

PATENT REQUEST: STANDARD PATENT/PATENT OF ADDITION

We, being the person identified below as the Applicant, request the grant of a patent to the person identified below as the Nominated Person, for an invention described in the accompanying standard complete specification.

Full application details follow.

- [71] Applicant: BASF AKTIENGESELLSCHAFT
Address: D-6700 LUDWIGSHAFEN, FEDERAL REPUBLIC OF GERMANY
- [70] Nominated Person: BASF AKTIENGESELLSCHAFT
Address: D-6700 LUDWIGSHAFEN, FEDERAL REPUBLIC OF GERMANY
- [54] Invention Title: NOVEL BENZYL ENOL ETHERS AND THEIR USE AS CROP PROTECTION AGENTS
- [72] Name(s) of actual inventor(s): HORST WINGERT, HUBERT SAUATER, RÉMY BENOÎT, FRANZ ROEHL, EBERHARD AMMERMAN, GISELA LORENZ

- [74] Address for service in Australia: c/o WATERMARK PATENT & TRADEMARK ATTORNEYS, of The Atrium,
290 Burwood Road, Hawthorn, Victoria 3122, Australia Attorney Code: WM

BASIC CONVENTION APPLICATION(S) DETAILS

- | [31] Application Number | [33] Country | Country Code | [32] Date of Application |
|-------------------------|--------------|--------------|--------------------------|
| P42 14 189.3 | GERMANY | DE | 30TH APRIL 1992 |

Drawing number recommended to accompany the abstract

By our Patent Attorneys,
WATERMARK PATENT & TRADEMARK ATTORNEYS

Louis C. Gebhardt

Registered Patent Attorney

DATED this 28th day of April 1993.

AUSTRALIA

Patents Act 1990

NOTICE OF ENTITLEMENT

(To be filed before acceptance)

We, **BASF AKTIENGESELLSCHAFT**, of D-6700 Ludwigshafen, Federal Republic of Germany, being the applicant in respect of Application No. 38227/93 state the following:-

The Person nominated for the grant of the patent has entitlement from the actual inventors by virtue of their employment.

The person nominated for the grant of the patent is the applicant of the basic application listed on the patent request form.

The basic application listed on the request form is the first application made in a Convention country in respect of the invention.

By our Patent Attorneys,
WATERMARK PATENT & TRADEMARK ATTORNEYS


Louis C. Gebhardt

Registered Patent Attorney

16 January 1995



AU9338227

(12) PATENT ABRIDGMENT (11) Document No. AU-B-38227/93
(19) AUSTRALIAN PATENT OFFICE (10) Acceptance No. 658291

(54) Title
NOVEL BENZYL ENOL ETHERS AND THEIR USE AS CROP PROTECTION AGENTS

International Patent Classification(s)

(51) ⁵ C07C 069/734	C07C 205/56	C07C 251/50	C07C 255/15
C07C 255/17	C07C 255/23	C07C 255/31	C07C 255/37
C07C 255/40	C07C 255/54	C07C 255/57	C07C 323/60
C07D 203/10	C07D 205/04	C07D 207/08	C07D 213/53
C07D 213/57	C07D 213/61	C07D 213/69	C07D 215/22
C07D 233/61	C07D 237/16	C07D 239/26	C07D 249/08
C07D 277/30	C07D 303/46	C07D 307/16	C07D 307/54
C07D 307/58	C07D 309/06	C07D 309/12	C07D 309/38
C07D 311/30	C07D 311/46	C07D 311/74	C07D 319/06
C07D 333/24	C07D 335/02	C07C 069/738	C07D 207/327
C07D 213/643	C07D 295/145	C07D 295/155	

(21) Application No. : 38227/93

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4214189	30.04.92	DE GERMANY

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(71) Applicant(s)
BASF AKTIENGESELLSCHAFT

(72) Inventor(s)
HORST WINGERT; HUBERT SAUATER; REMY BENOIT; FRANZ ROEHL; EBERHARD AMMERMAN; GISELA LORENZ

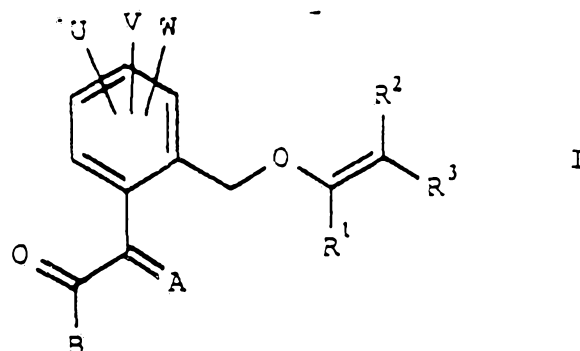
(74) Attorney or Agent
WATERMARK PATENT & TRADEMARK ATTORNEYS, Locked Bag 5, HAWTHORN VIC 3122

(56) Prior Art Documents
EP 513580
EP 253213

(57) The present invention relates to novel benzyl enol ethers, pesticides containing them, in particular fungicides, and to a process for controlling pests, in particular fungi, insects, nematodes and spider mites, using these compounds.

CLAIM

1. A benzyl enol ether derivative of the general formula I



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(10) 658291

where

A is

CH₂, CHCl, CH-C₁-C₄-alkyl, CH-O-C₁-C₄-alkyl, CH-S-C₁-C₄-alkyl, N-O-C₁-C₄-alkyl,

B is

OH, C₁-C₄-alkoxy, C₁-C₄-alkylthio and C₁-C₄-alkylamino,

U, V and W

are identical or different and are hydrogen, halogen, C₁-C₄-alkyl or C₁-C₄-alkoxy,

R¹, R² and R³

are identical or different and are hydrogen, cyano, halogen, NR⁴R⁵, CO₂R⁴, CONR⁴R⁵, COR⁴, S(O)_nR⁴ where n = 0, 1 or 2, PO(OR⁴)₂, unbranched or branched C₁-C₁₀-alkyl, C₁-C₄-haloalkyl, C₃-C₆-cycloalkyl, C₃-C₆-halocycloalkyl, C₃-C₆-cycloalkyl-C₁-C₄-alkyl, C₁-C₄-alkoxy-C₁-C₄-alkyl, C₁-C₄-alkylthio-C₁-C₄-alkyl, arylthio-C₁-C₄-alkyl, C₂-C₆-alkenyl, C₂-C₆-haloalkenyl, C₃-C₆-cycloalkenyl, C₃-C₆-halocycloalkenyl, C₂-C₆-alkynyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, C₁-C₄-alkylthio, benzylthio, C₁-C₄-alkylcarbonyl, unsubstituted or substituted phenylcarbonyl, unsubstituted or substituted benzylcarbonyl, C₁-C₄-alkoxycarbonyl, unsubstituted or substituted phenoxycarbonyl, unsubstituted or substituted benzyloxycarbonyl, unsubstituted or substituted aryl, unsubstituted or substituted aryloxy, unsubstituted or substituted arylthio, unsubstituted or substituted aryl-C₁-C₄-alkyl, unsubstituted or substituted aryl-C₂-C₄-alkenyl, unsubstituted or substituted aryloxy-C₁-C₄-alkyl, unsubstituted or substituted arylthio-C₁-C₄-alkyl, unsubstituted or substituted hetaryl, unsubstituted or substituted hetaryloxy, unsubstituted or substituted hetarylthio, unsubstituted or substituted heteroaryl-C₁-C₄-alkyl, unsubstituted or substituted hetaryl-C₂-C₄-alkenyl, unsubstituted or substituted hetaryloxy-C₁-C₄-alkyl, unsubstituted or substituted heterocyclyl, unsubstituted or substituted heterocycliloxy,

where unsubstituted or substituted, in addition to hydrogen, includes the radicals halogen, cyano, nitro,

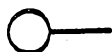
C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₄-haloalkyl, C₁-C₄-haloalkoxy, C₁-C₁₀-alkoximino-C₁-C₂-alkyl, aryl, aryloxy, benzyloxy, hetaryl, hetaryloxy, C₃-C₆-cycloalkyl, heterocyclyl, heterocyclyloxy, and the radicals

R⁴ and R⁵

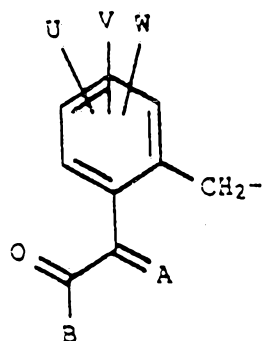
are identical or different and are hydrogen or C₁-C₄-alkyl,

R¹ and R³ together, and also R² and R³ together, in each case can form a carbocyclic or a heterocyclic ring which can in turn be benzo-fused and can be substituted by the radical mentioned under unsubstituted or substituted, where, inter alia, the following ring systems A - F are possible:

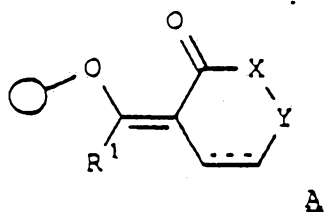
the symbol



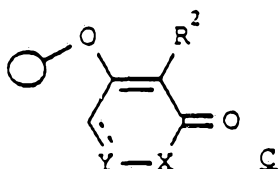
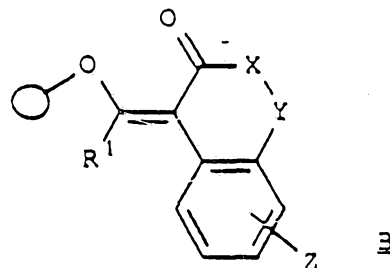
is the group



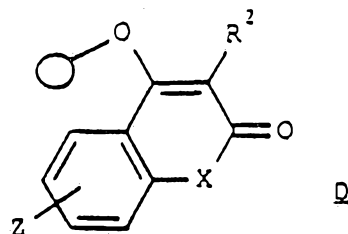
in the following



or

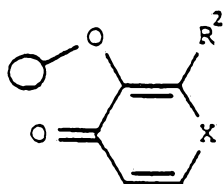


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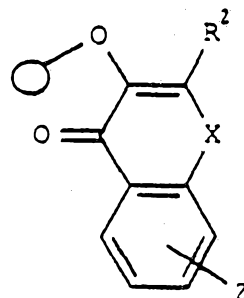
(11) AU-B-38227/93
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F

or



F

where

X is

CH₂, O, NR⁴,

Y is

CH, (CH₂)_n, where n = 0, 1 or 2,

Z is

hydrogen, halogen, C₁-C₄-alkyl or C₁-C₄-alkoxy and

R⁴ is

hydrogen or C₁-C₄-alkyl and is a single bond or a double bond.

AUSTRALIA

Patents Act 1990

658291

**ORIGINAL
COMPLETE SPECIFICATION
STANDARD PATENT**

Application Number:

Lodged:

Invention Title:

NOVEL BENZYL ENOL ETHERS AND THEIR USE AS CROP
PROTECTION AGENTS

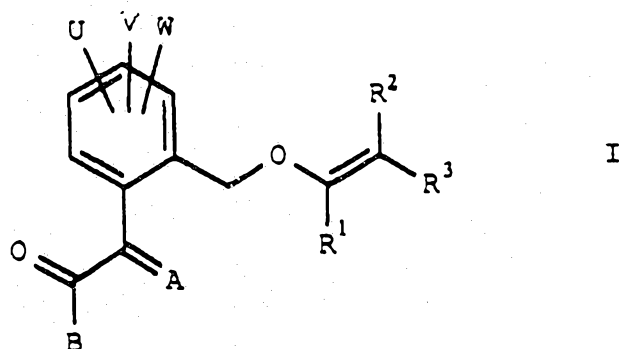
The following statement is a full description of this invention, including the
best method of performing it known to :-US

Novel benzyl enol ethers and their use
as crop protection agents

The present invention relates to novel benzyl enol ethers, pesticides containing them, in particular fungicides, and to a process for controlling pests, in particular fungi, insects, nematodes and spider mites, using these compounds.

It is known that β -methoxyacrylates, for example methyl 2-[2-(phenyloxymethylene)phenyl]-3-methoxyacrylate (EP 178 826) and also oxime ethers, for example methyl 2-[2-(phenyloxymethylene)phenyl]glyoxylate O-methyloxime ether (cf. EP 253 213) have fungicidal or insecticidal activity. Their action, however, is unsatisfactory.

It has now surprisingly been found that benzyl enol ethers of the general formula I



where

A is

CH_2 , CHCl , $\text{CH-C}_1\text{-C}_4\text{-alkyl}$, $\text{CH-O-C}_1\text{-C}_4\text{-alkyl}$, $\text{CH-S-C}_1\text{-C}_4\text{-alkyl}$, $\text{N-O-C}_1\text{-C}_4\text{-alkyl}$,

B is

OH , $\text{C}_1\text{-C}_4\text{-alkoxy}$, $\text{C}_1\text{-C}_4\text{-alkylthio}$ and $\text{C}_1\text{-C}_4\text{-alkylamino}$,

U, V and W


are identical or different and are hydrogen, halogen, $\text{C}_1\text{-C}_4\text{-alkyl}$ or $\text{C}_1\text{-C}_4\text{-alkoxy}$,

R^1 , R^2 and R^3

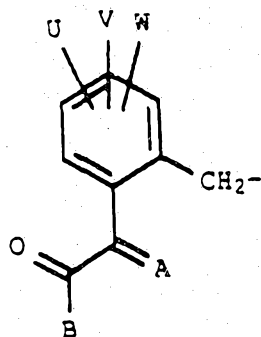
are identical or different and are hydrogen, cyano, halogen, NR^4R^5 , CO_2R^4 , CONR^4R^5 , COR^4 , $\text{S(O)}_n\text{R}^4$ where $n = 0, 1$

or 2, $\text{PO}(\text{OR}^4)_2$, unbranched or branched $\text{C}_1\text{-C}_{10}$ -alkyl, $\text{C}_1\text{-C}_4$ -haloalkyl, $\text{C}_3\text{-C}_6$ -cycloalkyl, $\text{C}_3\text{-C}_6$ -halocycloalkyl, $\text{C}_3\text{-C}_6$ -cycloalkyl- $\text{C}_1\text{-C}_4$ -alkyl, $\text{C}_1\text{-C}_4$ -alkoxy- $\text{C}_1\text{-C}_4$ -alkyl, $\text{C}_1\text{-C}_4$ -alkylthio- $\text{C}_1\text{-C}_4$ -alkyl, arylthio- $\text{C}_1\text{-C}_4$ -alkyl, $\text{C}_2\text{-C}_6$ -alkenyl, $\text{C}_2\text{-C}_5$ -haloalkenyl, $\text{C}_3\text{-C}_6$ -cycloalkenyl, $\text{C}_3\text{-C}_6$ -halocycloalkenyl, $\text{C}_2\text{-C}_6$ -alkynyl, $\text{C}_1\text{-C}_6$ -alkoxy, $\text{C}_1\text{-C}_6$ -haloalkoxy, $\text{C}_1\text{-C}_4$ -alkylthio, benzylthio, $\text{C}_1\text{-C}_4$ -alkylcarbonyl, unsubstituted or substituted phenylcarbonyl, unsubstituted or substituted benzylcarbonyl, $\text{C}_1\text{-C}_4$ -alkoxycarbonyl, unsubstituted or substituted phenoxy carbonyl, unsubstituted or substituted benzyloxycarbonyl, unsubstituted or substituted aryl, unsubstituted or substituted arylthio, unsubstituted or substituted aryl- $\text{C}_1\text{-C}_4$ -alkyl, unsubstituted or substituted aryl- $\text{C}_2\text{-C}_4$ -alkenyl, unsubstituted or substituted arylthio- $\text{C}_1\text{-C}_4$ -alkyl, unsubstituted or substituted hetaryl, unsubstituted or substituted hetarylthio, unsubstituted or substituted heteroaryl- $\text{C}_1\text{-C}_4$ -alkyl, unsubstituted or substituted hetaryl- $\text{C}_2\text{-C}_4$ -alkenyl, unsubstituted or substituted hetarylthio- $\text{C}_1\text{-C}_4$ -alkyl, unsubstituted or substituted heterocyclyl, unsubstituted or substituted heterocyclylthio, where unsubstituted or substituted, in addition to hydrogen, includes the radicals halogen, cyano, nitro, $\text{C}_1\text{-C}_4$ -alkyl, $\text{C}_1\text{-C}_4$ -alkoxy, $\text{C}_1\text{-C}_4$ -haloalkyl, $\text{C}_1\text{-C}_4$ -haloalkoxy, $\text{C}_1\text{-C}_{10}$ -alkoximino- $\text{C}_1\text{-C}_2$ -alkyl, aryl, aryloxy, benzyloxy, hetaryl, hetarylthio, $\text{C}_3\text{-C}_6$ -cycloalkyl, heterocyclyl, heterocyclylthio, and the radicals R^4 and R^5 are identical or different and are hydrogen or $\text{C}_1\text{-C}_4$ -alkyl, R^1 and R^3 together, and also R^2 and R^3 together, in each case can form a carbocyclic or a heterocyclic ring which can in turn be benzo-fused and can be substituted by the

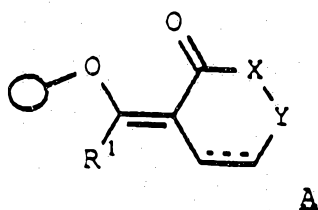
radical mentioned under unsubstituted or substituted, where, inter alia, the following ring systems A - F are possible:

the symbol 

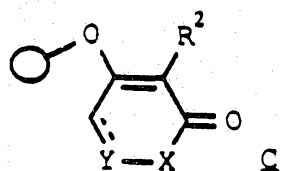
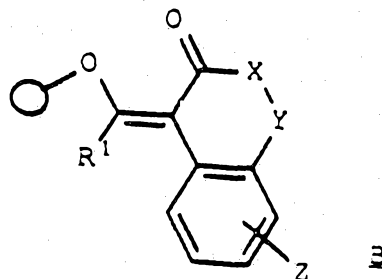
5 is the group



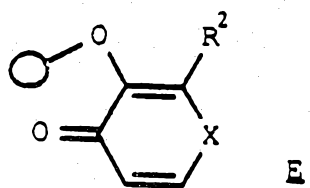
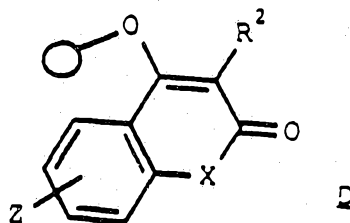
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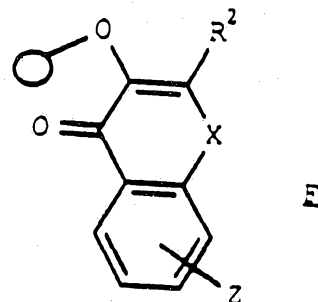
or



or



or



where

X is

CH₂, O, NR⁴,

Y is

5 CH, (CH₂)_n, where n = 0, 1 or 2,

Z is

hydrogen, halogen, C₁-C₄-alkyl or C₁-C₄-alkoxy and

R⁴ is

10 hydrogen or C₁-C₄-alkyl and is a single bond or a double bond,

have an excellent fungicidal, insecticidal, nematocidal and acaricidal action which is better than that of the known β-methoxyacrylates or oxime ethers. The fungicidal action is preferred.

15 The radicals shown in the general formula I can have, for example, the following meanings:

A

20 can be, for example, C₁-C₄-alkylidene (eg. methylidene, ethylidene, n- or isopropylidene, n-, iso-, sec- or tert-butylidene), C₁-C₄-alkoxymethylidene (eg. methoxy-, ethoxy-, n- or isopropoxy, n-, iso-, sec- or tert-butoxy-methylidene), C₁-C₄-alkylthiomethylidene (eg. methyl-, ethyl-, n- or isopropyl, n-, iso-, sec- or tert-butylthiomethylidene), C₁-C₄-alkoxyimino (eg. methoxy-, ethoxy-, n- or isopropoxy, n-, iso-, sec- or tert-butoxy-imino), chloromethylidene,

B

30 can be OH, C₁-C₄-alkoxy (for example methoxy, ethoxy, n- or isopropoxy, n-, iso-, sec- or tert-butoxy), C₁-C₄-alkylthio (eg. methylthio, ethylthio, n- or isopropylthio, n-, iso-, sec- or tert-butylthio) and C₁-C₄-alkylamine (eg. methylamine, ethylamine, n- or isopropylamine, n-, iso-, sec- or tert-butylamino),

U, V and W

35 can be, for example, H, halogen (eg. fluorine, chlorine,

bromine, iodine), methyl, methoxy,
 R^1 , R^2 and R^3
 can be identical or different and are hydrogen, cyano,
 halogen (for example fluorine, chlorine, bromine,
 5 iodine), NR^4R^5 , CO_2R^4 , $CONR^4R^5$, COR^4 , $S(O)_nR^4$ where $n = 0, 1$
 or 2, $PO(OR^4)_2$,
 where the radicals
 R^4 and R^5
 are identical or different and are hydrogen or C_1 - C_4 -alkyl
 10 (for example methyl, ethyl, n- or isopropyl, n-, iso-,
 sec- and tert-butyl),
 R^1 , R^2 and R^3
 can also be unbranched or branched C_1 - C_{10} -alkyl (for
 example methyl, ethyl, n- or isopropyl, n-, iso-, sec- or
 15 tert-butyl, n-, iso-, sec-, tert- or neopentyl, n-hexyl,
 n-decyl),
 C_1 - C_4 -haloalkyl (eg. trifluoromethyl, 2-fluoroethyl,
 2,2,2-trifluoroethyl, pentafluoroethyl, fluorodichloro-
 methyl, difluorochloromethyl, chloromethyl, dichloro-
 20 methyl, trichloromethyl, 2-chloroethyl, 2,2,2-trichloro-
 ethyl, pentachloroethyl),
 C_3 - C_6 -cycloalkyl (eg. cyclopropyl, cyclobutyl, cyclo-
 pentyl, cyclohexyl),
 C_3 - C_6 -halocycloalkyl (eg. 2,2-difluorocyclopropyl, 2,2-
 25 dichlorocyclopropyl, 2,2-dibromocyclopropyl, 2,2-
 dichloro-3-methylcyclopropyl, tetrafluorocyclobutyl), C_3 -
 C_6 -cycloalkyl- C_1 - C_4 -alkyl (eg. 1-methylcyclopropyl, 2,2-
 dimethylcyclopropyl, 1-methylcyclohexyl),
 C_1 - C_4 -alkoxy- C_1 - C_4 -alkyl (eg. methoxymethyl, ethoxymethyl,
 30 n- or isopropoxymethyl, n-, iso-, sec- or tert-butoxy-
 methyl, 2-methoxy-prop-2-yl, 2-ethoxyprop-2-yl, 2-n- or
 isopropoxyprop-2-yl, 2-n-, iso-, sec- or tert-butoxyprop-
 2-yl),
 C_1 - C_4 -alkylthio- C_1 - C_4 -alkyl (eg. methylthiomethyl, ethyl-
 35 thiomethyl, n- or isopropylthiomethyl, n-, iso-, sec- or
 tert-butylthiomethyl, 2-methylthioprop-2-yl, 2-ethyl-
 thioprop-2-yl, 2-n- or isopropylthio-prop-2-yl, 2-n-,

