. Katedra Technologii Organicznej II, Politechnika, Warszawa.

ECKSTEIN, Zygmunt

Problems of the chemistry of aryloxyalkanocarboxylic acids. Pt. 2. Przem chem 41 no.8:418-421 Ag '62.

1. Katedra Technologii Organicznej II, Politechnika, Warszawa.

ARCT, Jacek; ECKSTEIN, Zygmunt; GWIAZDECKA, Irena; KRZYWICKA, Hanna

Possibilities of utilizing 2,4,5- trichlorophenol in the synthesis of pesticides. Przem chem 41 no.10:582-586 0 '62.

1. Katedra Technologii Organicznej II, Politechnika Warszawa i Panstwowy Zaklad Higieny, Warszawa.

ORLOWSKI, Jan; MAZANKOWA, Zdzisława; ECKSTEIN, Zygmunt

Activity of certain organic bases as catalysts in dehydrochlorination of inactive HCH isomers. *Przem chem* 41 no.11:649-651 N '62.

1. Instytut Przemysłu Organicznego, Warszawa, i Katedra Technologii Organicznej II, Politechnika, Warszawa.

P/014/62/041/012/005/005
D204/D307

AUTHORS: Eckstein, Zygmunt, Mazankowa, Zdzisława and Orłowski, Jan

TITLE: A study of a continuous process of the catalytic dehydrochlorination of the inactive isomers of HCH

PERIODICAL: Przemysł Chemiczny, v. 41, no. 12, 1962, 705-708

TEXT: The present work (part VII of a series 'Utilization of the inactive isomers of HCH') was concerned with the application of the results obtained earlier on the dehydrochlorination of 1, 2, 3, 4, 5, 6-hexachlorocyclohexanes to the design of an industrial process. The investigation was carried out on a quarter-technological scale, on an installation consisting basically of a catalyst-filled reactor, a container and melting vessel for the HCH, fitted with a dosing device, an HCl absorber, and a product collector. Polish granular carbons Carbopol Z-Extra, Carbopol H-4, and Carbopol Z-4 were used as catalysts. At 300°C, with Carbopol Z-4 and a feed rate of 250 g HCH/hr, the reaction gave > 90% yields of tri- ✓

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A study of a continuous ...

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chlorobenzenes (rich in the 1, 2, 4-isomer); the quantities of 1, 2, 4, β - and 1, 2, 3, 4-tetrachlorobenzene formed increased with time, becoming considerable after ~ 50 hrs. A certain loss of catalyst activity took place with time. Slightly higher yields of the tetrachlorobenzenes were obtained with the other catalysts. With Carbopol Z-Extra complete utilization of HCH was possible at 300°C for feed rates of 0.5 - 1 kg/hr. At 250°C, with ~0.83 kg of HCH/kg catalyst.hr, a little HCH was found in the product and the yield of trichlorobenzenes was ~ 87%. The latter figure tended to fall with temperature, e.g. to 85% at 300°C, but the yields of tetrachlorobenzenes became higher. The catalysts were poisoned by deposition of α -HCH on their surface, but could be regenerated with acetone. Repeated regeneration led however to crumbling. In the absence of catalyst, at 300°C, the main product was 1, 2, 4-trichlorobenzene (~ 80% yield). It is concluded that the proposed process is fully satisfactory and the active life of the catalyst is sufficiently long.

ASSOCIATION: Katedra Technologii Organicznej II Politechniki
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A study of a continuous ...

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D204/D307

Warszawskiej; Instytut Przemysłu Organicznego we
Wrocławiu (Department of Organic Technology II,
Warsaw Polytechnic Institute; Institute of Organic
Industry, Wrocław)

SUBMITTED: June 12, 1962

Card 3/3

ECKSTEIN, Z.; GLUZINSKI, P.; PLENKIEWICZ, J.

Properties and infrared spectra of 5-arylo-5-nitro derivatives of tetrahydro-1, 3-oxazine and hexahydropyrimidine. *Bul Chim PAN* 11 no.6:325-331 '63.

1. Department of Organic Technology II, Institute of Technology, Warsaw, and Institute of Organic Synthesis, Polish Academy of Sciences, Warsaw. Presented by T.Urbanski.

GROCHOWSKI, E.; ECKSTEIN, Z.

Synthesis of some 2,2,2,-trichloro-1, 1-bis-(*N*-phenoxy-acetamido)-ethane derivatives. *Bul chim PAN* 11 no.8:443-446 '63.

1. Institute of Organic Synthesis, Polish Academy of Sciences, Warsaw. Presented by T. Urbanski.

ECKSTEIN, Z.; TOLAK, J.

On the properties and fungicidal activity of aryloxyalkane-
hydroxamic acids. Pt. 6. Bul chim PAN 11 no.12:671-675 '63.

1. Department II of Organic Technology, Technical University,
Warsaw. Presented by T. Urbanski.

ECKSTEIN, Z.; GROCHOWSKI, E.; KOWALIK, R.; URBANSKI, T.

Fungicidal activity of some 2-nitropropanedi-1,3-ol derivatives.
Bul chim PAN 11 no.12:687-693 '63.

1. Institute of Organic Synthesis, Polish Academy of Sciences,
and Mycological Laboratory, Institute of Organic Chemistry, Warsaw.
Presented by T. Urbanski.