- iso-, sec- or tert-butylthio-prop-2-yl),
 aryl(phenyl)thio-C₁-C₄-alkyl (eg. phenylthiomethyl, 2-chlorophenyl-thiomethyl),
 C₁-C₆-alkenyl (eg. vinyl, 1-propenyl, 2-propenyl, 2-butenyl, 3-butenyl, 1-methyl-2-propenyl, 3-methyl-2-butenyl, 2-methyl-2-penten-5-yl),
 C₂-C₅-haloalkenyl (eg. 2,2-difluorovinyl, 2,2-dichlorovinyl, 3,3,3-trifluoropropenyl, 3,3,3-trichloropropenyl, 3-chloro-2-propenyl),
 C₃-C₆-cycloalkenyl (eg. cyclopent-1-enyl, cyclopentadienyl, cyclohex-1-enyl),
 C₃-C₆-halocycloalkenyl (eg. pentafluorocyclopentadienyl, pentachlorocyclopentadienyl),
 C₂-C₄-alkynyl (eg. ethynyl, 1-propynyl, 1-propargyl),
 C₁-C₄-alkoxy (eg. methoxy, ethoxy, n- or isopropoxy, n-, iso-, sec- or tert-butoxy),
 C₁-C₄-alkylthio (eg. methylthio, ethylthio, n- or isopropylthio, n-, iso-, sec- or tert-butylthio), benzylthio,
 C₁-C₄-haloalkoxy (eg. trifluoromethoxy, pentafluoroethoxy, 1,1,2,2-tetrafluoroethoxy),
 C₁-C₄-alkylcarbonyl (eg. acetyl, propionyl, butyryl, isobutyryl, pivaloyl),
 unsubstituted or substituted phenylcarbonyl (eg. benzoyl, 4-chlorobenzoyl),
 unsubstituted or substituted benzylcarbonyl (eg. benzylcarbonyl),
 C₁-C₄-alkoxycarbonyl (eg. methoxycarbonyl, ethoxycarbonyl, n- or isopropoxycarbonyl, n-, iso-, sec- or tert-butoxycarbonyl),
 unsubstituted or substituted phenoxycarbonyl (eg. phenoxycarbonyl, 4-chlorophenoxycarbonyl),
 unsubstituted or substituted benzyloxycarbonyl (eg. benzyloxycarbonyl),
 unsubstituted or substituted aryl (eg. phenyl, naphthyl, anthryl),
 unsubstituted or substituted aryloxy (eg. phenoxy,

naphthoxy, anthroxy),
 unsubstituted or substituted arylthio (eg. phenylthio),
 unsubstituted or substituted aryl-C₂-C₄-alkyl (eg. benzyl,
 1-phenethyl, 2-phenethyl, 1-phenylpropyl, 2-phenylpropyl,
 5 3-phenylpropyl, 2-methyl-3-phenylpropyl, 2-methyl-2-
 phenylpropyl, 4-phenylbutyl),
 unsubstituted or substituted aryl-C₁-C₄-alkenyl (eg.
 phenyl-1-ethenyl, 2-phenyl-1-propenyl, 2,2-diphenyl-
 ethenyl, 1-phenyl-1-propen-2-yl, 1-phenyl-1-ethenyl),
 10 unsubstituted or substituted aryloxy-C₁-C₄-alkyl (eg.
 phenoxyethyl),
 unsubstituted or substituted arylthio-C₁-C₄-alkyl (eg.
 phenylthiomethyl),
 15 unsubstituted or substituted heteroaryl (eg. pyridyl, 2-
 pyridyl, 3-pyridyl, 4-pyridyl, pyrimidinyl, 4-pyrimid-
 inyl, 2-pyrimidinyl, thienyl, 2-thienyl, 3-thienyl,
 furyl, 2-furyl, 3-furyl, 1-pyrrolyl, 1-imidazolyl, 1,2,4-
 triazolyl, 1,3,4-triazolyl, 4-thiazolyl, 2-benzothiazol-
 yl),
 20 unsubstituted or substituted heteroaryloxy (eg. 2-
 pyridyloxy, 2-pyrimidinylloxy),
 unsubstituted or substituted heteroarylthio (eg. 2-
 pyridylthio, 2-pyrimidinylthio, 2-benzothiazolylthio),
 25 unsubstituted or substituted heteroaryl-C₁-C₄-alkyl (eg.
 2-pyridylmethyl, 3-pyridylmethyl),
 unsubstituted or substituted heteroaryloxy-C₁-C₄-alkyl
 (eg. furfuryl-methoxy, thienylmethoxy, 3-isoxazolyl-
 methoxy, 2-oxazolylmethoxy, 2-pyridylmethoxy),
 30 unsubstituted or substituted heteroaryl-C₂-C₄-alkenyl (eg.
 2'-furyl-2-ethenyl, 2'-thienyl-2-ethenyl, 3'-pyridyl-2-
 ethenyl),
 unsubstituted or substituted heterocyclyl (eg. oxiranyl,
 1-aziridinyl, 1-azetidiny, 1-pyrrolidinyl, 2-tetrahydro-
 furyl, 2-tetrahydropyranyl, 3-tetrahydropyranyl, 1-
 35 piperidinyl, 1-morpholinyl, 1-piperazinyl, 1,3-dioxanyl,
 3-tetrahydrothiopyranyl),
 unsubstituted or substituted heterocycloxy (eg. 2-

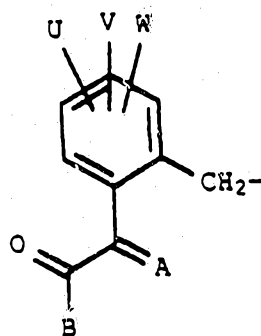
dihydropyranyloxy, 2-tetrahydropyranyloxy).

The radicals called unsubstituted or substituted in the above are, in addition to hydrogen, for example, fluorine, chlorine, bromine, iodine, cyano, nitro, methyl, ethyl, isopropyl, tert-butyl, methoxy, ethoxy, isopropoxy, tert-butoxy, trifluoromethyl, chloromethyl, dichloromethyl, trichloromethyl, trifluoromethoxy, 1,1,2,2-tetrafluoroethoxy, methoxyiminomethyl, ethoxyiminomethyl, n-propoxyiminomethyl, n-butoxyiminomethyl, n-pentoxyiminomethyl, n-hexoxyiminomethyl, allyloxyimino-
methyl, benzyloxyiminomethyl, isopropoxyiminomethyl, isobutoxyiminomethyl, tert-butoxyiminomethyl, methyl-
imino-ethyl, ethoxyimino-1-ethyl, n-propoxyimino-1-ethyl, n-butoxyimino-1-ethyl, n-pentoxyimino-1-ethyl, n-hexoxyimino-1-ethyl, allyloximino-1-ethyl, benzyloxy-
imino-1-ethyl, phenyl, phenoxy, benzyloxy, imidazol-1-yl, piperazin-1-yl, 4-morpholinyl, piperidin-1-yl, pyridyl-2-oxy, cyclopropyl, cyclohexyl, oxiranyl, 1,3-dioxan-2-yl, 1,3-dioxolan-2-yl, tetrahydropyran-2-yloxy.
R¹ and R³ together, and also R² and R³ together, in each case can form a carbocyclic or a heterocyclic ring which can in turn be benzo-fused and can be substituted by the radical mentioned under unsubstituted or substituted, where, inter alia, the following ring systems A - E are possible:

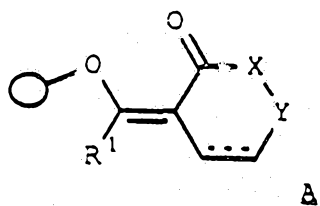
the symbol



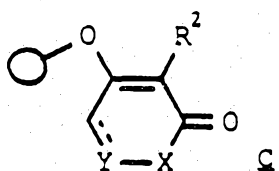
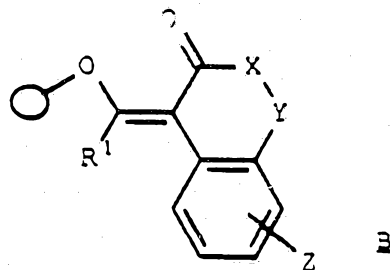
is the group



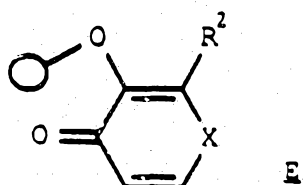
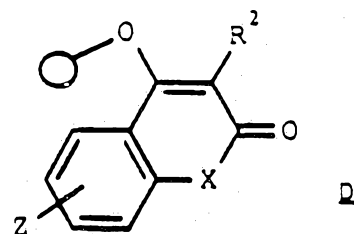
in the following



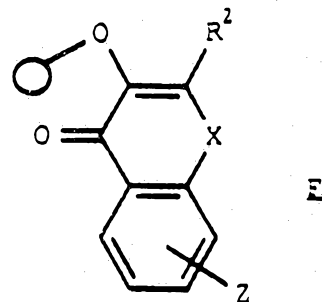
or



or



or



where

X is

CH₂, O, NR⁴,

Y is

CH, (CH₂)_n, where n = 0, 1 or 2,

Z is

H, halogen (for example fluorine, chlorine, bromine, iodine), C₁-C₄-alkyl (for example methyl, ethyl) and C₁-C₄-alkoxy (for example methoxy, ethoxy),

R⁴ is

hydrogen and C₁-C₄-alkyl (for example methyl, ethyl, n-propyl and n-butyl).

Preferred compounds of the general formula I are

those in which

A is

CHCH_3 , $\text{CH-CH}_2\text{CH}_3$, CH-OCH_3 , NOCH_3

B is

5 OCH_3 , NHCH_3

U, V and W are

hydrogen

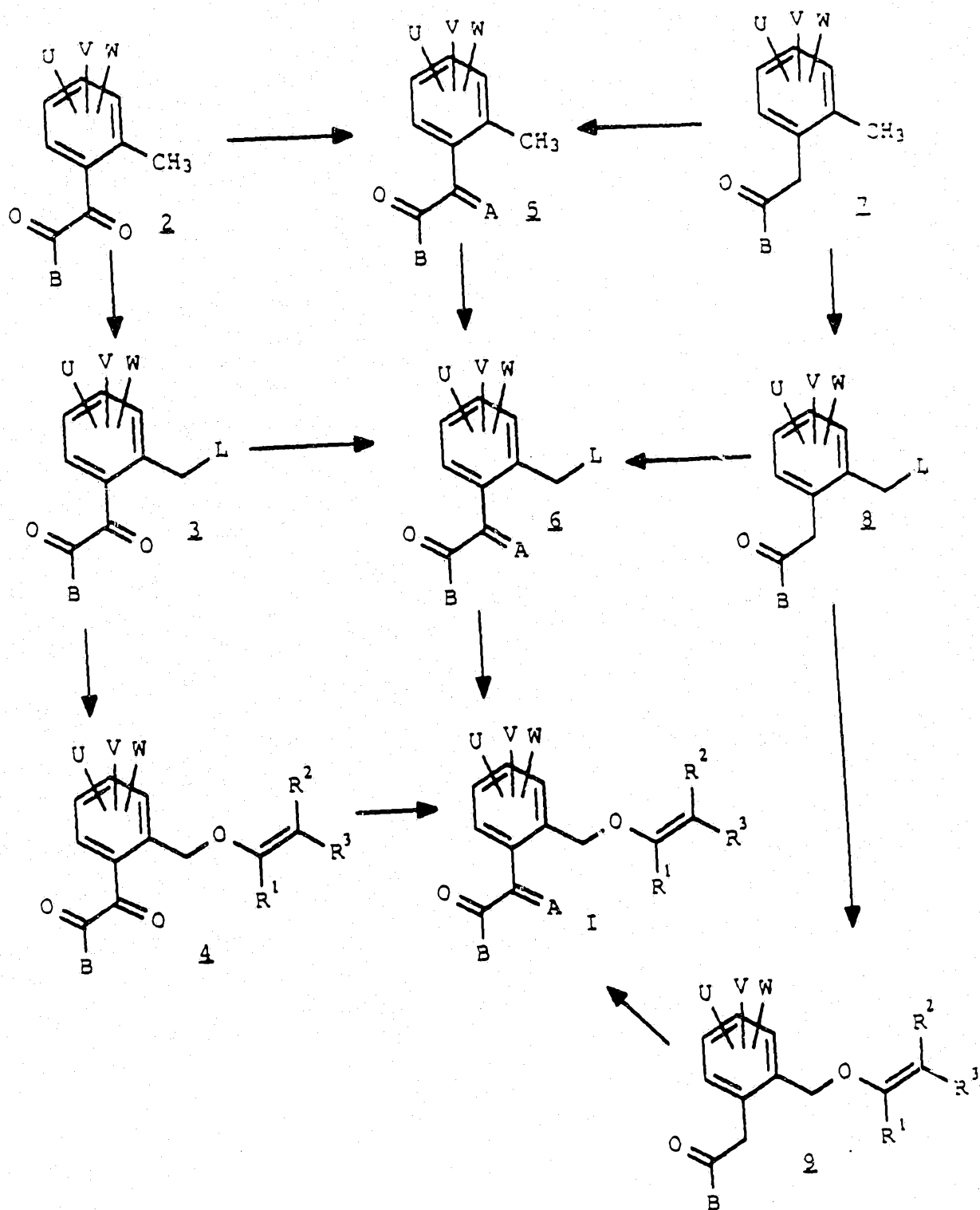
R^1 , R^2 , R^3 , R^4 and R^5

10 are identical or different and have the meanings described in claim 1.

..
15 The novel compounds of the general formula I can be obtained as E/Z isomer mixtures during preparation owing to the C=C or C=N double bonds. These can be separated into the individual components in the customary manner, for example by crystallization or chromatography. Both the individual isomeric compounds and their mixtures are encompassed by the invention and are utilizable as pesticides.

20 The compounds of the general formula I as claimed in claim 1 are prepared, for example, as described in Scheme 1.

Scheme 1



The compounds of the general formula I where A is CH_2 , CH-alkyl or CH-alkoxy can be prepared, for example, from the ketoesters 4 by Wittig or Wittig-Horner reaction (cf. EP 348 766, DE 3 705 389, EP 178 826). The similar compounds 5 are likewise obtained from the ketoesters 2.

Alternatively, a procedure can be used in which compounds of the formula 7 or 9 are condensed with suitable reagents, for example: for A = CH_2 with formaldehyde (see DE 3 317 356), for A = CH-alkyl a) with aldehydes (cf. D.M. Brown, J. Chem. Soc. 1948, 2147) or b) first with N,N-dimethylformamide dimethyl acetal, followed by reaction with a Grignard reagent (similarly to C. Jutz Chem. Ber. 91 (1958), 1867), for A = CH-O-alkyl with ethyl formate followed by alkylation (see EP 178 826). Other preparation procedures for the compounds of the formula 5 and I where A = CH-O-alkyl are described in EP 178 826.

A further possibility for preparing the compounds of the formula I where A = CH-alkyl and B = O-alkyl is the reaction of ketene acetals with phenyl chloro-carbonates (see N. Slougni, G. Rousseau, Synth. Commun. 12 (5) (1982) 401-7).

For compounds of the general formula I in which A is CH-S-alkyl and A is CHCl , the preparation can be carried out by the methods from EP 244 077 or 310 954.

The intermediates of the formula 3, 6 or 8 can be prepared from the compounds 2, 5 and 7 by halogenating these according to known methods, for example with chlorine, bromine or N-bromosuccinimide in an inert solvent (for example CCl_4 or cyclohexane) under illumination with, for example, an Hg vapor lamp or free radical initiators, such as, for example, dibenzoyl peroxide, or by introducing the radicals L such as, for example, mesylate, tosylate, acetate or triflate by means of suitable intermediate compounds (L = halogen, OH).

The oxime ethers of the formula I where A = N-O-alkyl can be prepared from 4 a) by reaction with O-alkyl-

hydroxylamine hydrochloride or b) with hydroxylamine hydrochloride and subsequent alkylation with an alkylating agent (such as, for example, alkyl iodide, dialkyl sulfate etc.) (cf. DE 3 623 921).

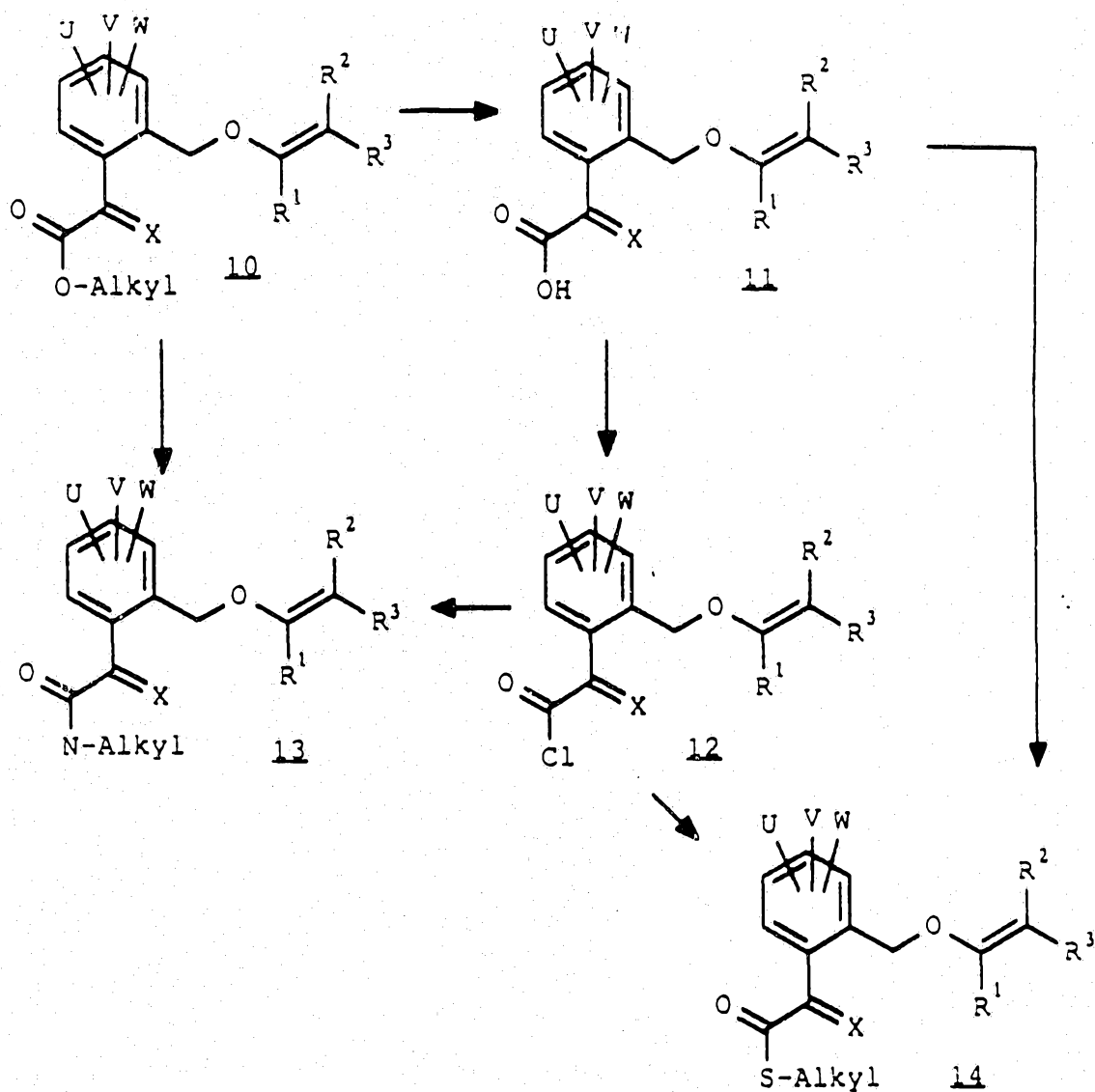
5 Likewise, similarly to the method in EP 254 426, a phenylacetic ester of the formula 9 can be converted into its anion using a base (such as, for example, NaOMe, NaH, K tert-butoxide, etc.) in a solvent (such as, for example, diethyl ether, toluene, tert-butanol etc.) and
10 oximated using a suitable nitrosating agent (such as, for example, methyl nitrite, amyl nitrite, tert-butyl nitrite etc.). The resulting oximate is alkylated using an alkylating agent (such as, for example, alkyl iodide, dialkyl sulfate).

15 The same processes can correspondingly also be transferred to the compounds of the formula 2 or 7, where the resulting oxime ethers 5 can as known (EP 254 426) be converted into the target compounds I via the intermediates 6 (L = eg. halogen).

20 Customarily, in the preparation processes described above the radical B is alkoxy and U, V and W are H.

25 The compounds where B = OH (11) can be prepared by methods known from the literature (Organikum 16th edition, p. 415, 622) from the compounds of the general formula I where B is O-alkyl (10) (see Scheme 2):

Scheme 2:



5

Starting from the carboxylic acids 11 thus obtained, the acid chlorides 12 can be prepared in a manner known per se (cf. Organikum 16th edition, (1985) p. 423f B.). The conversion of 12 to the amides 13 is carried out similarly to Organikum 16th edition (1985) p. 412.

10

The thioesters 14 are obtained from the acid chlorides 12 (similarly to Houben-Weyl Vol. 8 (1952), p. 464 et seq.).

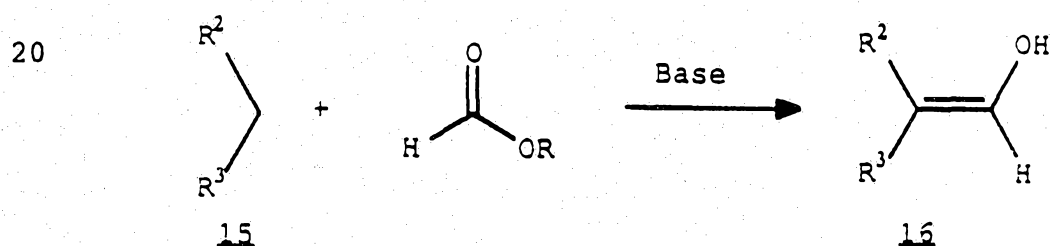
Alternatively, the thioesters 14 can also be prepared from the acids 11 (similarly to Houben-Weyl Vol. E5 (1985), p. 855 et seq.).

The amides 13 can also be prepared from the ester 10 by methods known from the literature.

The preparation of the compounds of the general formulae 2 and 7 having ortho-methyl substitution on the aromatic ring is known (B = O-alkyl; U, V and W = H; see EP 178 826, EP 260 832).

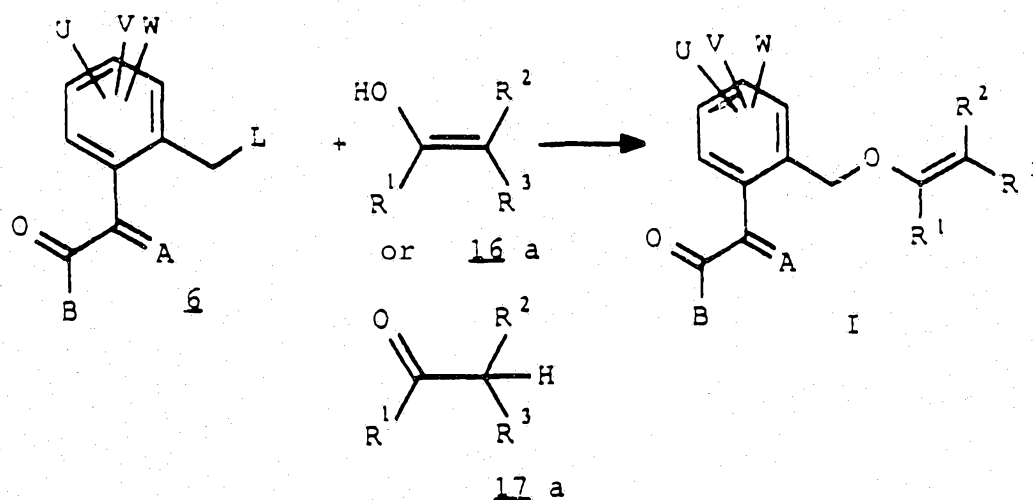
The enols required for preparing the compounds of the general formula I are either known or can be prepared by methods known per se, for example by reacting an activated methylene unit 15 with a formic acid ester in the presence of a base, such as, for example, NaH, or sodium methoxide (cf. Scheme 3).

Scheme 3:



Other methods of preparation are found in Houben-Weyl, Methoden der Organischen Chemie (Methods of Organic Chemistry), Vol. 6/11, (1977), pages 1-217.

The novel compounds of the general formula I as claimed in claim 1 are prepared, for example, by reacting an enol 16 a or the tautomeric ketone 17 a with a benzyl compound of the formula 6.



$\text{R}^1 - \text{R}^3$, A, B, U, V and W have the meaning described in claim 1; L is a leaving group (for example chloride, bromide, iodide, triflate, methanesulfonate, p-toluenesulfonate).

The reactions described can be carried out, for example, in an inert solvent or diluent (for example acetone, acetonitrile, dimethylformamide, dimethyl sulfoxide, N-methylpyrrolidone) using a base (for example sodium carbonate, potassium carbonate, sodium hydroxide, potassium hydroxide, sodium hydride, sodium methoxide).

The reaction can also be carried out in a two-phase system (for example dichloromethane, water) with the addition of a suitable phase transfer catalyst (for example cetyltrimethylammonium chloride, benzyltriethylammonium chloride).

EXAMPLES

Methyl E/Z-2-methoximino-2-[2-cyano-2-(4-methyl)phenyl-ethen-1-yloxymethyl]phenylacetate (compound 2.100; Table 2)

2.8 g (17.5 mmol) of 3-hydroxy-2-(4-methylphenyl)acrylonitrile, 2.6 g of potassium carbonate and 100 mg of potassium iodide are added to a solution of 5 g (17.5 mmol) of methyl 2-methoximino-2-(2'-bromomethyl)-

phenylacetate in 80 ml of acetone and the mixture is stirred at room temperature (20°C) for 16 hours. It is then poured into water, extracted with ethyl acetate, and the organic phase is dried and concentrated. 6.2 g (97%) of colorless solid remain, having a melting point of 93-95°C. Isomer distribution according to GC: 7:1. E- to Z-isomer

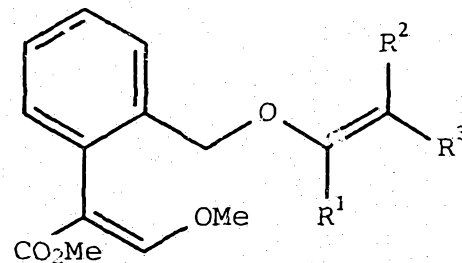
¹H-NMR (CDCl₃): δ = 2.34 (s, 3H, isomer 1 + 2); 3.73; 4.03 (s, OCH₃, isomer 1); 3.87; 4.03 (s, OCH₃, isomer 2); 4.99 (s, CH₂, isomer 2); 5.00 (s, CH₂, isomer 1); 6.97 - 7.61 ppm (m, aryl-H and =CH).

Methyl E/Z α -[2{2-cyano-2-(4-methyl)phenyl-ethen-1-yloxy}methylphenyl]- β -methoxy-acrylate (compound i.100; Table 1)

1.7 g (11 mmol) of 3-hydroxy-2-(4-methylphenyl)-acrylonitrile, 1.6 g of potassium carbonate and 100 mg of potassium iodide are added to a solution of 3 g (11 mmol) of methyl 3-methoxy-2-(2'-bromomethyl)phenylacrylate in 50 ml of acetone and the mixture is stirred at room temperature for 16 hours. It is poured into water and extracted with ethyl acetate, and the organic phase is dried and concentrated. 3.6 g (92.7%) of a yellow oil remain. Isomer ratio according to GC: 5:1 E- to Z-isomer. ¹H-NMR (CDCl₃): δ = 2.55 (s, 2 \times CH₃); 3.66; 3.77 (s, OCH₃; isomer 1); 3.71; 3.82 (s, OCH₃; isomer 2); 5.04 (s, CH₂; isomer 2); 5.05 (s, CH₂; isomer 1); 7.03 - 7.65 (m, aryl-H; =CH).

The following compounds can be prepared in a corresponding manner.

Table 1



No.	R ¹	R ²	R ³	phys. data
1.1.	H	H	CF ₃	
1.2.	H	CF ₃	CF ₃	
1.3.	H	CF ₃	Phenyl	
1.4.	H	CN	Methyl	
1.5.	H	CN	Ethyl	
1.6.	H	CN	n-Propyl	
1.7.	H	CN	iso-Propyl	
1.8.	H	CN	n-Butyl	
1.9.	H	CN	sec.-Butyl	
1.10.	H	CN	tert.-Butyl	
1.11.	H	CN	Cyclopropyl	
1.12.	H	CN	Cyclohexyl	

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No.	R ¹	R ²	R ³	phys. data
1.13.	H	CN	Methoxymethyl	
1.14.	H	CN	Ethoxymethyl	
1.15.	H	CN	Phenoxymethyl	
1.16.	H	CN	3-Chlorophenoxymethyl	
1.17.	H	CN	Benzyloxymethyl	
1.18.	H	CN	2-Methylbenzyloxymethyl	
1.19.	H	CN	Methylthiomethyl	
1.20.	H	CN	Phenylthiomethyl	
1.21.	H	CN	Ethynyl	
1.22.	H	CN	Phenylethynyl	
1.23.	H	CN	1-Propynyl	
1.24.	H	CN	CN	
1.25.	H	CN	Acetyl	
1.26.	H	CN	Propion-1-yl	
1.27.	H	CN	Butyr-1-yl	
1.28.	H	CN	iso-Butyr-1-yl	
1.29.	H	CN	Pivaloyl	
1.30.	H	CN	Benzoyl	
1.31.	H	CN	4-Chlorobenzoyl	
1.32.	H	CN	Benzylcarbonyl	
1.33.	H	CN	Methoxycarbonyl	
1.34.	H	CN	Ethoxycarbonyl	

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No.	R ¹	R ²	R ³	phys. data
1.35.	H	CN	n-Propoxycarbonyl	
1.36.	H	CN	iso-Propoxycarbonyl	
1.37.	H	CN	n-Butoxycarbonyl	
1.38.	H	CN	iso-Butoxycarbonyl	
1.39.	H	CN	sec.-Butoxycarbonyl	
1.40.	H	CN	tert.-Butoxycarbonyl	
1.41.	H	CN	n-Hexoxycarbonyl	
1.42.	H	CN	Phenoxycarbonyl	
1.43.	H	CN	4-Chlorophenoxycarbonyl	
1.44.	H	CN	Benzylloxycarbonyl	
1.45.	H	CN	Aminocarbonyl	
1.46.	H	CN	Dimethylaminocarbonyl	
1.47.	H	CN	Diethylaminocarbonyl	
1.48.	H	CN	Di-isopropylaminocarbonyl	
1.49.	H	CN	Phenylaminocarbonyl	
1.50.	H	CN	N-Methyl-N-Phenylaminocarbonyl	
1.51.	H	CN	Phenyl	
1.52.	H	CN	2-Fluorophenyl	E/Z $\delta(\text{CH}_2) = 5.00$ or 5.08
1.53.	H	CN	3-Fluorophenyl	E/Z $\delta(\text{CH}_2) = 5.07$ or 5.10
1.54.	H	CN	4-Fluorophenyl	$\delta(\text{CH}_2) = 5.05$
1.55.	H	CN	Pentafluorophenyl	

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No.	R ¹	R	R ²	phys. data
1.56.	H	CN	1-Chlorophenyl	E/Z $\delta(\text{CH}_2) = 4.95$ or 5.05
1.57.	H	CN	3-Chlorophenyl	E/Z $\delta(\text{CH}_2) = 4.07$ or 5.10
1.58.	H	CN	4-Chlorophenyl	$\delta(\text{CH}_2) = 5.06$
1.59.	H	CN	Pentachlorophenyl	
1.60.	H	CN	2,3-Dichlorophenyl	
1.61.	H	CN	2,4-Dichlorophenyl	E/Z $\delta(\text{CH}_2) = 4.98$ or 5.08
1.62.	H	CN	2,5-Dichlorophenyl	
1.63.	H	CN	2,6-Dichlorophenyl	E/Z $\delta(\text{CH}_2) = 4.98$ or 5.09
1.64.	H	CN	3,4-Dichlorophenyl	E/Z $\delta(\text{CH}_2) = 5.09$ or 5.11
1.65.	H	CN	3,5-Dichlorophenyl	
1.66.	H	CN	2,3,4-Trichlorophenyl	
1.67.	H	CN	2,3,5-Trichlorophenyl	
1.68.	H	CN	2,3,6-Trichlorophenyl	
1.69.	H	CN	2,4,5-Trichlorophenyl	
1.70.	H	CN	2,4,6-Trichlorophenyl	
1.71.	H	CN	3,4,5-Trichlorophenyl	
1.72.	H	CN	2,3,4,6-Tetrachlorophenyl	
1.73.	H	CN	2,3,5,6-Tetrachlorophenyl	
1.74.	H	CN	2-Bromophenyl	
1.75.	H	CN	3-Bromophenyl	
1.76.	H	CN	4-Bromophenyl	$\delta(\text{CH}_2) = 5.09$

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No.	R ¹	R	R	phys. data
1.77.	H	CN	2,4-Dibromophenyl	
1.78.	H	CN	3-Bromo-4-Fluorophenyl	
1.79.	H	CN	3-Bromo-4-Methoxyphenyl	
1.80.	H	CN	2-Iodophenyl	
1.81.	H	CN	3-Iodophenyl	
1.82.	H	CN	4-Iodophenyl	
1.83.	H	CN	2-Chloro-4-fluorophenyl	
1.84.	H	CN	2-Chloro-5-fluorophenyl	
1.85.	H	CN	2-Chloro-6-fluorophenyl	
1.86.	H	CN	2-Chloro-4-bromophenyl	
1.87.	H	CN	2-Bromo-4-chlorophenyl	
1.88.	H	CN	2-Bromo-4-fluorophenyl	
1.89.	H	CN	3-Bromo-4-fluorophenyl	
1.90.	H	CN	3-Chloro-4-fluorophenyl	
1.91.	H	CN	3-Fluoro-4-chlorophenyl	
1.92.	H	CN	2-Cyanophenyl	
1.93.	H	CN	3-Cyanophenyl	
1.94.	H	CN	4-Cyanophenyl	
1.95.	H	CN	2-Nitrophenyl	
1.96.	H	CN	3-Nitrophenyl	
1.97.	H	CN	4-Nitrophenyl	
1.98.	H	CN	2-Methylphenyl	83 - 85 C

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No.	R ¹	R ²	R ³	phys. data
1.99.	H	CN	3-Methylphenyl	$\delta(\text{CH}_2) = 5.06$
1.100.	H	CN	4-Methylphenyl	E/Z $\delta(\text{CH}_2) = 5.04$ or 5.05
1.101.	H	CN	2,4-Dimethylphenyl	
1.102.	H	CN	2,6-Dimethylphenyl	
1.103.	H	CN	3,4-Dimethylphenyl	
1.104.	H	CN	3,5-Dimethylphenyl	
1.105.	H	CN	2,3,4-Trimethylphenyl	
1.106.	H	CN	2,3,5-Trimethylphenyl	
1.107.	H	CN	2,3,6-Trimethylphenyl	
1.108.	H	CN	2,4,5-Trimethylphenyl	
1.109.	H	CN	2,4,6-Trimethylphenyl	
1.110.	H	CN	3,4,5-Trimethylphenyl	
1.111.	H	CN	Pentamethylphenyl	
1.112.	H	CN	2-Ethylphenyl	
1.113.	H	CN	3-Ethylphenyl	
1.114.	H	CN	4-Ethylphenyl	
1.115.	H	CN	3,5-Diethylphenyl	
1.116.	H	CN	2-n-Propylphenyl	
1.117.	H	CN	3-n-Propylphenyl	
1.118.	H	CN	4-n-Propylphenyl	
1.119.	H	CN	2-iso-Propylphenyl	
1.120.	H	CN	3-iso-Propylphenyl	

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No.	R ¹	R	R ²	phys. data
1.121.	H	CN	4-iso-Propylphenyl	
1.122.	H	CN	2,4-Di-isopropylphenyl	
1.123.	H	CN	3,5-Di-isopropylphenyl	
1.124.	H	CN	4-n-Butylphenyl	
1.125.	H	CN	4-sec.-Butylphenyl	
1.126.	H	CN	4-iso-Butylphenyl	
1.127.	H	CN	4-tert.-Butylphenyl	
1.128.	H	CN	3-tert.-Butylphenyl	
1.129.	H	CN	2-tert.-Butylphenyl	
1.130.	H	CN	2,4-Di-tert.-Butylphenyl	
1.131.	H	CN	3,5-Di-tert.-Butylphenyl	
1.132.	H	CN	4-n-Hexylphenyl	
1.133.	H	CN	4-n-Dodecylphenyl	
1.134.	H	CN	2-Methyl-4-tert.-Butylphenyl	
1.135.	H	CN	2-Methyl-6-tert.-Butylphenyl	
1.136.	H	CN	2-Methyl-4-isopropylphenyl	
1.137.	H	CN	2-Methyl-4-Cyclohexylphenyl	
1.138.	H	CN	2-Methyl-4-Phenylphenyl	
1.139.	H	CN	2-Methyl-4-Benzylphenyl	
1.140.	H	CN	2-Methyl-4-Phenoxyphenyl	
1.141.	H	CN	2-Methyl-4-Benzyloxyphenyl	
1.142.	H	CN	2-Methyl-3-Chlorophenyl	

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No.	R ⁱ	R ^c	R ^v	phys. data
1.143.	H	CN	2-Methyl-4-Chlorophenyl	
1.144.	H	CN	2-Methyl-5-Chlorophenyl	
1.145.	H	CN	2-Methyl-6-Chlorophenyl	
1.146.	H	CN	2-Methyl-4-Fluorophenyl	
1.147.	H	CN	2-Methyl-3-Bromophenyl	
1.148.	H	CN	2-Methyl-4-Bromophenyl	
1.149.	H	CN	2-Methyl-3-Methoxyphenyl	
1.150.	H	CN	2-Methyl-4-Methoxyphenyl	
1.151.	H	CN	2-Methyl-5-Methoxyphenyl	
1.152.	H	CN	2-Methyl-6-Methoxyphenyl	
1.153.	H	CN	2-Methyl-4-isopropoxyphenyl	
1.154.	H	CN	2-Methyl-2,5-Dimethoxyphenyl	
1.155.	H	CN	2-Methoxyphenyl	
1.156.	H	CN	3-Methoxyphenyl	
1.157.	H	CN	4-Methoxyphenyl	
1.158.	H	CN	2,3-Dimethoxyphenyl	
1.159.	H	CN	2,4-Dimethoxyphenyl	
1.160.	H	CN	2,5-Dimethoxyphenyl	
1.161.	H	CN	2,6-Dimethoxyphenyl	
1.162.	H	CN	3,4-Dimethoxyphenyl	
1.163.	H	CN	3,5-Dimethoxyphenyl	
1.164.	H	CN	3,6-Dimethoxyphenyl	

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No.	R ¹	R	R ³	phys. data
1.165.	H	CN	2,3,4-Trimethoxyphenyl	
1.166.	H	CN	2,3,5-Trimethoxyphenyl	
1.167.	H	CN	2,3,6-Trimethoxyphenyl	
1.168.	H	CN	2,4,5-Trimethoxyphenyl	
1.169.	H	CN	2,4,6-Trimethoxyphenyl	
1.170.	H	CN	3,4,5-Trimethoxyphenyl	
1.171.	H	CN	2-Ethoxyphenyl	
1.172.	H	CN	3-Ethoxyphenyl	
1.173.	H	CN	4-Ethoxyphenyl	
1.174.	H	CN	2-isopropoxyphenyl	
1.175.	H	CN	3-isopropoxyphenyl	
1.176.	H	CN	4-isopropoxyphenyl	
1.177.	H	CN	3-tert.-Butoxyphenyl	
1.178.	H	CN	4-tert.-Butoxyphenyl	
1.179.	H	CN	2-Trifluoromethoxyphenyl	
1.180.	H	CN	3-Trifluoromethoxyphenyl	
1.181.	H	CN	4-Trifluoromethoxyphenyl	
1.182.	H	CN	3-(1',1',2',2'-Tetrafluoro)ethoxy-phenyl	
1.183.	H	CN	4-(1',1',2',2'-Tetrafluoro)ethoxy-phenyl	
1.184.	H	CN	2-Chloromethylphenyl	

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No.	R ¹	R ²	R ³	phys. data
1.185.	H	CN	3-Chloromethylphenyl	
1.186.	H	CN	4-Chloromethylphenyl	
1.187.	H	CN	2-Trifluoromethylphenyl	
1.188.	H	CN	3-Trifluoromethylphenyl	
1.189.	H	CN	4-Trifluoromethylphenyl	
1.190.	H	CN	2-(Methoxyiminomethyl)phenyl	
1.191.	H	CN	3-(Methoxyiminomethyl)phenyl	
1.192.	H	CN	4-(Methoxyiminomethyl)phenyl	
1.193.	H	CN	2-(Ethoxyiminomethyl)phenyl	
1.194.	H	CN	3-(Ethoxyiminomethyl)phenyl	
1.195.	H	CN	4-(Ethoxyiminomethyl)phenyl	
1.196.	H	CN	2-(n-Propoxyiminomethyl)phenyl	
1.197.	H	CN	3-(n-Propoxyiminomethyl)phenyl	
1.198.	H	CN	4-(n-Propoxyiminomethyl)phenyl	
1.199.	H	CN	2-(iso-Propoxyiminomethyl)phenyl	
1.200.	H	CN	3-(iso-Propoxyiminomethyl)phenyl	
1.201.	H	CN	4-(iso-Propoxyiminomethyl)phenyl	
1.202.	H	CN	2-(n-Butoxyiminomethyl)phenyl	
1.203.	H	CN	3-(n-Butoxyiminomethyl)phenyl	
1.204.	H	CN	4-(n-Butoxyiminomethyl)phenyl	
1.205.	H	CN	2-(iso-Butoxyiminomethyl)phenyl	
1.206.	H	CN	3-(iso-Butoxyiminomethyl)phenyl	

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No.	R ¹	R ²	R ³	phys. data
1.207.	H	CN	4-(iso-Butoxyiminomethyl)phenyl	
1.208.	H	CN	2-(tert.-Butoxyiminomethyl)phenyl	
1.209.	H	CN	3-(tert.-Butoxyiminomethyl)phenyl	
1.210.	H	CN	4-(tert.-Butoxyiminomethyl)phenyl	
1.211.	H	CN	2-(n-Pentoxyiminomethyl)phenyl	
1.212.	H	CN	3-(n-Pentoxyiminomethyl)phenyl	
1.213.	H	CN	4-(n-Pentoxyiminomethyl)phenyl	
1.214.	H	CN	2-(n-Hexoxyiminomethyl)phenyl	
1.215.	H	CN	3-(n-Hexoxyiminomethyl)phenyl	
1.216.	H	CN	4-(n-Hexoxyiminomethyl)phenyl	
1.217.	H	CN	2-(Allyloxyiminomethyl)phenyl	
1.218.	H	CN	3-(Allyloxyiminomethyl)phenyl	
1.219.	H	CN	4-(Allyloxyiminomethyl)phenyl	
1.220.	H	CN	2-(Benzyloxyiminomethyl)phenyl	
1.221.	H	CN	3-(Benzyloxyiminomethyl)phenyl	
1.222.	H	CN	4-(Benzyloxyiminomethyl)phenyl	
1.223.	H	CN	2-(Methoxyimino-1'-ethyl)phenyl	
1.224.	H	CN	3-(Methoxyimino-1'-ethyl)phenyl	
1.225.	H	CN	4-(Methoxyimino-1'-ethyl)phenyl	
1.226.	H	CN	2-(Ethoxyimino-1'-ethyl)phenyl	
1.227.	H	CN	3-(Ethoxyimino-1'-ethyl)phenyl	
1.228.	H	CN	4-(Ethoxyimino-1'-ethyl)phenyl	

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No.	R ¹	R ²	R ³	phys. data
1.229.	H	CN	2-(n-Propoxyimino-1'-ethyl)phenyl	
1.230.	H	CN	3-(n-Propoxyimino-1'-ethyl)phenyl	
1.231.	H	CN	4-(n-Propoxyimino-1'-ethyl)phenyl	
1.232.	H	CN	2-(n-Butoxyamino-1'-ethyl)phenyl	
1.233.	H	CN	3-(n-Butoxyamino-1'-ethyl)phenyl	
1.234.	H	CN	4-(n-Butoxyamino-1'-ethyl)phenyl	
1.235.	H	CN	2-(n-Pentoxyimino-1'-ethyl)phenyl	
1.236.	H	CN	3-(n-Pentoxyimino-1'-ethyl)phenyl	
1.237.	H	CN	4-(n-Pentoxyimino-1'-ethyl)phenyl	
1.238.	H	CN	2-(n-Hexoxyimino-1'-ethyl)phenyl	
1.239.	H	CN	3-(n-Hexoxyimino-1'-ethyl)phenyl	
1.240.	H	CN	4-(n-Hexoxyimino-1'-ethyl)phenyl	
1.241.	H	CN	2-(Allyloxyimino-1'-ethyl)-phenyl	
1.242.	H	CN	3-(Allyloxyimino-1'-ethyl)-phenyl	
1.243.	H	CN	4-(Allyloxyimino-1'-ethyl)-phenyl	
1.244.	H	CN	2-(Benzyloxyimino-1'-ethyl)phenyl	
1.245.	H	CN	3-(Benzyloxyimino-1'-ethyl)phenyl	
1.246.	H	CN	4-(Benzyloxyimino-1'-ethyl)phenyl	
1.247.	H	CN	2-Phenylphenyl	
1.248.	H	CN	3-Phenylphenyl	
1.249.	H	CN	4-Phenylphenyl	
1.250.	H	CN	2-Phenoxyphenyl	