ECKSTEIN, Zygmunt, doc. dr

Pesticides. Problemy 19 no.5:274-279 '63.

ECKSTEIN Zygmunt; ORACZ, Krystyna; RUDNICKA, Barbara

Reactions of benzohydrol derivatives with 2-nitroindandione-1,3.
Pt.1. Roczniki 37 no.2:249-254 '63.

1. Department of Organic Technology II, Institute of Technology,
Warsaw.

ECKSTEIN, Zygmunt; PIENKIEWICZ, Jan

Fluorine influence on the biological activity of some pesticides.
Pt. 5. Roczniki chemii 37 no. 7/8:907-912 '63.

1. Institute of Organic Synthesis Polish Academy of Sciences,
Warsaw and Department of Organic Technology II, Technical
University, Warsaw.

ECKSTEIN, Zygmunt

Problems of the chemistry of aryloxyalkanocarboxylic acids.
Pt.3. Przem chem 42 no.1:10-15 Ja '63.

1. Katedra Technologii Organicznej II, Politechnika, Warszawa.

ECKSTEIN, Z.

"Residue reviews" by F.A. Gunther. Vol.1. Reviewed by
Z. Eckstein. Przem chem 42 no.6:337 Je '63.

DOBROWOLSKA, Fwa; EGASTEIN, Zygmunt

Synthesis of ethyl esters, homologues of 2,4-D with a
straight carbon chain. Prace chem 42 no.10:556-560 1963.

1. Katedra Technologii Organicznej, IT, Politechnika, Warszawa.

DOMANSKA, H.; ECKSTEIN, Z.

Herbicidal properties of saccharose esters of phenoxyacetic acid derivatives. Rocz nauk roln rosl 88 no.1:59-72 '63.

1. Katedra Ogolnej Uprawy Roli i Roslin, Szkola Glowna Gospodarstwa Wiejskiego, Warszawa i Katedra Technologii Organicznej II, Politechnika, Warszawa.

PALUT, D.; ECKSTEIN, Z.

Biological activity of some coupling products of p-(chloromethyl-sulfone)-benzenediazonium chloride with nitroparaffins. Bul chim PAN 12 no. 1:41-45 '64.

1. Department of Disinfection and Vector Control, State Institute of Hygiene, Warsaw, and Department II of Organic Technology, Technical University, Warsaw. Presented by T. Urbanski.

ECKSTEIN, Zygmunt; BYCZER, Elzbieta; NIEDZIEMCZYKA, Teresa

Nitration of 2-methyl and 2-ethyl-4-chlorophenoxy-acetic acid esters. Pt. 1. Roczniki chemii 38 no. 1:51-59 '64.

1. Department of Organic Technology II, Technical University, Warsaw.

ARCT, Jacek; ECKSTEIN, Zygmunt; KRZYWICKA, Hanna

Bacteriostatic activity of o-hydroxybenzyl alcohol derivatives.
Przem chem 43 no. 2: 87-91 F '64.

1. Katedra Technologii Organicznej II, Politechnika, Warszawa
i Panstwowy Zaklad Higieny, Warszawa.

ECKSTEIN, Z.

"Development of new insecticide phosphorous acid esters" by
Gerhard Schrader. Reviewed by Z. Eckstein. Przem chem 43 no. 2:
118 F '64.

ECKSTEIN, Zygmunt

Achievements, shortcomings, and prospects in the development of pesticides for plant protection. Postep, nauk roln 11 no.4: 57-94. J1-Ag '64.

1. Department of Organic Technology II, Technical University, Warsaw.

ARCT, J., CZERWINGKA, E.; FOKSTEIN, Z.; EJMOCKI, Z.; KOWALIK, R.; SCBOTKA, W.;
ZUKOWSKI, E.

Properties and fungicidal activity of aryloxyalkanehydroxamic
acids. Pt.7. Bul chim PAN 12 no.7:465-470 '64.

1. Department of Organic Technology II of Warsaw Technical
University and Mycological Laboratory of the Institute of
Organic Industry, Warsaw. Submitted May 11, 1964.

ECKSTEIN, Z.; GLUZINSKI, P.; URBANSKI, T.

Some remarks on the Senkus method for synthesis of 5-nitro-tetrahydro-oxazine. Bul chim PAN [1 e. 12] no.9:623-626 '64.

1. Department of Organic Technology II of Warsaw Technical University and Institute of Organic Synthesis of the Polish Academy of Sciences. Submitted July 31, 1964.

BURACZEWSKI, K.; CZERWINSKA, E.; ECKSTEIN, Z.; GROCHOWSKI, E.; KOWALIK, R.;
PLENKIEWICZ, J.

Properties and fungicidal activities of some aryl derivatives
of hydroxamic acid. Bul chim PAN 12 no.11:773-779 '64.

1. Department of Organic Technology II of Warsaw Technical
University, and Mycological Laboratory of the Institute of
Organic Industry, Warsaw. Submitted September 2, 1964.

ECKSTEIN, Z.; KOSCIELNY, J.

Method of synthesis and properties of 5-aryloxy-5-nitro-1,3-dioxanthiane-3-oxide derivatives. Bul chim PAN 13 no.1:11-15 '65.

1. Department of Organic Technology II of Warsaw Technical University. Submitted November 25, 1964.