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No.	R ¹	R ²	R ³	phys. data
1.251.	H	CN	3-Phenoxyphenyl	E/Z $\delta(\text{CH}_2) = 5.04$ or 5.06
1.252.	H	CN	4-Phenoxyphenyl	
1.253.	H	CN	2-Benzyloxyphenyl	
1.254.	H	CN	3-Benzyloxyphenyl	
1.255.	H	CN	4-Benzyloxyphenyl	
1.256.	H	CN	4-(Imidazol-1'-yl)phenyl	
1.257.	H	CN	4-(Piperazin-1'-yl)phenyl	
1.258.	H	CN	4-(Morpholin-1'-yl)phenyl	
1.259.	H	CN	4-(Piperidin-1'-yl)phenyl	
1.260.	H	CN	4-(Pyridyl-2'-oxy)phenyl	
1.261.	H	CN	2-Cyclopropylphenyl	
1.262.	H	CN	3-Cyclopropylphenyl	
1.263.	H	CN	4-Cyclopropylphenyl	
1.264.	H	CN	3-Cyclohexylphenyl	
1.265.	H	CN	4-Cyclohexylphenyl	
1.266.	H	CN	4-Oxiranylphenyl	
1.267.	H	CN	4-(1',3'-Dioxan-2'-yl)-phenyl	
1.268.	H	CN	4-(Tetrahydropyran-2-yloxy)-phenyl	
1.269.	H	CN	1-Naphthyl	
1.270.	H	CN	2-Naphthyl	
1.271.	H	CN	Benzyl	
1.272.	H	CN	2-Methylbenzyl	

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No.	R ¹	R ²	R ³	phys. data
1.273.	H	CN	3-Methylbenzyl	
1.274.	H	CN	4-Methylbenzyl	
1.275.	H	CN	4-tert.-Butylbenzyl	
1.276.	H	CN	2-Chlorobenzyl	
1.277.	H	CN	3-Chlorobenzyl	
1.278.	H	CN	4-Chlorobenzyl	
1.279.	H	CN	2,4-Dichlorobenzyl	
1.280.	H	CN	2,6-Dichlorobenzyl	
1.281.	H	CN	2,4,6-Trichlorobenzyl	
1.282.	H	CN	2-Trifluoromethylbenzyl	
1.283.	H	CN	3-Trifluoromethylbenzyl	
1.284.	H	CN	4-trifluoromethylbenzyl	
1.285.	H	CN	2-Methoxybenzyl	
1.286.	H	CN	4-Methoxybenzyl	
1.287.	H	CN	4-tert.-Butoxybenzyl	
1.288.	H	CN	4-Phenoxybenzyl	
1.289.	H	CN	1-Phenethyl	
1.290.	H	CN	2-Phenethyl	
1.291.	H	CN	1-Phenylpropyl	
1.292.	H	CN	2-Phenylpropyl	
1.293.	H	CN	3-Phenylpropyl	
1.294.	H	CN	2-Methyl-2-phenylpropyl	

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No.	R ¹	R ²	R ³	phys. data
1.295.	H	CN	2-Methyl-3-phenylpropyl	
1.296.	H	CN	4-Phenylbutyl	
1.297.	H	CN	2-Phenyl-1-ethenyl	
1.298.	H	CN	1-Phenyl-1-ethenyl	
1.299.	H	CN	1-Phenyl-1-propenyl	
1.300.	H	CN	1-Phenyl-1-propen-2-yl	
1.301.	H	CN	2,2-Diphenylethenyl	
1.302.	H	CN	2-Pyridyl	
1.303.	H	CN	3-Pyridyl	
1.304.	H	CN	4-Pyridyl	
1.305.	H	CN	2,6-Pyrimidinyl	
1.306.	H	CN	1,5-Pyrimidinyl	
1.307.	H	CN	2-Thienyl	
1.308.	H	CN	3-Thienyl	
1.309.	H	CN	2-Furyl	
1.310.	H	CN	3-Furyl	
1.311.	H	CN	1-Pyrrolyl	
1.312.	H	CN	1-Imidazolyl	
1.313.	H	CN	1,2,4-Triazolyl	
1.314.	H	CN	1,3,4-Triazolyl	
1.315.	H	CN	4-Thiazolyl	
1.316.	H	CN	2-Benzothiazolyl	

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No.	R ¹	R ²	R ³	phys. data
1.317	H	CN	2-Pyridylmethyl	
1.318.	H	CN	3-Pyridylmethyl	
1.319.	H	CN	2'-Furyl-2-ethenyl	
1.320.	H	CN	2'-Thienyl-2-ethenyl	
1.321.	H	CN	3'-Pyridyl-2-ethenyl	
1.322.	H	CN	Oxiranyl	
1.323.	H	CN	1-Aziridinyl	
1.324.	H	CN	1-Azetidinyl	
1.325.	H	CN	1-Pyrrolidinyl	
1.326.	H	CN	2-Tetrahydrofuryl	
1.327.	H	CN	2-Tetrahydropyranyl	
1.328.	H	CN	3-Tetrahydropyranyl	
1.329.	H	CN	1-Piperidinyl	
1.330.	H	CN	1-Morpholinyl	
1.331.	H	CN	1-Piperazinyl	
1.332.	H	CN	1,3-Dioxan-2-yl	
1.333.	H	CN	4-Tetrahydrothiopyranyl	
1.334.	H	CN	4-Methylpent-3-en-1-yl	
1.335.	H	CN	2-Propenyl	
1.336.	H	CN	2-Butenyl	
1.337.	H	CN	1-Methyl-2-propenyl	
1.338.	H	CN	3-Methyl-2-butenyl	

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No.	R ¹	R ²	R ³	phys. data
1.339.	H	CN	2,2-Difluorethenyl	
1.340.	H	CN	2,2-Dichloroethenyl	
1.341.	H	CN	3,3,3-Trifluoropropenyl	
1.342.	H	CN	3,3,3-Trichloropropenyl	
1.343.	H	CN	3-Chloro-2-propenyl	
1.344.	H	CN	Cyclopent-1-enyl	
1.345.	H	CN	Cyclopentadienyl	
1.346.	H	CN	Cyclohex-1-enyl	
1.347.	H	CN	Pentafluorocyclopentadienyl	
1.348.	H	CN	Pentachlorocyclopentadienyl	
1.349.	H	CN	Styryl	
1.350.	H	CO ₂ Me	Phenyl	126 - 130°C
1.351.	H	CO ₂ Me	2-Fluorophenyl	
1.352.	H	CO ₂ Me	3-Fluorophenyl	
1.353.	H	CO ₂ Me	4-Fluorophenyl	
1.354.	H	CO ₂ Me	2-Chlorophenyl	$\delta(\text{CH}_2) = 4.95$
1.355.	H	CO ₂ Me	3-Chlorophenyl	
1.356.	H	CO ₂ Me	4-Chlorophenyl	
1.357.	H	CO ₂ Me	2-Methylphenyl	
1.358.	H	CO ₂ Me	3-Methylphenyl	$\delta(\text{CH}_2) = 4.95$
1.359.	H	CO ₂ Me	4-Methylphenyl	
1.360.	H	CO ₂ Me	2-Cyanophenyl	

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No.	R ¹	R ²	R ³	phys. data
1.361.	H	Me	3-Cyanophenyl	
1.362.	H	CO ₂ Me	4-Cyanophenyl	
1.363.	H	CO ₂ Me	2-Methoxyphenyl	
1.364.	H	CO ₂ Me	3-Methoxyphenyl	
1.365.	H	CO ₂ Me	4-Methoxyphenyl	
1.366.	H	CO ₂ Me	2-Nitrophenyl	
1.367.	H	CO ₂ Me	3-Nitrophenyl	
1.368.	H	CO ₂ Me	4-Nitrophenyl	
1.369.	H	P(O)(OMe) ₂	Phenyl	
1.370.	H	P(O)(OMe) ₂	2-Fluorophenyl	
1.371.	H	P(O)(OMe) ₂	3-Fluorophenyl	
1.372.	H	P(O)(OMe) ₂	4-Fluorophenyl	
1.373.	H	P(O)(OMe) ₂	2-Chlorophenyl	
1.374.	H	P(O)(OMe) ₂	3-Chlorophenyl	
1.375.	H	P(O)(OMe) ₂	4-Chlorophenyl	
1.376.	H	P(O)(OMe) ₂	2-Methylphenyl	
1.377.	H	P(O)(OMe) ₂	3-Methylphenyl	107°C
1.378.	H	P(O)(OMe) ₂	4-Methylphenyl	
1.379.	CH ₃	CN	Phenyl	
1.380.	Acetyl	H	2,6-Dichlorophenyl	
1.381.	Acetyl	H	2,4-Dichlorophenyl	
1.382.	CH ₃	CO ₂ Et	Benzoyl	

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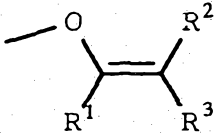
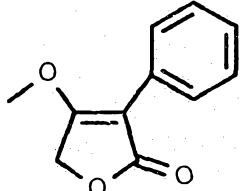
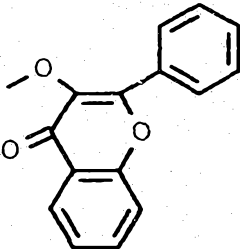
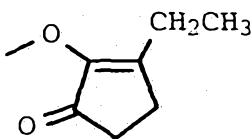
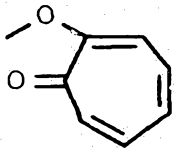
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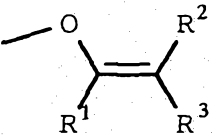
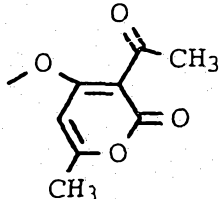
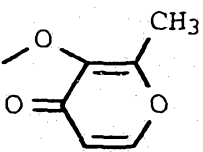
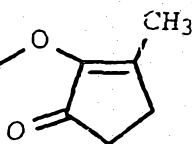
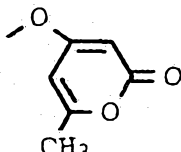
No.	R ¹	R ²	R ³	phys. data
1.383.	Methoxycarbonylmethyl	H	Acetyl	
1.404.	H	CO ₂ Me	2-Bromophenyl	97 - 102°C

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3''

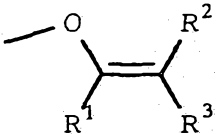
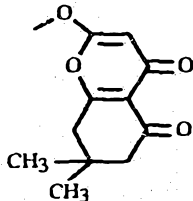
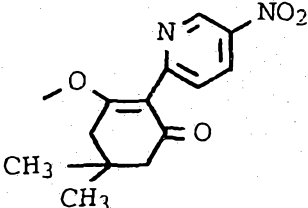
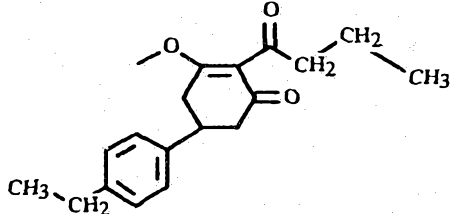
No.		phys. data
1.384		$\delta(\text{CH}_2) = 5.10$
1.385		$\delta(\text{CH}_2) = 5.06$
1.386		$\delta(\text{CH}_2) = 5.10$
1.387		146 - 148°C

No.		phys. data
1.388		
1.389		115 - 118°C
1.390		$\delta(\text{CH}_2) = 5.11$
1.391		$\delta(\text{CH}_2) = 4.92$

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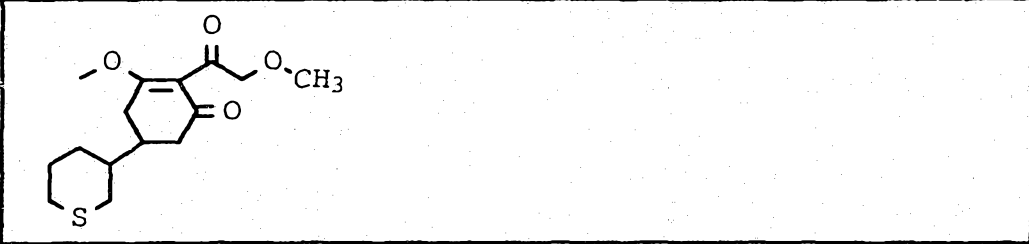
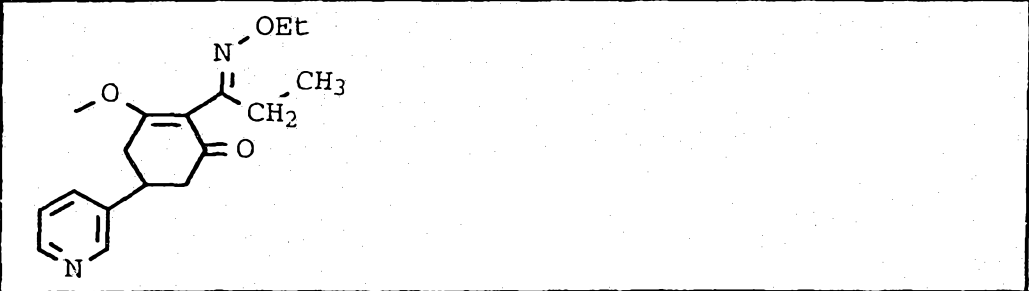
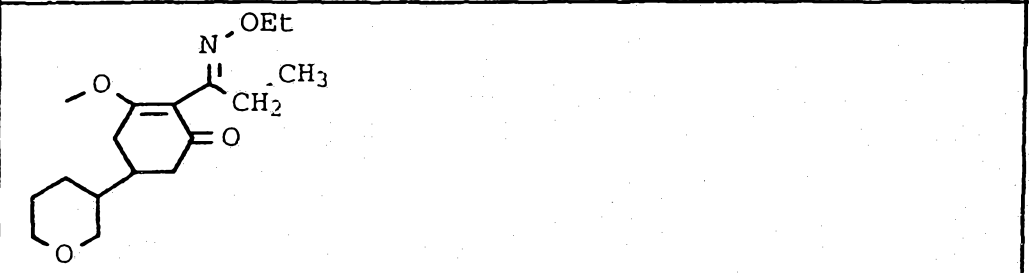
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No.		phys. data
1.392		
1.393		
1.394		

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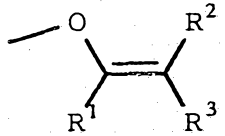
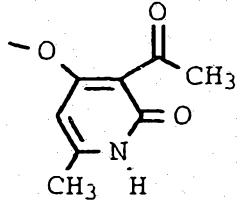
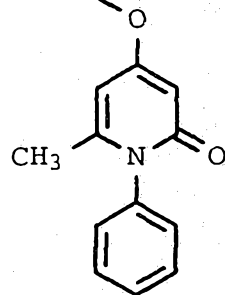
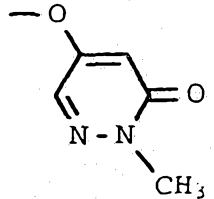
40

No.		phys. data
1.395		
1.396		
1.397		

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No.		phys. data
1.398		
1.399		
1.400		

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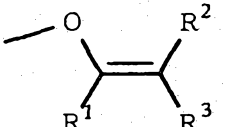
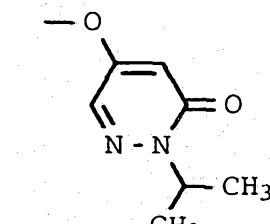
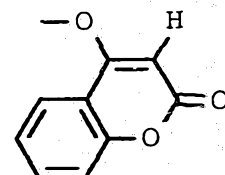
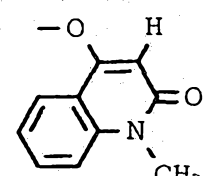
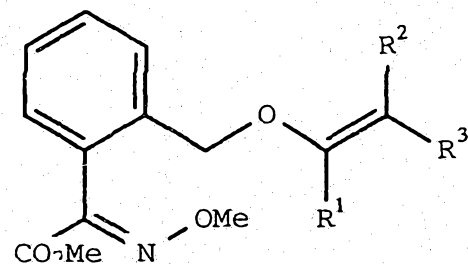
No.		phys. data
1.401		
1.402		154 - 155°C
1.403		149 - 150°C

Table 2



No.	R ¹	R ²	R ³	phys. data
2.1.	H	H	CF ₃	
2.2.	H	CF ₃	CF ₃	
2.3.	H	CF ₃	Phenyl	
2.4.	H	CN	Methyl	
2.5.	H	CN	Ethyl	
2.6.	H	CN	n-Propyl	
2.7.	H	CN	isopropyl	
2.8.	H	CN	n-Butyl	
2.9.	H	CN	sec.-Butyl	
2.10.	H	CN	tert.-Butyl	
2.11.	H	CN	Cyclopropyl	
2.12.	H	CN	Cyclohexyl	

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No.	R ¹	R ²	R ³	phys. data
2.13.	H	CN	Methoxymethyl	
2.14.	H	CN	Ethoxymethyl	
2.15.	H	CN	Phenoxymethyl	
2.16.	H	CN	3-Chlorophenoxymethyl	
2.17.	H	CN	Benzyloxymethyl	
2.18.	H	CN	2-Methylbenzyloxymethyl	
2.19.	H	CN	Methylthiomethyl	
2.20.	H	CN	Phenylthiomethyl	
2.21.	H	CN	Ethynyl	
2.22.	H	CN	Phenylethynyl	
2.23.	H	CN	1-Propynyl	
2.24.	H	CN	CN	
2.25.	H	CN	Acetyl	
2.26.	H	CN	Propion-1-yl	
2.27.	H	CN	Butyr-1-yl	
2.28.	H	CN	isobutyr-1-yl	
2.29.	H	CN	Pivaloyl	
2.30.	H	CN	Benzoyl	
2.31.	H	CN	4-Chlorobenzoyl	
2.32.	H	CN	Benzylcarbonyl	
2.33.	H	CN	Methoxycarbonyl	
2.34.	H	CN	Ethoxycarbonyl	

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No.	R ¹	R-	R ³	phys. data
2.35.	H	CN	n-Propoxycarbonyl	
2.36.	H	CN	iso-Propoxycarbonyl	
2.37.	H	CN	n-Butoxycarbonyl	
2.38.	H	CN	isobutoxycarbonyl	
2.39.	H	CN	sec.-Butoxycarbonyl	
2.40.	H	CN	tert.-Butoxycarbonyl	
2.41.	H	CN	n-Hexoxycarbonyl	
2.42.	H	CN	Phenoxycarbonyl	
2.43.	H	CN	4-Chlorophenoxycarbonyl	
2.44.	H	CN	Benzyloxycarbonyl	
2.45.	H	CN	Aminocarbonyl	
2.46.	H	CN	Dimethylaminocarbonyl	
2.47.	H	CN	Diethylaminocarbonyl	
2.48.	H	CN	Di-isopropylaminocarbonyl	
2.49.	H	CN	Phenylaminocarbonyl	
2.50.	H	CN	N-Methyl-N-Phenylaminocarbonyl	
2.51.	H	CN	Phenyl	E/Z $\delta(\text{CH}_2) = 4.98$ or 5.00
2.52.	H	CN	2-Fluorophenyl	$107 - 108^\circ\text{C}$
2.53.	H	CN	3-Fluorophenyl	$97 - 98^\circ\text{C}$
2.54.	H	CN	4-Fluorophenyl	$128 - 131^\circ\text{C}$
2.55.	H	CN	Pentafluorophenyl	
2.56.	H	CN	2-Chlorophenyl	E/Z $\delta(\text{CH}_2) = 4.90$ or 5.00

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No.	R ¹	R ²	R ³	phys. data
2.57.	H	CN	3-Chlorophenyl	E/Z $\delta(\text{CH}_2) = 5.02$ or 5.05
2.58.	H	CN	4-Chlorophenyl	$\delta(\text{CH}_2) = 5.02$ or 5.03
2.59.	H	CN	Pentachlorophenyl	
2.60.	H	CN	2,3-Dichlorophenyl	
2.61.	H	CN	2,4-Dichlorophenyl	E/Z $\delta(\text{CH}_2) = 4.93$ or 5.03
2.62.	H	CN	2,5-Dichlorophenyl	
2.63.	H	CN	2,6-Dichlorophenyl	
2.64.	H	CN	3,4-Dichlorophenyl	121 - 122 C
2.65.	H	CN	3,5-Dichlorophenyl	
2.66.	H	CN	2,3,4-Trichlorophenyl	
2.67.	H	CN	2,3,5-Trichlorophenyl	
2.68.	H	CN	2,3,6-Trichlorophenyl	
2.69.	H	CN	2,4,5-Trichlorophenyl	
2.70.	H	CN	2,4,6-Trichlorophenyl	
2.71.	H	CN	3,4,5-Trichlorophenyl	
2.72.	H	CN	2,3,4,6-Tetrachlorophenyl	
2.73.	H	CN	2,3,5,6-Tetrachlorophenyl	
2.74.	H	CN	2-Bromophenyl	
2.75.	H	CN	3-Bromophenyl	
2.76.	H	CN	4-Bromophenyl	100 - 102 C
2.77.	H	CN	2,4-Dibromophenyl	

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No.	R ¹	R ²	R ³	phys. data
2.78.	H	CN	3-Bromo-4-fluorophenyl	
2.79.	H	CN	3-Bromo-4-Methoxyphenyl	
2.80.	H	CN	2-Iodophenyl	
2.81.	H	CN	3-Iodophenyl	
2.82.	H	CN	4-Iodophenyl	
2.83.	H	CN	2-Chloro-4-fluorophenyl	
2.84.	H	CN	2-Chloro-5-fluorophenyl	
2.85.	H	CN	2-Chloro-6-fluorophenyl	E/Z $\delta(\text{CH}_2) = 4.94$ or 5.04
2.86.	H	CN	2-Chloro-4-bromophenyl	
2.87.	H	CN	2-Bromo-4-chlorophenyl	
2.88.	H	CN	2-Bromo-4-fluorophenyl	
2.89.	H	CN	3-Bromo-4-fluorophenyl	
2.90.	H	CN	3-Chloro-4-fluorophenyl	
2.91.	H	CN	3-Fluoro-4-chlorophenyl	
2.92.	H	CN	2-Cyanophenyl	
2.93.	H	CN	3-Cyanophenyl	
2.94.	H	CN	4-Cyanophenyl	
2.95.	H	CN	2-Nitrophenyl	
2.96.	H	CN	3-Nitrophenyl	
2.97.	H	CN	4-Nitrophenyl	
2.98.	H	CN	2-Methylphenyl	106 - 107 °C
2.99.	H	CN	3-Methylphenyl	129 - 130 °C

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No.	R ¹	R	R ³	phys. data
2.100.	H	CN	4-Methylphenyl	93 - 95°C
2.101.	H	CN	2,4-Dimethylphenyl	
2.102.	H	CN	2,6-Dimethylphenyl	
2.103.	H	CN	3,4-Dimethylphenyl	
2.104.	H	CN	3,5-Dimethylphenyl	
2.105.	H	CN	2,3,4-Trimethylphenyl	
2.106.	H	CN	2,3,5-Trimethylphenyl	
2.107.	H	CN	2,3,6-Trimethylphenyl	
2.108.	H	CN	2,4,5-Trimethylphenyl	
2.109.	H	CN	2,4,6-Trimethylphenyl	
2.110.	H	CN	3,4,5-Trimethylphenyl	
2.111.	H	CN	Pentamethylphenyl	
2.112.	H	CN	2-Ethylphenyl	
2.113.	H	CN	3-Ethylphenyl	
2.114.	H	CN	4-Ethylphenyl	
2.115.	H	CN	3,5-Diethylphenyl	
2.116.	H	CN	2-n-Propylphenyl	
2.117.	H	CN	3-n-Propylphenyl	
2.118.	H	CN	4-n-Propylphenyl	
2.119.	H	CN	2-isopropylphenyl	
2.120.	H	CN	3-isopropylphenyl	
2.121.	H	CN	4-isopropylphenyl	

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No.	R ¹	R-	R ³	phys. data
2.122.	H	CN	2,4-Di-isopropylphenyl	
2.123.	H	CN	3,5-Di-isopropylphenyl	
2.124.	H	CN	4-n-Butylphenyl	
2.125.	H	CN	4-sec.-Butylphenyl	
2.126.	H	CN	4-isobutylphenyl	
2.127.	H	CN	4-tert.-Butylphenyl	
2.128.	H	CN	3-tert.-Butylphenyl	
2.129.	H	CN	2-tert.-Butylphenyl	
2.130.	H	CN	2,4-Di-tert.-Butylphenyl	
2.131.	H	CN	3,5-Di-tert.-Butylphenyl	
2.132.	H	CN	4-n-Hexylphenyl	
2.133.	H	CN	4-n-Dodecylphenyl	
2.134.	H	CN	2-Methyl-4-tert.-butylphenyl	
2.135.	H	CN	2-Methyl-6-tert.-butylphenyl	
2.136.	H	CN	2-Methyl-4-isopropylphenyl	
2.137.	H	CN	2-Methyl-4-cyclohexylphenyl	
2.138.	H	CN	2-Methyl-4-phenylphenyl	
2.139.	H	CN	2-Methyl-4-benzylphenyl	
2.140.	H	CN	2-Methyl-4-phenoxyphenyl	
2.141.	H	CN	2-Methyl-4-benzoyloxyphenyl	
2.142.	H	CN	2-Methyl-3-chlorophenyl	
2.143.	H	CN	2-Methyl-4-chlorophenyl	

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No.	R ¹	R ²	R ³	phys. data
2.144.	H	CN	2-Methyl-5-chlorophenyl	
2.145.	H	CN	2-Methyl-6-chlorophenyl	
2.146.	H	CN	2-Methyl-4-fluorophenyl	
2.147.	H	CN	2-Methyl-3-bromophenyl	
2.148.	H	CN	2-Methyl-4-bromophenyl	
2.149.	H	CN	2-Methyl-3-methoxyphenyl	
2.150.	H	CN	2-Methyl-4-methoxyphenyl	
2.151.	H	CN	2-Methyl-5-methoxyphenyl	
2.152.	H	CN	2-Methyl-6-methoxyphenyl	
2.153.	H	CN	2-Methyl-4-isopropoxyphenyl	
2.154.	H	CN	2-Methyl-2,5-dimethoxyphenyl	
2.155.	H	CN	2-Methoxyphenyl	
2.156.	H	CN	3-Methoxyphenyl	
2.157.	H	CN	4-Methoxyphenyl	
2.158.	H	CN	2,3-Dimethoxyphenyl	
2.159.	H	CN	2,4-Dimethoxyphenyl	
2.160.	H	CN	2,5-Dimethoxyphenyl	
2.161.	H	CN	2,6-Dimethoxyphenyl	
2.162.	H	CN	3,4-Dimethoxyphenyl	
2.163.	H	CN	3,5-Dimethoxyphenyl	
2.164.	H	CN	3,6-Dimethoxyphenyl	
2.165.	H	CN	2,3,4-Trimethoxyphenyl	

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No.	R ¹	R ²	R ³	phys. data
2.166.	H	CN	2,3,5-Trimethoxyphenyl	
2.167.	H	CN	2,3,6-Trimethoxyphenyl	
2.168.	H	CN	2,4,5-Trimethoxyphenyl	
2.169.	H	CN	2,4,6-Trimethoxyphenyl	
2.170.	H	CN	3,4,5-Trimethoxyphenyl	
2.171.	H	CN	2-Ethoxyphenyl	
2.172.	H	CN	3-Ethoxyphenyl	
2.173.	H	CN	4-Ethoxyphenyl	
2.174.	H	CN	2-isopropoxyphenyl	
2.175.	H	CN	3-isopropoxyphenyl	
2.176.	H	CN	4-isopropoxyphenyl	
2.177.	H	CN	3-tert.-Butoxyphenyl	
2.178.	H	CN	4-tert.-Butoxyphenyl	
2.179.	H	CN	2-Trifluoromethoxyphenyl	
2.180.	H	CN	3-Trifluoromethoxyphenyl	
2.181.	H	CN	4-Trifluoromethoxyphenyl	
2.182.	H	CN	3-(1',1',2',2'-Tetrafluoro)ethoxy-phenyl	
2.183.	H	CN	4-(1',1',2',2'-Tetrafluoro)ethoxy-phenyl	
2.184.	H	CN	2-Chloromethylphenyl	
2.185.	H	CN	3-Chloromethylphenyl	

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No.	R ¹	R ²	R ³	phys. data
2.186.	H	CN	4-Chloromethylphenyl	
2.187.	H	CN	2-Trifluoromethylphenyl	
2.188.	H	CN	3-Trifluoromethylphenyl	
2.189.	H	CN	4-Trifluoromethylphenyl	
2.190.	H	CN	2-(Methoxyiminomethyl)phenyl	
2.191.	H	CN	3-(Methoxyiminomethyl)phenyl	
2.192.	H	CN	4-(Methoxyiminomethyl)phenyl	
2.193.	H	CN	2-(Ethoxyiminomethyl)phenyl	
2.194.	H	CN	3-(Ethoxyiminomethyl)phenyl	
2.195.	H	CN	4-(Ethoxyiminomethyl)phenyl	
2.196.	H	CN	2-(n-Propoxyiminomethyl)phenyl	
2.197.	H	CN	3-(n-Propoxyiminomethyl)phenyl	
2.198.	H	CN	4-(n-Propoxyiminomethyl)phenyl	
2.199.	H	CN	2-(isopropoxyiminomethyl)phenyl	
2.200.	H	CN	3-(isopropoxyiminomethyl)phenyl	
2.201.	H	CN	4-(isopropoxyiminomethyl)phenyl	
2.202.	H	CN	2-(n-Butoxyimino-methyl)phenyl	
2.203.	H	CN	3-(n-Butoxyimino-methyl)phenyl	
2.204.	H	CN	4-(n-Butoxyimino-methyl)phenyl	
2.205.	H	CN	2-(iso-Butoxyimino-methyl)phenyl	
2.206.	H	CN	3-(iso-Butoxyimino-methyl)phenyl	
2.207.	H	CN	4-(iso-Butoxyimino-methyl)phenyl	

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No.	R ¹	R ²	R ³	phys. data
2.208.	H	CN	2-(tert.-Butoxyimino-methyl)phenyl	
2.209.	H	CN	3-(tert.-Butoxyimino-methyl)phenyl	
2.210.	H	CN	4-(tert.-Butoxyimino-methyl)phenyl	
2.211.	H	CN	2-(n-Pentoxyiminomethyl)-phenyl	
2.212.	H	CN	3-(n-Pentoxyiminomethyl)-phenyl	
2.213.	H	CN	4-(n-Pentoxyiminomethyl)-phenyl	
2.214.	H	CN	2-(n-Hexoxyiminomethyl)-phenyl	
2.215.	H	CN	3-(n-Hexoxyiminomethyl)-phenyl	
2.216.	H	CN	4-(n-Hexoxyiminomethyl)-phenyl	
2.217.	H	CN	2-(Allyloxyiminomethyl)-phenyl	
2.218.	H	CN	3-(Allyloxyiminomethyl)-phenyl	
2.219.	H	CN	4-(Allyloxyiminomethyl)-phenyl	
2.220.	H	CN	2-(Benzyloxyiminomethyl)-phenyl	
2.221.	H	CN	3-(Benzyloxyiminomethyl)-phenyl	
2.222.	H	CN	4-(Benzyloxyiminomethyl)-phenyl	
2.223.	H	CN	2-(Methoxyimino-1'-ethyl)-phenyl	
2.224.	H	CN	3-(Methoxyimino-1'-ethyl)-phenyl	
2.225.	H	CN	4-(Methoxyimino-1'-ethyl)-phenyl	
2.226.	H	CN	2-(Ethoxyimino-1'-ethyl)-phenyl	
2.227.	H	CN	3-(Ethoxyimino-1'-ethyl)-phenyl	
2.228.	H	CN	4-(Ethoxyimino-1'-ethyl)-phenyl	
2.229.	H	CN	2-(n-Propoxyimino-1'-ethyl)phenyl	

No.	R ¹	R ²	R ³	phys. data
2.230.	H	CN	3-(n-Propoxyimino-1'-ethyl)phenyl	
2.231.	H	CN	4-(n-Propoxyimino-1'-ethyl)phenyl	
2.232.	H	CN	2-(n-Butoxyamino-1'-ethyl)phenyl	
2.233.	H	CN	3-(n-Butoxyamino-1'-ethyl)phenyl	
2.234.	H	CN	4-(n-Butoxyamino-1'-ethyl)phenyl	
2.235.	H	CN	2-(n-Pentoxyimino-1'-ethyl)phenyl	
2.236.	H	CN	3-(n-Pentoxyimino-1'-ethyl)phenyl	
2.237.	H	CN	4-(n-Pentoxyimino-1'-ethyl)phenyl	
2.238.	H	CN	2-(n-Hexoxyimino-1'-ethyl)phenyl	
2.239.	H	CN	3-(n-Hexoxyimino-1'-ethyl)phenyl	
2.240.	H	CN	4-(n-Hexoxyimino-1'-ethyl)phenyl	
2.241.	H	CN	2-(Allyloxyimino-1'-ethyl)-phenyl	
2.242.	H	CN	3-(Allyloxyimino-1'-ethyl)-phenyl	
2.243.	H	CN	4-(Allyloxyimino-1'-ethyl)-phenyl	
2.244.	H	CN	2-(Benzyloxyimino-1'-ethyl)phenyl	
2.245.	H	CN	3-(Benzyloxyimino-1'-ethyl)phenyl	
2.246.	H	CN	4-(Benzyloxyimino-1'-ethyl)phenyl	
2.247.	H	CN	2-Phenylphenyl	
2.248.	H	CN	3-Phenylphenyl	
2.249.	H	CN	4-Phenylphenyl	
2.250.	H	CN	2-Phenoxyphenyl	
2.251.	H	CN	3-Phenoxyphenyl	96 - 97°C

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No.	R ¹	R ²	R ³	phys. data
2.252.	H	CN	4-Phenoxyphenyl	
2.253.	H	CN	2-Benzyloxyphenyl	
2.254.	H	CN	3-Benzyloxyphenyl	
2.255.	H	CN	4-Benzyloxyphenyl	
2.256.	H	CN	4-(Imidazol-1'-yl)phenyl	
2.257.	H	CN	4-(Piperazin-1'-yl)phenyl	
2.258.	H	CN	4-(Morpholin-1'-yl)phenyl	
2.259.	H	CN	4-(Piperidin-1'-yl)phenyl	
2.260.	H	CN	4-(Pyridyl-2'-oxy)phenyl	
2.261.	H	CN	2-Cyclopropylphenyl	
2.262.	H	CN	3-Cyclopropylphenyl	
2.263.	H	CN	4-Cyclopropylphenyl	
2.264.	H	CN	3-Cyclohexylphenyl	
2.265.	H	CN	4-Cyclohexylphenyl	
2.266.	H	CN	4-Oxiranylphenyl	
2.267.	H	CN	4-(1',3'-Dioxan-2'-yl)-phenyl	
2.268.	H	CN	4-(Tetrahydropyran-2-yloxy)-phenyl	
2.269.	H	CN	1-Naphthyl	
2.270.	H	CN	2-Naphthyl	
2.271.	H	CN	Benzyl	
2.272.	H	CN	2-Methylbenzyl	
2.273.	H	CN	3-Methylbenzyl	

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No.	R ¹	R ²	R ³	phys. data
2.274.	H	CN	4-Methylbenzyl	
2.275.	H	CN	4-tert.-Butylbenzyl	
2.276.	H	CN	2-Chlorobenzyl	
2.277.	H	CN	3-Chlorobenzyl	
2.278.	H	CN	4-Chlorobenzyl	
2.279.	H	CN	2,4-Dichlorobenzyl	
2.280.	H	CN	2,6-Dichlorobenzyl	
2.281.	H	CN	2,4,6-Trichlorobenzyl	
2.282.	H	CN	2-Trifluoromethylbenzyl	
2.283.	H	CN	3-Trifluoromethylbenzyl	
2.284.	H	CN	4-trifluoromethylbenzyl	
2.285.	H	CN	2-Methoxybenzyl	
2.286.	H	CN	4-Methoxybenzyl	
2.287.	H	CN	4-tert.-Butoxybenzyl	
2.288.	H	CN	4-Phenoxybenzyl	
2.289.	H	CN	1-Phenethyl	
2.290.	H	CN	2-Phenethyl	
2.291.	H	CN	1-Phenylpropyl	
2.292.	H	CN	2-Phenylpropyl	
2.293.	H	CN	3-Phenylpropyl	
2.294.	H	CN	2-Methyl-2-phenylpropyl	
2.295.	H	CN	2-Methyl-3-phenylpropyl	

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No.	R ¹	R ²	R ³	phys. data
2.296.	H	CN	4-Phenylbutyl	
2.297.	H	CN	2-Phenyl-1-ethenyl	
2.298.	H	CN	1-Phenyl-1-ethenyl	
2.299.	H	CN	1-Phenyl-1-propenyl	
2.300.	H	CN	1-Phenyl-1-propen-2-yl	
2.301.	H	CN	2,2-Diphenylethenyl	
2.302.	H	CN	2-Pyridyl	
2.303.	H	CN	3-Pyridyl	
2.304.	H	CN	4-Pyridyl	
2.305.	H	CN	2,6-Pyrimidinyl	
2.306.	H	CN	1,5-Pyrimidinyl	
2.307.	H	CN	2-Thienyl	
2.308.	H	CN	3-Thienyl	
2.309.	H	CN	2-Furyl	
2.310.	H	CN	3-Furyl	
2.311.	H	CN	1-Pyrrolyl	
2.312.	H	CN	1-Imidazolyl	
2.313.	H	CN	1,2,4-Triazolyl	
2.314.	H	CN	1,3,4-Triazolyl	
2.315.	H	CN	4-Thiazolyl	
2.316.	H	CN	2-Benzothiazolyl	
2.317.	H	CN	2-Pyridylmethyl	

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No.	R ¹	R ²	R ³	phys. data
2.318.	H	CN	3-Pyridylmethyl	
2.319.	H	CN	2'-Furyl-2-ethenyl	
2.320.	H	CN	2'-Thienyl-2-ethenyl	
2.321.	H	CN	3'-Pyridyl-2-ethenyl	
2.322.	H	CN	Oxiranyl	
2.323.	H	CN	1-Aziridinyl	
2.324.	H	CN	1-Azetidinyl	
2.325.	H	CN	1-Pyrrolidinyl	
2.326.	H	CN	2-Tetrahydrofuryl	
2.327.	H	CN	2-Tetrahydropyranyl	
2.328.	H	CN	3-Tetrahydropyranyl	
2.329.	H	CN	1-Piperidinyl	
2.330.	H	CN	1-Morpholinyl	
2.331.	H	CN	1-Piperazinyl	
2.332.	H	CN	1,3-Dioxan-2-yl	
2.333.	H	CN	4-Tetrahydrothiopyranyl	
2.334.	H	CN	4-Methylpent-3-en-1-yl	
2.335.	H	CN	2-Propenyl	
2.336.	H	CN	2-Butenyl	
2.337.	H	CN	1-Methyl-2-propenyl	
2.338.	H	CN	3-Methyl-2-butenyl	
2.339.	H	CN	2,2-Difluoroethenyl	

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No.	R ¹	R ²	R ³	phys. data
2.340.	H	CN	2,2-Dichloroethenyl	
2.341.	H	CN	3,3,3-Trifluoropropenyl	
2.342.	H	CN	3,3,3-Trichloropropenyl	
2.343.	H	CN	3-Chloro-2-propenyl	
2.344.	H	CN	Cyclopent-1-enyl	
2.345.	H	CN	Cyclopentadienyl	
2.346.	H	CN	Cyclohex-1-enyl	
2.347.	H	CN	Pentafluorocyclopentadienyl	
2.348.	H	CN	Pentachlorocyclopentadienyl	
2.349.	H	CN	Styryl	
2.350.	H	CO ₂ Me	Phenyl	124 - 128°C
2.351.	H	CO ₂ Me	2-Fluorophenyl	
2.352.	H	CO ₂ Me	3-Fluorophenyl	
2.353.	H	CO ₂ Me	4-Fluorophenyl	
2.354.	H	CO ₂ Me	2-Chlorophenyl	$\delta(\text{CH}_2) = 4.90$
2.355.	H	CO ₂ Me	3-Chlorophenyl	
2.356.	H	CO ₂ Me	4-Chlorophenyl	
2.357.	H	CO ₂ Me	2-Methylphenyl	
2.358.	H	CO ₂ Me	3-Methylphenyl	$\delta(\text{CH}_2) = 4.87$
2.359.	H	CO ₂ Me	4-Methylphenyl	
2.360.	H	CO ₂ Me	2-Cyanophenyl	
2.361.	H	CO ₂ Me	3-Cyanophenyl	

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No.	R ¹	R ²	R ³	phys. data
2.362.	H	CO ₂ Me	4-Cyanophenyl	
2.363.	H	CO ₂ Me	2-Methoxyphenyl	
2.364.	H	CO ₂ Me	3-Methoxyphenyl	
2.365.	H	CO ₂ Me	4-Methoxyphenyl	
2.366.	H	CO ₂ Me	2-Nitrophenyl	
2.367.	H	CO ₂ Me	3-Nitrophenyl	
2.368.	H	CO ₂ Me	4-Nitrophenyl	
2.369.	H	P(O) (OMe) ₂	Phenyl	
2.370.	H	P(O) (OMe) ₂	2-Fluorophenyl	
2.371.	H	P(O) (OMe) ₂	3-Fluorophenyl	
2.372.	H	P(O) (OMe) ₂	4-Fluorophenyl	
2.373.	H	P(O) (OMe) ₂	2-Chlorophenyl	
2.374.	H	P(O) (OMe) ₂	3-Chlorophenyl	
2.375.	H	P(O) (OMe) ₂	4-Chlorophenyl	
2.376.	H	P(O) (OMe) ₂	2-Methylphenyl	
2.377.	H	P(O) (OMe) ₂	3-Methylphenyl	135 - 137°C
2.378.	H	P(O) (OMe) ₂	4-Methylphenyl	
2.379.	CH ₃	CN	Phenyl	$\delta(\text{CH}_2) = 5.00$
2.380.	Acetyl	H	2,6-Dichlorophenyl	
2.381.	Acetyl	H	2,4-Dichlorophenyl	
2.382.	CH ₃	CO ₂ Et	Benzoyl	

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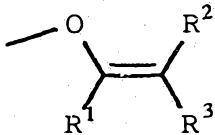
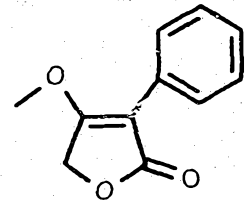
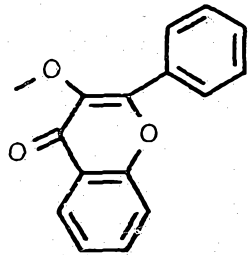
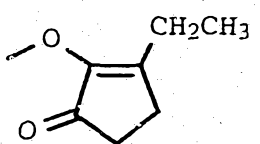
61

No.	R ¹	R ²	R ³	phys. data
2.383.	Methoxycarbonylmethyl	H	Acetyl	
2.404.	H	CO ₂ Me	2-Bromophenyl	92 - 93°C

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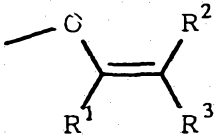
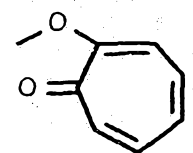
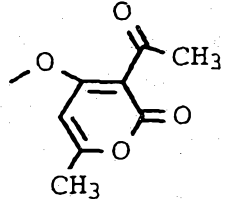
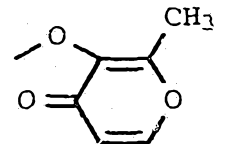
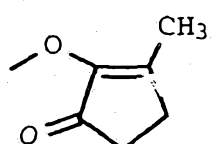
62

No.		phys. data
2.384		146 - 152°C
2.385		122 - 123°C
2.386		52 - 54°C

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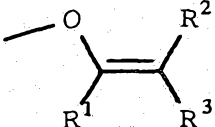
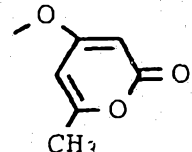
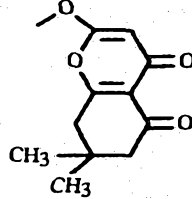
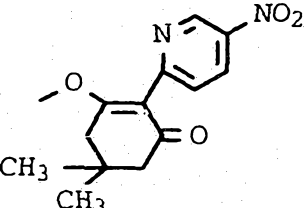
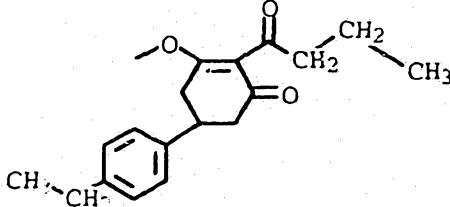
63

No.		phys. data
2.387		151 - 155°C
2.388		
2.389		87 - 89°C
2.390		100 - 101°C

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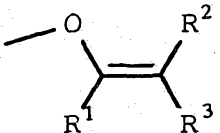
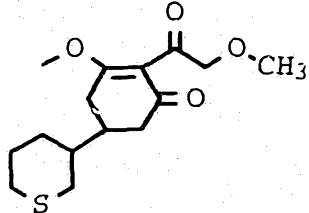
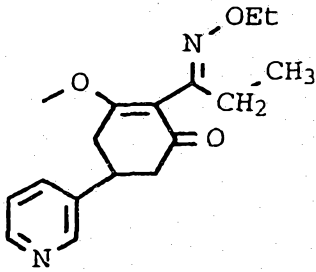
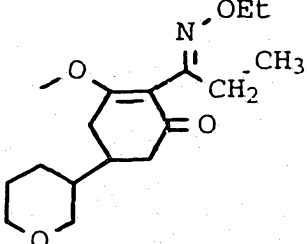
64

No.		phys. data
		
2.391		$\delta(\text{CH}_2) = 4.91$
2.392		
2.393		
2.394		

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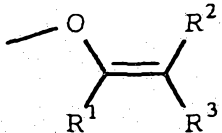
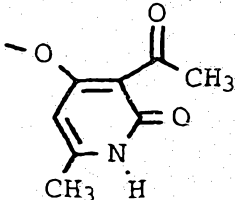
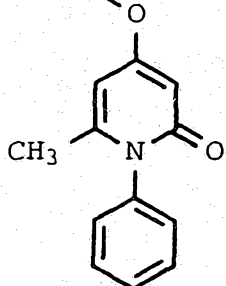
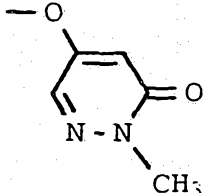
65

No.		phys. data
2.395		
2.396		
2.397		

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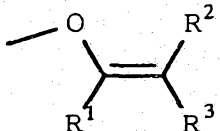
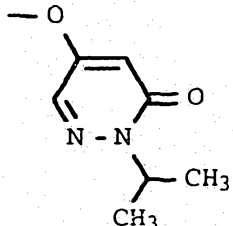
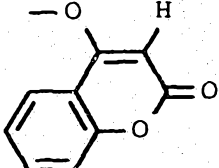
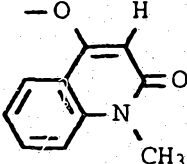
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No.		phys. data
2.398		
2.399		
2.400		

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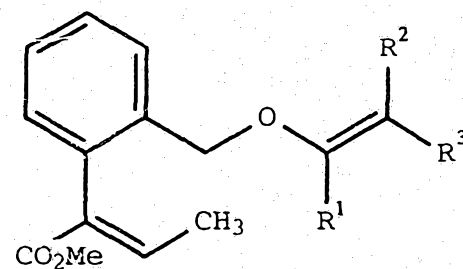
No.		phys. data
2.401		
2.402		161 - 162°C
2.403		171 - 172°C

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Table 3



No.	R ¹	R ²	R ³	phys. data
3.1.	H	H	CF ₃	
3.2.	H	CF ₃	CF ₃	
3.3.	H	CF ₃	Phenyl	
3.4.	H	CN	Methyl	
3.5.	H	CN	Ethyl	
3.6.	H	CN	n-Propyl	
3.7.	H	CN	isopropyl	
3.8.	H	CN	n-Butyl	
3.9.	H	CN	sec.-Butyl	
3.10.	H	CN	tert.-Butyl	
3.11.	H	CN	Cyclopropyl	
3.12.	H	CN	Cyclohexyl	

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No.	R ¹	R ²	R ³	phys. data
3.13.	H	CN	Methoxymethyl	
3.14.	H	CN	Ethoxymethyl	
3.15.	H	CN	Phenoxymethyl	
3.16.	H	CN	3-Chlorophenoxymethyl	
3.17.	H	CN	Benzyloxymethyl	
3.18.	H	CN	2-Methylbenzyloxymethyl	
3.19.	H	CN	Methylthiomethyl	
3.20.	H	CN	Phenylthiomethyl	
3.21.	H	CN	Ethynyl	
3.22.	H	CN	Phenylethynyl	
3.23.	H	CN	1-Propynyl	
3.24.	H	CN	CN	
3.25.	H	CN	Acetyl	
3.26.	H	CN	Propion-1-yl	
3.27.	H	CN	Butyr-1-yl	
3.28.	H	CN	isobutyr-1-yl	
3.29.	H	CN	Pivaloyl	
3.30.	H	CN	Benzoyl	
3.31.	H	CN	4-Chlorobenzoyl	
3.32.	H	CN	Benzylcarbonyl	
3.33.	H	CN	Methoxycarbonyl	
3.34.	H	CN	Ethoxycarbonyl	

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No.	R ¹	R ²	R ³	phys. data
3.35.	H	CN	n-Propoxycarbonyl	
3.36.	H	CN	isopropoxycarbonyl	
3.37.	H	CN	n-Butoxycarbonyl	
3.38.	H	CN	isobutoxycarbonyl	
3.39.	H	CN	sec.-Butoxycarbonyl	
3.40.	H	CN	tert.-Butoxycarbonyl	
3.41.	H	CN	n-Hexoxycarbonyl	
3.42.	H	CN	Phenoxycarbonyl	
3.43.	H	CN	4-Chlorophenoxycarbonyl	
3.44.	H	CN	Benzylloxycarbonyl	
3.45.	H	CN	Aminocarbonyl	
3.46.	H	CN	Dimethylaminocarbonyl	
3.47.	H	CN	Diethylaminocarbonyl	
3.48.	H	CN	Di-isopropylaminocarbonyl	
3.49.	H	CN	Phenylaminocarbonyl	
3.50.	H	CN	N-Methyl-N-phenylaminocarbonyl	
3.51.	H	CN	Phenyl	
3.52.	H	CN	2-Fluorophenyl	
3.53.	H	CN	3-Fluorophenyl	
3.54.	H	CN	4-Fluorophenyl	
3.55.	H	CN	Pentafluorophenyl	
3.56.	H	CN	2-Chlorophenyl	

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No.	R ¹	R ²	R ³	phys. data
3.57.	H	CN	3-Chlorophenyl	
3.58.	H	CN	4-Chlorophenyl	
3.59.	H	CN	Pentachlorophenyl	
3.60.	H	CN	2,3-Dichlorophenyl	
3.61.	H	CN	2,4-Dichlorophenyl	
3.62.	H	CN	2,5-Dichlorophenyl	
3.63.	H	CN	2,6-Dichlorophenyl	
3.64.	H	CN	3,4-Dichlorophenyl	
3.65.	H	CN	3,5-Dichlorophenyl	
3.66.	H	CN	2,3,4-Trichlorophenyl	
3.67.	H	CN	2,3,5-Trichlorophenyl	
3.68.	H	CN	2,3,6-Trichlorophenyl	
3.69.	H	CN	2,4,5-Trichlorophenyl	
3.70.	H	CN	2,4,6-Trichlorophenyl	
3.71.	H	CN	3,4,5-Trichlorophenyl	
3.72.	H	CN	2,3,4,6-Tetrachlorophenyl	
3.73.	H	CN	2,3,5,6-Tetrachlorophenyl	
3.74.	H	CN	2-Bromophenyl	
3.75.	H	CN	3-Bromophenyl	
3.76.	H	CN	4-Bromophenyl	
3.77.	H	CN	2,4-Dibromophenyl	
3.78.	H	CN	3-Bromo-4-fluorophenyl	

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No.	R ¹	R ²	R ³	phys. data
3.79.	H	CN	3-Bromo-4-methoxyphenyl	
3.80.	H	CN	2-Iodophenyl	
3.81.	H	CN	3-Iodophenyl	
3.82.	H	CN	4-Iodophenyl	
3.83.	H	CN	2-Chloro-4-fluorophenyl	
3.84.	H	CN	2-Chloro-5-fluorophenyl	
3.85.	H	CN	2-Chloro-6-fluorophenyl	
3.86.	H	CN	2-Chloro-4-bromophenyl	
3.87.	H	CN	2-Bromo-4-chlorophenyl	
3.88.	H	CN	2-Bromo-4-fluorophenyl	
3.89.	H	CN	3-Bromo-4-fluorophenyl	
3.90.	H	CN	3-Chloro-4-fluorophenyl	
3.91.	H	CN	3-Fluoro-4-chlorophenyl	
3.92.	H	CN	2-Cyanophenyl	
3.93.	H	CN	3-Cyanophenyl	
3.94.	H	CN	4-Cyanophenyl	
3.95.	H	CN	2-Nitrophenyl	
3.96.	H	CN	3-Nitrophenyl	
3.97.	H	CN	4-Nitrophenyl	
3.98.	H	CN	2-Methylphenyl	
3.99.	H	CN	3-Methylphenyl	
3.100.	H	CN	4-Methylphenyl	

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No.	R ¹	R ²	R ³	phys. data
3.101.	H	CN	2,4-Dimethylphenyl	
3.102.	H	CN	2,6-Dimethylphenyl	
3.103.	H	CN	3,4-Dimethylphenyl	
3.104.	H	CN	3,5-Dimethylphenyl	
3.105.	H	CN	2,3,4-Trimethylphenyl	
3.106.	H	CN	2,3,5-Trimethylphenyl	
3.107.	H	CN	2,3,6-Trimethylphenyl	
3.108.	H	CN	2,4,5-Trimethylphenyl	
3.109.	H	CN	2,4,6-Trimethylphenyl	
3.110.	H	CN	3,4,5-Trimethylphenyl	
3.111.	H	CN	Pentamethylphenyl	
3.112.	H	CN	2-Ethylphenyl	
3.113.	H	CN	3-Ethylphenyl	
3.114.	H	CN	4-Ethylphenyl	
3.115.	H	CN	3,5-Diethylphenyl	
3.116.	H	CN	2-n-Propylphenyl	
3.117.	H	CN	3-n-Propylphenyl	
3.118.	H	CN	4-n-Propylphenyl	
3.119.	H	CN	2-isopropylphenyl	
3.120.	H	CN	3-isopropylphenyl	
3.121.	H	CN	4-isopropylphenyl	
3.122.	H	CN	2,4-Di-isopropylphenyl	

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No.	R ¹	R ²	R ³	phys. data
3.123.	H	CN	3,5-Di-isopropylphenyl	
3.124.	H	CN	4-n-Butylphenyl	
3.125.	H	CN	4-sec.-Butylphenyl	
3.126.	H	CN	4-iso-Butylphenyl	
3.127.	H	CN	4-tert.-Butylphenyl	
3.128.	H	CN	3-tert.-Butylphenyl	
3.129.	H	CN	2-tert.-Butylphenyl	
3.130.	H	CN	2,4-Di-tert.-Butylphenyl	
3.131.	H	CN	3,5-Di-tert.-Butylphenyl	
3.132.	H	CN	4-n-Hexylphenyl	
3.133.	H	CN	4-n-Dodecylphenyl	
3.134.	H	CN	2-Methyl-4-tert.-Butylphenyl	
3.135.	H	CN	2-Methyl-6-tert.-Butylphenyl	
3.136.	H	CN	2-Methyl-4-iso-Propylphenyl	
3.137.	H	CN	2-Methyl-4-Cyclohexylphenyl	
3.138.	H	CN	2-Methyl-4-Phenylphenyl	
3.139.	H	CN	2-Methyl-4-Benzylphenyl	
3.140.	H	CN	2-Methyl-4-Phenoxyphenyl	
3.141.	H	CN	2-Methyl-4-Benzoyloxyphenyl	
3.142.	H	CN	2-Methyl-3-Chlorophenyl	
3.143.	H	CN	2-Methyl-4-Chlorophenyl	
3.144.	H	CN	2-Methyl-5-Chlorophenyl	

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No.	R ¹	R ²	R ³	phys. data
3.145.	H	CN	2-Methyl-6-Chlorophenyl	
3.146.	H	CN	2-Methyl-4-Fluorophenyl	
3.147.	H	CN	2-Methyl-3-Bromophenyl	
3.148.	H	CN	2-Methyl-4-Bromophenyl	
3.149.	H	CN	2-Methyl-3-Methoxyphenyl	
3.150.	H	CN	2-Methyl-4-Methoxyphenyl	
3.151.	H	CN	2-Methyl-5-Methoxyphenyl	
3.152.	H	CN	2-Methyl-6-Methoxyphenyl	
3.153.	H	CN	2-Methyl-4-iso-Propoxyphenyl	
3.154.	H	CN	2-Methyl-2,5-Dimethoxyphenyl	
3.155.	H	CN	2-Methoxyphenyl	
3.156.	H	CN	3-Methoxyphenyl	
3.157.	H	CN	4-Methoxyphenyl	
3.158.	H	CN	2,3-Dimethoxyphenyl	
3.159.	H	CN	2,4-Dimethoxyphenyl	
3.160.	H	CN	2,5-Dimethoxyphenyl	
3.161.	H	CN	2,6-Dimethoxyphenyl	
3.162.	H	CN	3,4-Dimethoxyphenyl	
3.163.	H	CN	3,5-Dimethoxyphenyl	
3.164.	H	CN	3,6-Dimethoxyphenyl	
3.165.	H	CN	2,3,4-Trimethoxyphenyl	
3.166.	H	CN	2,3,5-Trimethoxyphenyl	

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No.	R ¹	R ²	R ³	phys. data
3.167.	H	CN	2,3,6-Trimethoxyphenyl	
3.168.	H	CN	2,4,5-Trimethoxyphenyl	
3.169.	H	CN	2,4,6-Trimethoxyphenyl	
3.170.	H	CN	3,4,5-Trimethoxyphenyl	
3.171.	H	CN	2-Ethoxyphenyl	
3.172.	H	CN	3-Ethoxyphenyl	
3.173.	H	CN	4-Ethoxyphenyl	
3.174.	H	CN	2-iso-Propoxyphenyl	
3.175.	H	CN	3-iso-Propoxyphenyl	
3.176.	H	CN	4-iso-Propoxyphenyl	
3.177.	H	CN	3-tert.-Butoxyphenyl	
3.178.	H	CN	4-tert.-Butoxyphenyl	
3.179.	H	CN	2-Trifluoromethoxyphenyl	
3.180.	H	CN	3-Trifluoromethoxyphenyl	
3.181.	H	CN	4-Trifluoromethoxyphenyl	
3.182.	H	CN	3-(1',1',2',2'-Tetrafluoro)ethoxy-phenyl	
3.183.	H	CN	4-(1',1',2',2'-Tetra-fluoro)ethoxy-phenyl	
3.184.	H	CN	2-Chloromethylphenyl	
3.185.	H	CN	3-Chloromethylphenyl	
3.186.	H	CN	4-Chloromethylphenyl	

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No.	R ¹	R ²	R ³	phys. data
3.187.	H	CN	2-Trifluoromethylphenyl	
3.188.	H	CN	3-Trifluoromethylphenyl	
3.189.	H	CN	4-Trifluoromethylphenyl	
3.190.	H	CN	2-(Methoxyiminomethyl)-phenyl	
3.191.	H	CN	3-(Methoxyiminomethyl)-phenyl	
3.192.	H	CN	4-(Methoxyiminomethyl)-phenyl	
3.193.	H	CN	2-(Ethoxyiminomethyl)-phenyl	
3.194.	H	CN	3-(Ethoxyiminomethyl)-phenyl	
3.195.	H	CN	4-(Ethoxyiminomethyl)-phenyl	
3.196.	H	CN	2-(n-Propoxyiminomethyl)phenyl	
3.197.	H	CN	3-(n-Propoxyiminomethyl)phenyl	
3.198.	H	CN	4-(n-Propoxyiminomethyl)phenyl	
3.199.	H	CN	2-(iso-Propoxyiminomethyl)phenyl	
3.200.	H	CN	3-(iso-Propoxyiminomethyl)phenyl	
3.201.	H	CN	4-(iso-Propoxyiminomethyl)phenyl	
3.202.	H	CN	2-(n-Butoxyiminomethyl)phenyl	
3.203.	H	CN	3-(n-Butoxyiminomethyl)phenyl	
3.204.	H	CN	4-(n-Butoxyiminomethyl)phenyl	
3.205.	H	CN	2-(iso-Butoxyiminomethyl)phenyl	
3.206.	H	CN	3-(iso-Butoxyiminomethyl)phenyl	
3.207.	H	CN	4-(iso-Butoxyiminomethyl)phenyl	
3.208.	H	CN	2-(tert.-Butoxyiminomethyl)phenyl	

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No.	R ¹	R ²	R ³	phys. data
3.209.	H	CN	3-(tert.-Butoxyiminomethyl)phenyl	
3.210.	H	CN	4-(tert.-Butoxyiminomethyl)phenyl	
3.211.	H	CN	2-(n-Pentoxyiminomethyl)-phenyl	
3.212.	H	CN	3-(n-Pentoxyiminomethyl)-phenyl	
3.213.	H	CN	4-(n-Pentoxyiminomethyl)-phenyl	
3.214.	H	CN	2-(n-Hexoxyiminomethyl)-phenyl	
3.215.	H	CN	3-(n-Hexoxyiminomethyl)-phenyl	
3.216.	H	CN	4-(n-Hexoxyiminomethyl)-phenyl	
3.217.	H	CN	2-(Allyloxyiminomethyl)-phenyl	
3.218.	H	CN	3-(Allyloxyiminomethyl)-phenyl	
3.219.	H	CN	4-(Allyloxyiminomethyl)-phenyl	
3.220.	H	CN	2-(Benzyloxyiminomethyl)-phenyl	
3.221.	H	CN	3-(Benzyloxyiminomethyl)-phenyl	
3.222.	H	CN	4-(Benzyloxyiminomethyl)-phenyl	
3.223.	H	CN	2-(Methoxyimino-1'-ethyl)-phenyl	
3.224.	H	CN	3-(Methoxyimino-1'-ethyl)-phenyl	
3.225.	H	CN	4-(Methoxyimino-1'-ethyl)-phenyl	
3.226.	H	CN	2-(Ethoxyimino-1'-ethyl)-phenyl	
3.227.	H	CN	3-(Ethoxyimino-1'-ethyl)-phenyl	
3.228.	H	CN	4-(Ethoxyimino-1'-ethyl)-phenyl	
3.229.	H	CN	2-(n-Propoxyimino-1'-ethyl)phenyl	
3.230.	H	CN	3-(n-Propoxyimino-1'-ethyl)phenyl	

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No.	R ¹	R ²	R ³	phys. data
3.231.	H	CN	4-(n-Propoxyimino-1'-ethyl)phenyl	
3.232.	H	CN	2-(n-Butoxyamino-1'-ethyl)phenyl	
3.233.	H	CN	3-(n-Butoxyamino-1'-ethyl)phenyl	
3.234.	H	CN	4-(n-Butoxyamino-1'-ethyl)phenyl	
3.235.	H	CN	2-(n-Pentoxymino-1'-ethyl)phenyl	
3.236.	H	CN	3-(n-Pentoxymino-1'-ethyl)phenyl	
3.237.	H	CN	4-(n-Pentoxymino-1'-ethyl)phenyl	
3.238.	H	CN	2-(n-Hexoxymino-1'-ethyl)phenyl	
3.239.	H	CN	3-(n-Hexoxymino-1'-ethyl)phenyl	
3.240.	H	CN	4-(n-Hexoxymino-1'-ethyl)phenyl	
3.241.	H	CN	2-(Allyloxyimino-1'-ethyl)-phenyl	
3.242.	H	CN	3-(Allyloxyimino-1'-ethyl)-phenyl	
3.243.	H	CN	4-(Allyloxyimino-1'-ethyl)-phenyl	
3.244.	H	CN	2-(Benzyloxyimino-1'-ethyl)phenyl	
3.245.	H	CN	3-(Benzyloxyimino-1'-ethyl)phenyl	
3.246.	H	CN	4-(Benzyloxyimino-1'-ethyl)phenyl	
3.247.	H	CN	2-Phenylphenyl	
3.248.	H	CN	3-Phenylphenyl	
3.249.	H	CN	4-Phenylphenyl	
3.250.	H	CN	2-Phenoxyphenyl	
3.251.	H	CN	3-Phenoxyphenyl	
3.252.	H	CN	4-Phenoxyphenyl	

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No.	R ¹	R ²	R ³	phys. data
3.253.	H	CN	2-Benzyloxyphenyl	
3.254.	H	CN	3-Benzyloxyphenyl	
3.255.	H	CN	4-Benzyloxyphenyl	
3.256.	H	CN	4-(Imidazol-1'-yl)phenyl	
3.257.	H	CN	4-(Piperazin-1'-yl)phenyl	
3.258.	H	CN	4-(Morpholin-1'-yl)phenyl	
3.259.	H	CN	4-(Piperidin-1'-yl)phenyl	
3.260.	H	CN	4-(Pyridyl-2'-oxy)phenyl	
3.261.	H	CN	2-Cyclopropylphenyl	
3.262.	H	CN	3-Cyclopropylphenyl	
3.263.	H	CN	4-Cyclopropylphenyl	
3.264.	H	CN	3-Cyclohexylphenyl	
3.265.	H	CN	4-Cyclohexylphenyl	
3.266.	H	CN	4-Oxiranylphenyl	
3.267.	H	CN	4-(1',3'-Dioxan-2'-yl)-phenyl	
3.268.	H	CN	4-(Tetrahydropyran2-yloxy)-phenyl	
3.269.	H	CN	1-Naphthyl	
3.270.	H	CN	2-Naphthyl	
3.271.	H	CN	Benzyl	
3.272.	H	CN	2-Methylbenzyl	
3.273.	H	CN	3-Methylbenzyl	
3.274.	H	CN	4-Methylbenzyl	

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No.	R ¹	R ²	R ³	phys. data
3.275.	H	CN	4-tert.-Butylbenzyl	
3.276.	H	CN	2-Chlorobenzyl	
3.277.	H	CN	3-Chlorobenzyl	
3.278.	H	CN	4-Chlorobenzyl	
3.279.	H	CN	2,4-Dichlorobenzyl	
3.280.	H	CN	2,6-Dichlorobenzyl	
3.281.	H	CN	2,4,6-Trichlorobenzyl	
3.282.	H	CN	2-Trifluoromethylbenzyl	
3.283.	H	CN	3-Trifluoromethylbenzyl	
3.284.	H	CN	4-trifluoromethylbenzyl	
3.285.	H	CN	2-Methoxybenzyl	
3.286.	H	CN	4-Methoxybenzyl	
3.287.	H	CN	4-tert.-Butoxybenzyl	
3.288.	H	CN	4-Phenoxybenzyl	
3.289.	H	CN	1-Phenethyl	
3.290.	H	CN	2-Phenethyl	
3.291.	H	CN	1-Phenylpropyl	
3.292.	H	CN	2-Phenylpropyl	
3.293.	H	CN	3-Phenylpropyl	
3.294.	H	CN	2-Methyl-2-phenylpropyl	
3.295.	H	CN	2-Methyl-3-phenylpropyl	
3.296.	H	CN	4-Phenylbutyl	

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No.	R ¹	R ²	R ³	phys. data
3.297.	H	CN	2-Phenyl-1-ethenyl	
3.298.	H	CN	1-Phenyl-1-ethenyl	
3.299.	H	CN	1-Phenyl-1-propenyl	
3.300.	H	CN	1-Phenyl-1-propen-2-yl	
3.301.	H	CN	2,2-Diphenylethenyl	
3.302.	H	CN	2-Pyridyl	
3.303.	H	CN	3-Pyridyl	
3.304.	H	CN	4-Pyridyl	
3.305.	H	CN	2,6-Pyrimidinyl	
3.306.	H	CN	1,5-Pyrimidinyl	
3.307.	H	CN	2-Thienyl	
3.308.	H	CN	3-Thienyl	
3.309.	H	CN	2-Furyl	
3.310.	H	CN	3-Furyl	
3.311.	H	CN	1-Pyrrolyl	
3.312.	H	CN	1-Imidazolyl	
3.313.	H	CN	1,2,4-Triazolyl	
3.314.	H	CN	1,3,4-Triazolyl	
3.315.	H	CN	4-Thiazolyl	
3.316.	H	CN	2-Benzothiazolyl	
3.317.	H	CN	2-Pyridylmethyl	
3.318.	H	CN	3-Pyridylmethyl	

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No.	R ¹	R ²	R ³	phys. data
3.319.	H	CN	2'-Furyl-2-ethenyl	
3.320.	H	CN	2'-Thienyl-2-ethenyl	
3.321.	H	CN	3'-Pyridyl-2-ethenyl	
3.322.	H	CN	Oxiranyl	
3.323.	H	CN	1-Aziridinyl	
3.324.	H	CN	1-Azetidinyl	
3.325.	H	CN	1-Pyrrolidinyl	
3.326.	H	CN	2-Tetrahydrofuryl	
3.327.	H	CN	2-Tetrahydropyranyl	
3.328.	H	CN	3-Tetrahydropyranyl	
3.329.	H	CN	1-Piperidinyl	
3.330.	H	CN	1-Morpholinyl	
3.331.	H	CN	1-Piperazinyl	
3.332.	H	CN	1,3-Dioxan-2-yl	
3.333.	H	CN	4-Tetrahydrothiopyranyl	
3.334.	H	CN	4-Methylpent-3-en-1-yl	
3.335.	H	CN	2-Propenyl	
3.336.	H	CN	2-Butenyl	
3.337.	H	CN	1-Methyl-2-propenyl	
3.338.	H	CN	3-Methyl-2-butenyl	
3.339.	H	CN	2,2-Difluoroethenyl	
3.340.	H	CN	2,2-Dichloroethenyl	

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No.	R ¹	R ²	R ³	phys. data
3.341.	H	CN	3,3,3-Trifluoropropenyl	
3.342.	H	CN	3,3,3-Trichloropropenyl	
3.343.	H	CN	3-Chloro-2-propenyl	
3.344.	H	CN	Cyclopent-1-enyl	
3.345.	H	CN	Cyclopentadienyl	
3.346.	H	CN	Cyclohex-1-enyl	
3.347.	H	CN	Pentafluorocyclopentadienyl	
3.348.	H	CN	Pentachlorocyclopentadienyl	
3.349.	H	CN	Styryl	
3.350.	H	CO ₂ Me	Phenyl	
3.351.	H	CO ₂ Me	2-Fluorophenyl	
3.352.	H	CO ₂ Me	3-Fluorophenyl	
3.353.	H	CO ₂ Me	4-Fluorophenyl	
3.354.	H	CO ₂ Me	2-Chlorophenyl	
3.355.	H	CO ₂ Me	3-Chlorophenyl	
3.356.	H	CO ₂ Me	4-Chlorophenyl	
3.357.	H	CO ₂ Me	2-Methylphenyl	
3.358.	H	CO ₂ Me	3-Methylphenyl	
3.359.	H	CO ₂ Me	4-Methylphenyl	
3.360.	H	CO ₂ Me	2-Cyanophenyl	
3.361.	H	CO Me	3-Cyanophenyl	
3.362.	H	CO Me	4-Cyanophenyl	

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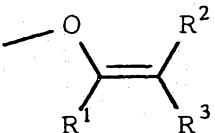
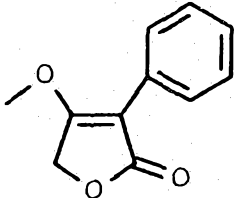
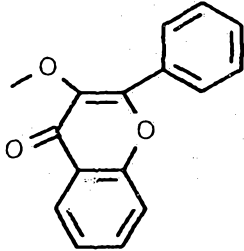
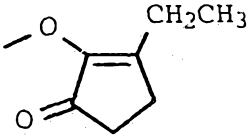
85

No.	R ¹	R ²	R ³	phys. data
3.363.	H	CO ₂ Me	2-Methoxyphenyl	
3.364.	H	CO ₂ Me	3-Methoxyphenyl	
3.365.	H	CO ₂ Me	4-Methoxyphenyl	
3.366.	H	CO ₂ Me	2-Nitrophenyl	
3.367.	H	CO ₂ Me	3-Nitrophenyl	
3.368.	H	CO ₂ Me	4-Nitrophenyl	
3.369.	H	P(O)(OMe) ₂	Phenyl	
3.370.	H	P(O)(OMe) ₂	2-Fluorophenyl	
3.371.	H	P(O)(OMe) ₂	3-Fluorophenyl	
3.372.	H	P(O)(OMe) ₂	4-Fluorophenyl	
3.373.	H	P(O)(OMe) ₂	2-Chlorophenyl	
3.374.	H	P(O)(OMe) ₂	3-Chlorophenyl	
3.375.	H	P(O)(OMe) ₂	4-Chlorophenyl	
3.376.	H	P(O)(OMe) ₂	2-Methylphenyl	
3.377.	H	P(O)(OMe) ₂	3-Methylphenyl	
3.378.	H	P(O)(OMe) ₂	4-Methylphenyl	
3.379.	CH ₃	CN	Phenyl	
3.380.	Acetyl	H	2,6-Dichlorophenyl	
3.381.	Acetyl	H	2,4-Dichlorophenyl	
3.382.	CH ₃	CO ₂ Et	Benzoyl	
3.383.	Methoxycarbonylphenyl	H	Acetyl	

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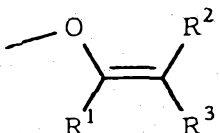
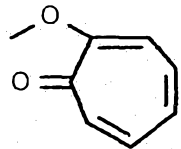
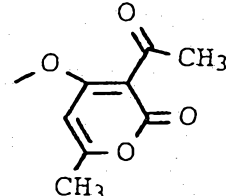
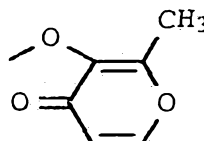
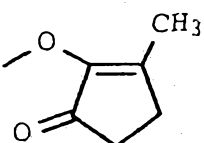
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No.		phys. data
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3.385		
3.386		

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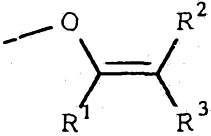
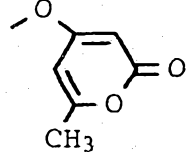
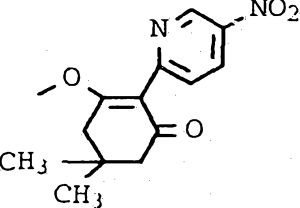
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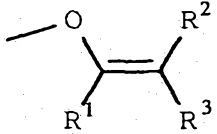
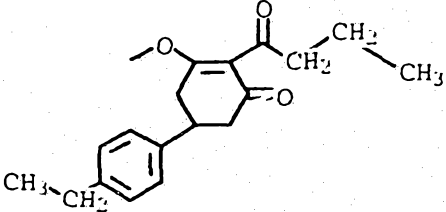
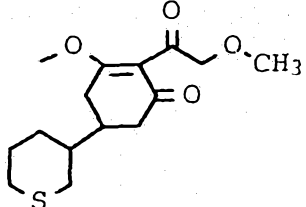
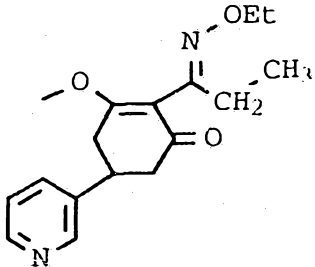
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3.390		

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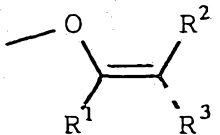
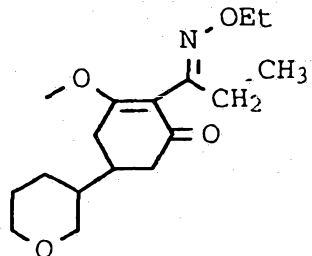
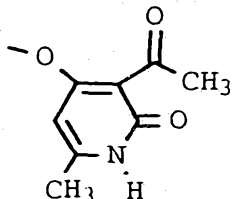
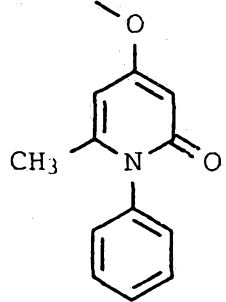
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3.392		
3.393		

No.		phys. data
		
3.394		
3.395		
3.396		

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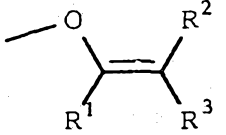
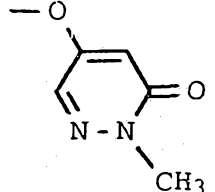
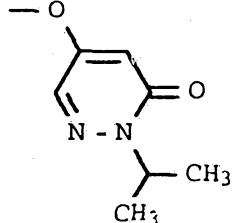
90

No.		phys. data
3.397		
3.398		
3.399		

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No.		phys. data
3.400		
3.401		

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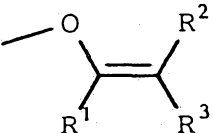
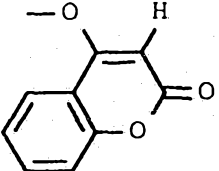
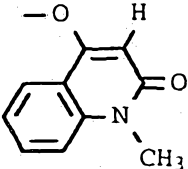
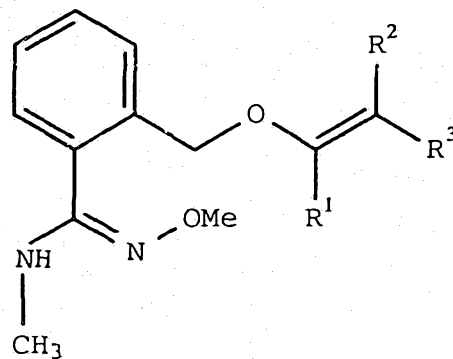
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3.402		
3.403		

Table 4



No.	R ¹	R ²	R ³	phys. data
4.1.	H	H	CF ₃	
4.2.	H	CF ₃	CF ₃	
4.3.	H	CF ₃	Phenyl	
4.4.	H	CN	Methyl	
4.5.	H	CN	Ethyl	
4.6.	H	CN	n-Propyl	
4.7.	H	CN	iso-Propyl	
4.8.	H	CN	n-Butyl	
4.9.	H	CN	sec.-Butyl	
4.10.	H	CN	tert.-Butyl	

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No.	R ¹	R ²	R ³	phys. data
4.11.	H	CN	Cyclopropyl	
4.12.	H	CN	Cyclohexyl	
4.13.	H	CN	Methoxymethyl	
4.14.	H	CN	Ethoxymethyl	
4.15.	H	CN	Phenoxymethyl	
4.16.	H	CN	3-Chlorophenoxymethyl	
4.17.	H	CN	Benzyloxymethyl	
4.18.	H	CN	2-Methylbenzyloxymethyl	
4.19.	H	CN	Methylthiomethyl	
4.20.	H	CN	Phenylthiomethyl	
4.21.	H	CN	Ethynyl	
4.22.	H	CN	Phenylethynyl	
4.23.	H	CN	1-Propynyl	
4.24.	H	CN	CN	
4.25.	H	CN	Acetyl	
4.26.	H	CN	Propion-1-yl	
4.27.	H	CN	Butyr-1-yl	
4.28.	H	CN	iso-Butyr-1-yl	
4.29.	H	CN	Pivaloyl	
4.30.	H	CN	Benzoyl	
4.31.	H	CN	4-Chlorobenzoyl	
4.32.	H	CN	Benzylcarbonyl	

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No.	R ¹	R ²	R ³	phys. data
4.33.	H	CN	Methoxycarbonyl	
4.34.	H	CN	Ethoxycarbonyl	
4.35.	H	CN	n-Propoxycarbonyl	
4.36.	H	CN	iso-Propoxycarbonyl	
4.37.	H	CN	n-Butoxycarbonyl	
4.38.	H	CN	iso-Butoxycarbonyl	
4.39.	H	CN	sec.-Butoxycarbonyl	
4.40.	H	CN	tert.-Butoxycarbonyl	
4.41.	H	CN	n-Hexoxycarbonyl	
4.42.	H	CN	Phenoxycarbonyl	
4.43.	H	CN	4-Chlorophenoxycarbonyl	
4.44.	H	CN	Benzyloxycarbonyl	
4.45.	H	CN	Aminocarbonyl	
4.46.	H	CN	Dimethylaminocarbonyl	
4.47.	H	CN	Diethylaminocarbonyl	
4.48.	H	CN	Di-iso-Propylaminocarbonyl	
4.49.	H	CN	Phenylaminocarbonyl	
4.50.	H	CN	N-Methyl-N-Phenylaminocarbonyl	
4.51.	H	CN	Phenyl	
4.52.	H	CN	2-Fluorphenyl	
4.53.	H	CN	3-Fluorphenyl	
4.54.	H	CN	4-Fluorphenyl	

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No.	R ¹	R ²	R ³	phys. data
4.55.	H	CN	Pentafluorophenyl	
4.56.	H	CN	2-Chlorophenyl	
4.57.	H	CN	3-Chlorophenyl	
4.58.	H	CN	4-Chlorophenyl	
4.59.	H	CN	Pentachlorophenyl	
4.60.	H	CN	2,3-Dichlorophenyl	
4.61.	H	CN	2,4-Dichlorophenyl	
4.62.	H	CN	2,5-Dichlorophenyl	
4.63.	H	CN	2,6-Dichlorophenyl	
4.64.	H	CN	3,4-Dichlorophenyl	
4.65.	H	CN	3,5-Dichlorophenyl	
4.66.	H	CN	2,3,4-Trichlorophenyl	
4.67.	H	CN	2,3,5-Trichlorophenyl	
4.68.	H	CN	2,3,6-Trichlorophenyl	
4.69.	H	CN	2,4,5-Trichlorophenyl	
4.70.	H	CN	2,4,6-Trichlorophenyl	
4.71.	H	CN	3,4,5-Trichlorophenyl	
4.72.	H	CN	2,3,4,6-Tetrachlorophenyl	
4.73.	H	CN	2,3,5,6-Tetrachlorophenyl	
4.74.	H	CN	2-Bromophenyl	
4.75.	H	CN	3-Bromophenyl	
4.76.	H	CN	4-Bromophenyl	

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No.	R ¹	R ²	R ³	phys. data
4.77.	H	CN	2,4-Dibromophenyl	
4.78.	H	CN	3-Bromo-4-Fluorophenyl	
4.79.	H	CN	3-Bromo-4-Methoxyphenyl	
4.80.	H	CN	2-Iodophenyl	
4.81.	H	CN	3-Iodophenyl	
4.82.	H	CN	4-Iodophenyl	
4.83.	H	CN	2-Chloro-4-Fluorophenyl	
4.84.	H	CN	2-Chloro-5-Fluorophenyl	
4.85.	H	CN	2-Chloro-6-Fluorophenyl	
4.86.	H	CN	2-Chloro-4-Bromophenyl	
4.87.	H	CN	2-Bromo-4-Chlorophenyl	
4.88.	H	CN	2-Bromo-4-Fluorophenyl	
4.89.	H	CN	3-Bromo-4-Fluorophenyl	
4.90.	H	CN	3-Chloro-4-Fluorophenyl	
4.91.	H	CN	3-Fluoro-4-Chlorophenyl	
4.92.	H	CN	2-Cyanophenyl	
4.93.	H	CN	3-Cyanophenyl	
4.94.	H	CN	4-Cyanophenyl	
4.95.	H	CN	2-Nitrophenyl	
4.96.	H	CN	3-Nitrophenyl	
4.97.	H	CN	4-Nitrophenyl	
4.98.	H	CN	2-Methylphenyl	

No.	R ¹	R ²	R ³	phys. data
4.99.	H	CN	3-Methylphenyl	
4.100.	H	CN	4-Methylphenyl	
4.101.	H	CN	2,4-Dimethylphenyl	
4.102.	H	CN	2,6-Dimethylphenyl	
4.103.	H	CN	3,4-Dimethylphenyl	
4.104.	H	CN	3,5-Dimethylphenyl	
4.105.	H	CN	2,3,4-Trimethylphenyl	
4.106.	H	CN	2,3,5-Trimethylphenyl	
4.107.	H	CN	2,3,6-Trimethylphenyl	
4.108.	H	CN	2,4,5-Trimethylphenyl	
4.109.	H	CN	2,4,6-Trimethylphenyl	
4.110.	H	CN	3,4,5-Trimethylphenyl	
4.111.	H	CN	Pentamethylphenyl	
4.112.	H	CN	2-Ethylphenyl	
4.113.	H	CN	3-Ethylphenyl	
4.114.	H	CN	4-Ethylphenyl	
4.115.	H	CN	3,5-Diethylphenyl	
4.116.	H	CN	2-n-Propylphenyl	
4.117.	H	CN	3-n-Propylphenyl	
4.118.	H	CN	4-n-Propylphenyl	
4.119.	H	CN	2-iso-Propylphenyl	
4.120.	H	CN	3-iso-Propylphenyl	

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No.	R ¹	R ²	R ³	phys. data
4.121.	H	CN	4-iso-Propylphenyl	
4.122.	H	CN	2,4-Di-iso-Propylphenyl	
4.123.	H	CN	3,5-Di-iso-Propylphenyl	
4.124.	H	CN	4-n-Butylphenyl	
4.125.	H	CN	4-sec.-Butylphenyl	
4.126.	H	CN	4-iso-Butylphenyl	
4.127.	H	CN	4-tert.-Butylphenyl	
4.128.	H	CN	3-tert.-Butylphenyl	
4.129.	H	CN	2-tert.-Butylphenyl	
4.130.	H	CN	2,4-Di-tert.-Butylphenyl	
4.131.	H	CN	3,5-Di-tert.-Butylphenyl	
4.132.	H	CN	4-n-Hexylphenyl	
4.133.	H	CN	4-n-Dodecylphenyl	
4.134.	H	CN	2-Methyl-4-tert.-Butylphenyl	
4.135.	H	CN	2-Methyl-6-tert.-Butylphenyl	
4.136.	H	CN	2-Methyl-4-iso-Propylphenyl	
4.137.	H	CN	2-Methyl-4-Cyclohexylphenyl	
4.138.	H	CN	2-Methyl-4-Phenylphenyl	
4.139.	H	CN	2-Methyl-4-Benzylphenyl	
4.140.	H	CN	2-Methyl-4-Phenoxyphenyl	
4.141.	H	CN	2-Methyl-4-Benzoyloxyphenyl	
4.142.	H	CN	2-Methyl-3-Chlorophenyl	

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No.	R ¹	R ²	R ³	phys. data
4.143.	H	CN	2-Methyl-4-Chlorophenyl	
4.144.	H	CN	2-Methyl-5-Chlorophenyl	
4.145.	H	CN	2-Methyl-6-Chlorophenyl	
4.146.	H	CN	2-Methyl-4-Fluorophenyl	
4.147.	H	CN	2-Methyl-3-Bromophenyl	
4.148.	H	CN	2-Methyl-4-Bromophenyl	
4.149.	H	CN	2-Methyl-3-Methoxyphenyl	
4.150.	H	CN	2-Methyl-4-Methoxyphenyl	
4.151.	H	CN	2-Methyl-5-Methoxyphenyl	
4.152.	H	CN	2-Methyl-6-Methoxyphenyl	
4.153.	H	CN	2-Methyl-4-iso-Propoxyphenyl	
4.154.	H	CN	2-Methyl-2,5-Dimethoxyphenyl	
4.155.	H	CN	2-Methoxyphenyl	
4.156.	H	CN	3-Methoxyphenyl	
4.157.	H	CN	4-Methoxyphenyl	
4.158.	H	CN	2,3-Dimethoxyphenyl	
4.159.	H	CN	2,4-Dimethoxyphenyl	
4.160.	H	CN	2,5-Dimethoxyphenyl	
4.161.	H	CN	2,6-Dimethoxyphenyl	
4.162.	H	CN	3,4-Dimethoxyphenyl	
4.163.	H	CN	3,5-Dimethoxyphenyl	
4.164.	H	CN	3,6-Dimethoxyphenyl	

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No.	R ¹	R ²	R ³	phys. data
4.165.	H	CN	2,3,4-Trimethoxyphenyl	
4.166.	H	CN	2,3,5-Trimethoxyphenyl	
4.167.	H	CN	2,3,6-Trimethoxyphenyl	
4.168.	H	CN	2,4,5-Trimethoxyphenyl	
4.169.	H	CN	2,4,6-Trimethoxyphenyl	
4.170.	H	CN	3,4,5-Trimethoxyphenyl	
4.171.	H	CN	2-Ethoxyphenyl	
4.172.	H	CN	3-Ethoxyphenyl	
4.173.	H	CN	4-Ethoxyphenyl	
4.174.	H	CN	2-iso-Propoxyphenyl	
4.175.	H	CN	3-iso-Propoxyphenyl	
4.176.	H	CN	4-iso-Propoxyphenyl	
4.177.	H	CN	3-tert.-Butoxyphenyl	
4.178.	H	CN	4-tert.-Butoxyphenyl	
4.179.	H	CN	2-Trifluoromethoxyphenyl	
4.180.	H	CN	3-Trifluoromethoxyphenyl	
4.181.	H	CN	4-Trifluoromethoxyphenyl	
4.182.	H	CN	3-(1',1',2',2'-Tetrafluoro)ethoxyphenyl	
4.183.	H	CN	4-(1',1',2',2'-Tetrafluoro)ethoxyphenyl	
4.184.	H	CN	2-Chloromethylphenyl	
4.185.	H	CN	3-Chloromethylphenyl	
4.186.	H	CN	4-Chloromethylphenyl	

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No.	R ¹	R ²	R ³	phys. data
4.187.	H	CN	2-Trifluoromethylphenyl	
4.188.	H	CN	3-Trifluoromethylphenyl	
4.189.	H	CN	4-Trifluoromethylphenyl	
4.190.	H	CN	2-(Methoxyiminomethyl)-phenyl	
4.191.	H	CN	3-(Methoxyiminomethyl)-phenyl	
4.192.	H	CN	4-(Methoxyiminomethyl)-phenyl	
4.193.	H	CN	2-(Ethoxyiminomethyl)-phenyl	
4.194.	H	CN	3-(Ethoxyiminomethyl)-phenyl	
4.195.	H	CN	4-(Ethoxyiminomethyl)-phenyl	
4.196.	H	CN	2-(n-Propoxyiminomethyl)phenyl	
4.197.	H	CN	3-(n-Propoxyiminomethyl)phenyl	
4.198.	H	CN	4-(n-Propoxyiminomethyl)phenyl	
4.199.	H	CN	2-(iso-Propoxyiminomethyl)phenyl	
4.200.	H	CN	3-(iso-Propoxyiminomethyl)phenyl	
4.201.	H	CN	4-(iso-Propoxyiminomethyl)phenyl	
4.202.	H	CN	2-(n-Butoxyiminomethyl)phenyl	
4.203.	H	CN	3-(n-Butoxyiminomethyl)phenyl	
4.204.	H	CN	4-(n-Butoxyiminomethyl)phenyl	
4.205.	H	CN	2-(iso-Butoxyiminomethyl)phenyl	
4.206.	H	CN	3-(iso-Butoxyiminomethyl)phenyl	
4.207.	H	CN	4-(iso-Butoxyiminomethyl)phenyl	
4.208.	H	CN	2-(tert.-Butoxyiminomethyl)phenyl	

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No.	R ¹	R ²	R ³	phys. data
4.209.	H	CN	3-(tert.-Butoxyiminomethyl)phenyl	
4.210.	H	CN	4-(tert.-Butoxyiminomethyl)phenyl	
4.211.	H	CN	2-(n-Pentoxyiminomethyl)phenyl	
4.212.	H	CN	3-(n-Pentoxyiminomethyl)phenyl	
4.213.	H	CN	4-(n-Pentoxyiminomethyl)phenyl	
4.214.	H	CN	2-(n-Hexoxyiminomethyl)-phenyl	
4.215.	H	CN	3-(n-Hexoxyiminomethyl)-phenyl	
4.216.	H	CN	4-(n-Hexoxyiminomethyl)-phenyl	
4.217.	H	CN	2-(Allyloxyiminomethyl)-phenyl	
4.218.	H	CN	3-(Allyloxyiminomethyl)-phenyl	
4.219.	H	CN	4-(Allyloxyiminomethyl)-phenyl	
4.220.	H	CN	2-(Benzyloxyiminomethyl)-phenyl	
4.221.	H	CN	3-(Benzyloxyiminomethyl)-phenyl	
4.222.	H	CN	4-(Benzyloxyiminomethyl)-phenyl	
4.223.	H	CN	2-(Methoxyimino-1'-ethyl)-phenyl	
4.224.	H	CN	3-(Methoxyimino-1'-ethyl)-phenyl	
4.225.	H	CN	4-(Methoxyimino-1'-ethyl)-phenyl	
4.226.	H	CN	2-(Ethoxyimino-1'-ethyl)-phenyl	
4.227.	H	CN	3-(Ethoxyimino-1'-ethyl)-phenyl	
4.228.	H	CN	4-(Ethoxyimino-1'-ethyl)-phenyl	
4.229.	H	CN	2-(n-Propoxyimino-1'-ethyl)phenyl	
4.230.	H	CN	3-(n-Propoxyimino-1'-ethyl)phenyl	

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No.	R ¹	R ²	R ³	phys. data
4.231.	H	CN	1-(n-Propoxyimino-1'-ethyl)phenyl	
4.232.	H	CN	2-(n-Butoxyamino-1'-ethyl)phenyl	
4.233.	H	CN	3-(n-Butoxyamino-1'-ethyl)phenyl	
4.234.	H	CN	4-(n-Butoxyamino-1'-ethyl)phenyl	
4.235.	H	CN	2-(n-Pentoxymino-1'-ethyl)phenyl	
4.236.	H	CN	3-(n-Pentoxymino-1'-ethyl)phenyl	
4.237.	H	CN	4-(n-Pentoxymino-1'-ethyl)phenyl	
4.238.	H	CN	2-(n-Hexoxymino-1'-ethyl)phenyl	
4.239.	H	CN	3-(n-Hexoxymino-1'-ethyl)phenyl	
4.240.	H	CN	4-(n-Hexoxymino-1'-ethyl)phenyl	
4.241.	H	CN	2-(Allyloxyimino-1'-ethyl)-phenyl	
4.242.	H	CN	3-(Allyloxyimino-1'-ethyl)-phenyl	
4.243.	H	CN	4-(Allyloxyimino-1'-ethyl)-phenyl	
4.244.	H	CN	2-(Benzyloxyimino-1'-ethyl)phenyl	
4.245.	H	CN	3-(Benzyloxyimino-1'-ethyl)phenyl	
4.246.	H	CN	4-(Benz xyimino-1'-ethyl)phenyl	
4.247.	H	CN	2-Phenylphenyl	
4.248.	H	CN	3-Phenylphenyl	
4.249.	H	CN	4-Phenylphenyl	
4.250.	H	CN	2-Phenoxyphenyl	
4.251.	H	CN	3-Phenoxyphenyl	
4.252.	H	CN	4-Phenoxyphenyl	

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No.	R ¹	R ²	R ³	phys. data
4.253.	H	CN	2-Benzylloxyphenyl	
4.254.	H	CN	3-Benzylloxyphenyl	
4.255.	H	CN	4-Benzylloxyphenyl	
4.256.	H	CN	4-(Imidazol-1'-yl)phenyl	
4.257.	H	CN	4-(Piperazin-1'-yl)phenyl	
4.258.	H	CN	4-(Morpholin-1'-yl)phenyl	
4.259.	H	CN	4-(Piperidin-1'-yl)phenyl	
4.260.	H	CN	4-(Pyridyl-2'-oxy)phenyl	
4.261.	H	CN	2-Cyclopropylphenyl	
4.262.	H	CN	3-Cyclopropylphenyl	
4.263.	H	CN	4-Cyclopropylphenyl	
4.264.	H	CN	3-Cyclohexylphenyl	
4.265.	H	CN	4-Cyclohexylphenyl	
4.266.	H	CN	4-Oxiranylphenyl	
4.267.	H	CN	4-(1',3'-Dioxan-2'-yl)-phenyl	
4.268.	H	CN	4-(Tetrahydropyran-2-yloxy)-phenyl	
4.269.	H	CN	1-Naphthyl	
4.270.	H	CN	2-Naphthyl	
4.271.	H	CN	Benzyl	
4.272.	H	CN	2-Methylbenzyl	
4.273.	H	CN	3-Methylbenzyl	
4.274.	H	CN	4-Methylbenzyl	

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No.	R ¹	R ²	R ³	phys. data
4.275.	H	CN	4-tert.-Butylbenzyl	
4.276.	H	CN	2-Chlorobenzyl	
4.277.	H	CN	3-Chlorobenzyl	
4.278.	H	CN	4-Chlorobenzyl	
4.279.	H	CN	2,4-Dichlorobenzyl	
4.280.	H	CN	2,6-Dichlorobenzyl	
4.281.	H	CN	2,4,6-Trichlorobenzyl	
4.282.	H	CN	2-Trifluoromethylbenzyl	
4.283.	H	CN	3-Trifluoromethylbenzyl	
4.284.	H	CN	4-trifluoromethylbenzyl	
4.285.	H	CN	2-Methoxybenzyl	
4.286.	H	CN	4-Methoxybenzyl	
4.287.	H	CN	4-tert.-Butoxybenzyl	
4.288.	H	CN	4-Phenoxybenzyl	
4.289.	H	CN	1-Phenethyl	
4.290.	H	CN	2-Phenethyl	
4.291.	H	CN	1-Phenylpropyl	
4.292.	H	CN	2-Phenylpropyl	
4.293.	H	CN	3-Phenylpropyl	
4.294.	H	CN	2-Methyl-2-phenylpropyl	
4.295.	H	CN	2-Methyl-3-phenylpropyl	
4.296.	H	CN	4-Phenylbutyl	

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No.	R ¹	R ²	R ³	phys. data
4.297.	H	CN	2-Phenyl-1-ethenyl	
4.298.	H	CN	1-Phenyl-1-ethenyl	
4.299.	H	CN	1-Phenyl-1-propenyl	
4.300.	H	CN	1-Phenyl-1-propen-2-yl	
4.301.	H	CN	2,2-Diphenylethenyl	
4.302.	H	CN	2-Pyridyl	
4.303.	H	CN	3-Pyridyl	
4.304.	H	CN	4-Pyridyl	
4.305.	H	CN	2,6-Pyrimidinyl	
4.306.	H	CN	1,5-Pyrimidinyl	
4.307.	H	CN	2-Thienyl	
4.308.	H	CN	3-Thienyl	
4.309.	H	CN	2-Furyl	
4.310.	H	CN	3-Furyl	
4.311.	H	CN	1-Pyrrolyl	
4.312.	H	CN	1-Imidazolyl	
4.313.	H	CN	1,2,4-Triazolyl	
4.314.	H	CN	1,3,4-Triazolyl	
4.315.	H	CN	4-Thiazolyl	
4.316.	H	CN	2-Benzothiazolyl	
4.317.	H	CN	2-Pyridylmethyl	
4.318.	H	CN	3-Pyridylmethyl	

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No.	R ¹	R ²	R ³	phys. data
4.319.	H	CN	2'-Furyl-2-ethenyl	
4.320.	H	CN	2'-Thienyl-2-ethenyl	
4.321.	H	CN	3'-Pyridyl-2-ethenyl	
4.322.	H	CN	Oxiranyl	
4.323.	H	CN	1-Aziridinyl	
4.324.	H	CN	1-Azetidinyl	
4.325.	H	CN	1-Pyrrolidinyl	
4.326.	H	CN	2-Tetrahydrofuryl	
4.327.	H	CN	2-Tetrahydropyranyl	
4.328.	H	CN	3-Tetrahydropyranyl	
4.329.	H	CN	1-Piperidinyl	
4.330.	H	CN	1-Morpholinyl	
4.331.	H	CN	1-Piperazinyl	
4.332.	H	CN	1,3-Dioxan-2-yl	
4.333.	H	CN	4-Tetrahydrothiopyranyl	
4.334.	H	CN	4-Methylpent-3-en-1-yl	
4.335.	H	CN	2-Propenyl	
4.336.	H	CN	2-Butenyl	
4.337.	H	CN	1-Methyl-2-propenyl	
4.338.	H	CN	3-Methyl-2-butenyl	
4.339.	H	CN	2,2-Difluoroethenyl	
4.340.	H	CN	2,2-Dichloroethenyl	

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No.	R ¹	R ²	R ³	phys. data
4.341.	H	CN	3,3,3-Trifluoropropenyl	
4.342.	H	CN	3,3,3-Trichloropropenyl	
4.343.	H	CN	3-Chloro-2-propenyl	
4.344.	H	CN	Cyclopent-1-enyl	
4.345.	H	CN	Cyclopentadienyl	
4.346.	H	CN	Cyclohex-1-enyl	
4.347.	H	CN	Pentafluorocyclopentadienyl	
4.348.	H	CN	Pentachlorocyclopentadienyl	
4.349.	H	CN	Styryl	
4.350.	H	CO ₂ Me	Phenyl	
4.351.	H	CO ₂ Me	2-Fluorophenyl	
4.352.	H	CO ₂ Me	3-Fluorophenyl	
4.353.	H	CO ₂ Me	4-Fluorophenyl	
4.354.	H	CO ₂ Me	2-Chlorophenyl	
4.355.	H	CO ₂ Me	3-Chlorophenyl	
4.356.	H	CO ₂ Me	4-Chlorophenyl	
4.357.	H	CO ₂ Me	2-Methylphenyl	
4.358.	H	CO ₂ Me	3-Methylphenyl	
4.359.	H	CO ₂ Me	4-Methylphenyl	
4.360.	H	CO ₂ Me	2-Cyanophenyl	
4.361.	H	CO ₂ Me	3-Cyanophenyl	
4.362.	H	CO ₂ Me	4-Cyanophenyl	

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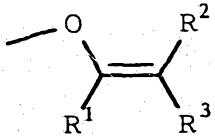
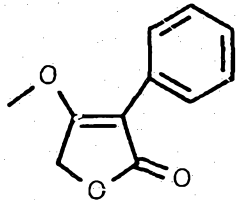
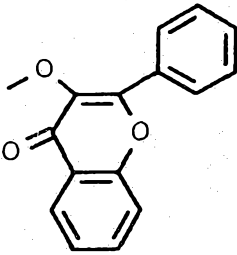
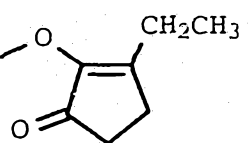
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No.	R ¹	R ²	R ³	phys. data
4.363.	H	CO ₂ Me	2-Methoxyphenyl	
4.364.	H	CO ₂ Me	3-Methoxyphenyl	
4.365.	H	CO ₂ Me	4-Methoxyphenyl	
4.366.	H	CO ₂ Me	2-Nitrophenyl	
4.367.	H	CO ₂ Me	3-Nitrophenyl	
4.368.	H	CO ₂ Me	4-Nitrophenyl	
4.369.	H	P(O)(OMe) ₂	Phenyl	
4.370.	H	P(O)(OMe) ₂	2-Fluorophenyl	
4.371.	H	P(O)(OMe) ₂	3-Fluorophenyl	
4.372.	H	P(O)(OMe) ₂	4-Fluorophenyl	
4.373.	H	P(O)(OMe) ₂	2-Chlorophenyl	
4.374.	H	P(O)(OMe) ₂	3-Chlorophenyl	
4.375.	H	P(O)(OMe) ₂	4-Chlorophenyl	
4.376.	H	P(O)(OMe) ₂	2-Methylphenyl	
4.377.	H	P(O)(OMe) ₂	3-Methylphenyl	
4.378.	H	P(O)(OMe) ₂	4-Methylphenyl	
4.379.	CH ₃	CN	Phenyl	
4.380.	Acetyl	H	2,6-Dichlorophenyl	
4.381.	Acetyl	H	2,4-Dichlorophenyl	
4.382.	CH ₃	CO ₂ Et	Benzoyl	
4.383.	Methoxycarbonylmethyl	H	Acetyl	

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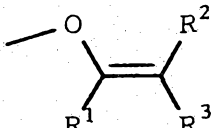
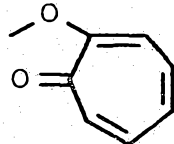
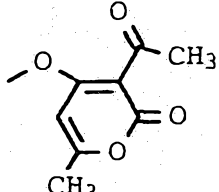
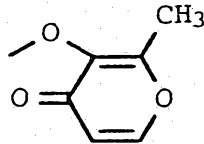
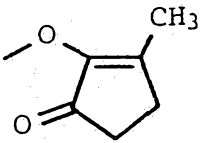
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No.		phys. data
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4.385		
4.386		

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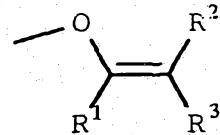
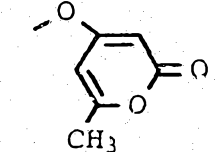
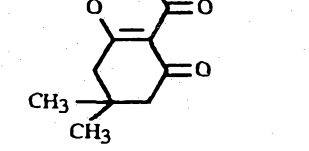
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No.		phys. data
4.387		
4.388		
4.389		
4.390		

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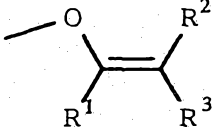
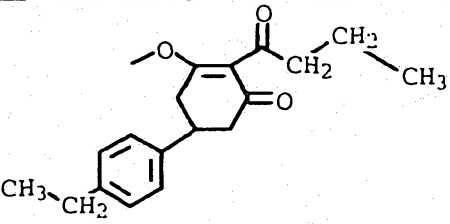
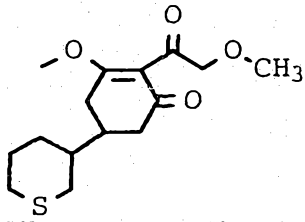
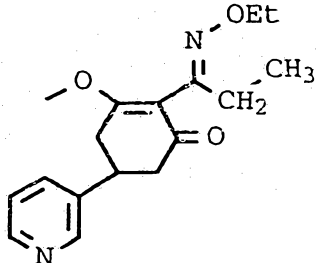
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4.393		

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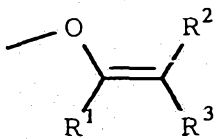
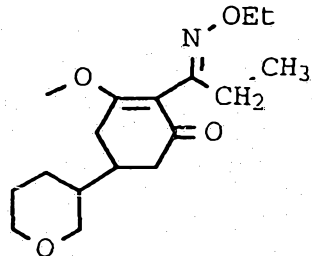
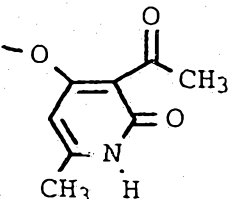
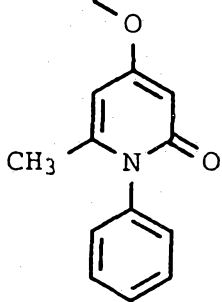
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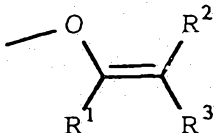
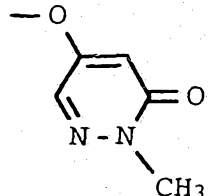
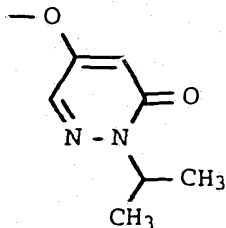
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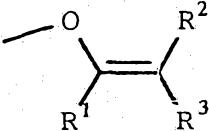
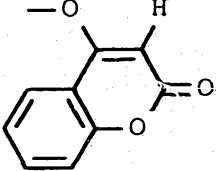
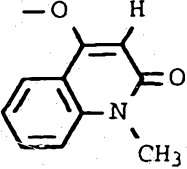
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No.		phys. data
4.400		
4.401		

29 04 93 3027:

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117

No.		phys. data
4.402		
4.403		

The novel compounds are suitable as fungicides and insecticides.

- 5 The fungicidal and insecticidal compounds according to the invention, or agents containing them, may be applied for instance in the form of directly sprayable solutions, powders, suspensions (including high-percentage aqueous, oily or other suspensions), dispersions, emulsions, oil
10 dispersions, pastes, dusts, broadcasting agents, or granules by spraying, atomizing, dusting, broadcasting or watering. The forms of application depend entirely on the purpose for which the agents are being used, but they must ensure as fine a distribution of the active ingredients according to
15 the invention as possible.

Normally, the plants are sprayed or dusted with the active ingredients, or the seeds of the plants are treated with the active ingredients.

- 20 The formulations are produced in known manner, for example by extending the active ingredient with solvents and/or carriers, with or without the use of emulsifiers and dispersants; if water is used as solvent, it is also possible to
25 employ other organic solvents as auxiliary solvents. Suitable auxiliaries for this purpose are solvents such as aromatics (e.g., xylene), chlorinated aromatics (e.g., chlorobenzenes), paraffins (e.g., crude oil fractions), alcohols (e.g., methanol, butanol), ketones (e.g., cyclohexanone), amines (e.g., ethanolanine, dimethylformamide), and
30 water; carriers such as ground natural minerals (e.g., kaolins, aluminas, talc and chalk) and ground synthetic minerals (e.g., highly disperse silica and silicates); emulsifiers such as nonionic and anionic emulsifiers (e.g.,
35 polyoxyethylene fatty alcohol ethers, alkyl sulfonates and aryl sulfonates); and dispersants such as lignin-sulfite waste liquors and methylcellulose.

- Examples of surfactants are: alkali metal, alkaline earth
40 metal and ammonium salts of aromatic sulfonic acids, e.g., ligninsulfonic acid, phenolsulfonic acid, naphthalenesulfonic acid and dibutyl-naphthalenesulfonic acid, and of fatty acids, alkyl and alkylaryl sulfonates, and alkyl, lauryl

- ether and fatty alcohol sulfates, and salts of sulfated hexadecanols, heptadecanols, and octadecanols, salts of fatty alcohol glycol ethers, condensation products of sulfonated naphthalene and naphthalene derivatives with
- 5 formaldehyde, condensation products of naphthalene or naphthalenesulfonic acids with phenol and formaldehyde, polyoxyethylene octylphenol ethers, ethoxylated isooctylphenol, ethoxylated octylphenol and ethoxylated nonylphenol, alkylphenol polyglycol ethers, tributylphenyl polyglycol
- 10 ethers, alkylaryl polyether alcohols, isotridecyl alcohol, fatty alcohol ethylene oxide condensates, ethoxylated castor oil, polyoxyethylene alkyl ethers, ethoxylated polyoxypropylene, lauryl alcohol polyglycol ether acetal, sorbitol esters, lignin-sulfite waste liquors and methyl cellulose.
- 15
- Powders, dusts and broadcasting agents may be prepared by mixing or grinding the active ingredients with a solid carrier.
- 20 Granules, e.g., coated, impregnated or homogeneous granules, may be prepared by bonding the active ingredients to solid carriers. Examples of solid carriers are mineral earths such as silicic acids, silica gels, silicates, talc, kaolin, attapulgus clay, limestone, lime, chalk, bole, loess, clay,
- 25 dolomite, diatomaceous earth, calcium sulfate, magnesium sulfate, magnesium oxide, ground plastics, fertilizers such as ammonium sulfate, ammonium phosphate, ammonium nitrate, and ureas, and vegetable products such as grain meals, bark meal, wood meal, and nutshell meal, cellulosic powders, etc.
- 30
- Examples of formulations are as follows:
- I. A solution of 90 parts by weight of compound no. 1.52 and 10 parts by weight of N-methyl- α -pyrrolidone, which is
- 35 suitable for application in the form of very fine drops.
- II. A mixture of 20 parts by weight of compound no. 1.56, 80 parts by weight of xylene, 10 parts by weight of the adduct of 8 to 10 moles of ethylene oxide and 1 mole of
- 40 oleic acid-N-monoethanolamide, 5 parts by weight of the calcium salt of dodecylbenzenesulfonic acid, and 5 parts by weight of the adduct of 40 moles of ethylene oxide and

1 mole of castor oil. By finely dispersing the mixture in water, an aqueous dispersion is obtained.

- 5 III. An aqueous dispersion of 20 parts by weight of compound no. 1.98, 40 parts by weight of cyclohexanone, 30 parts by weight of isobutanol, 20 parts by weight of the adduct of 40 moles of ethylene oxide and 1 mole of castor oil.
- 10 IV. An aqueous dispersion of 20 parts by weight of compound no. 1.100, 25 parts by weight of cyclohexanol, 65 parts by weight of a mineral oil fraction having a boiling point between 210 and 280°C, and 10 parts by weight of the adduct of 40 moles of ethylene oxide and 1 mole of castor oil.
- 15 V. A hammer-milled mixture of 80 parts by weight of compound no. 2.52, 3 parts by weight of the sodium salt of diisobutyl-naphthalene- α -sulfonic acid, 10 parts by weight of the sodium salt of a lignin-sulfonic acid obtained from a sulfite waste liquor, and 7 parts by weight of powdered silica gel. By finely dispersing the mixture in water, a spray liquor is obtained.
- 20 VI. An intimate mixture of 3 parts by weight of compound no. 2.100 and 97 parts by weight of particulate kaolin. The dust contains 3wt% of the active ingredient.
- 25 VII. An intimate mixture of 30 parts by weight of compound no. 1.52, 92 parts by weight of powdered silica gel and 8 parts by weight of paraffin oil sprayed onto the surface of this silica gel. This formulation of the active ingredient exhibits good adherence.
- 30 VIII. A stable aqueous dispersion of 40 parts by weight of compound no. 1.56, 10 parts of the sodium salt of a phenol-sulfonic acid-urea-formaldehyde condensate, 2 parts of silica gel and 48 parts of water, which dispersion can be further diluted.
- 35 IX. A stable oily dispersion of 20 parts by weight of compound no. 1.98, 2 parts by weight of the calcium salt of dodecylbenzenesulfonic acid, 8 parts by weight of a fatty alcohol polyglycol ether, 2 parts by weight of the sodium

salt of a phenolsulfonic acid-urea-formaldehyde condensate and 68 parts by weight of a paraffinic mineral oil.

- The compounds are extremely effective on a broad spectrum of
- 5 phytopathogenic fungi, in particular those from the class consisting of the Ascomycetes and Basidiomycetes. Some of them have a systemic action and can be used as foliar and soil fungicides.
- 10 The fungicidal compounds are of particular interest for controlling a large number of fungi in various crops or their seeds, especially wheat, rye, barley, oats, rice, Indian corn, lawns, cotton, soybeans, coffee, sugar cane, fruit and ornamentals in horticulture and viticulture, and
- 15 in vegetables such as cucumbers, beans and cucurbits.

- The compounds are applied by treating the fungi, or the seeds, plants, materials or the soil to be protected against :
- 20 fungus attack, with a fungicidally effective amount of the active ingredients.

Application may be effected before or after infection of the materials, plants or seed by the fungi.

- 25 The compounds I are particularly useful for controlling the following plant diseases:

- Erysiphe graminis in cereals,
Erysiphe cichoracearum and Sphaerotheca fuliginea in cucur-
- 30 bits,
Podosphaera leucotricha in apples,
Uncinula necator in vines,
Puccinia species in cereals,
Rhizoctonia solani in cotton,
- 35 Ustilago species in cereals and sugar cane,
Venturia inaequalis (scab) in apples,
Helminthosporium species in cereals,
Septoria nodorum in wheat,
Botrytis cinerea (gray mold) in strawberries and grapes,
- 40 Cercospora arachidicola in groundnuts,
Pseudocercospora herpotrichoides in wheat and barley,
Pyricularia oryzae in rice,
Phytophthora infestans in potatoes and tomatoes,

Fusarium and Verticillium species in various plants,
Plasmopara viticola in grapes,
Alternaria species in fruit and vegetables.

- 5 The novel compounds may also be used for protecting materials (timber), for example against Paecilomyces variotii.

The fungicidal agents generally contain from 0.1 to 95, and preferably from 0.5 to 90, wt% of active ingredient.

10

When the active ingredients are used for treating seed, rates of from 0.001 to 50, and preferably from 0.01 to 10, g per kg of seed are generally required.

- 15 When the agents according to the invention are used as fungicides, they may be applied together with other active ingredients, for example herbicides, insecticides, growth regulators, other fungicides and fertilizers.

- 20 When mixed with other fungicides, the spectrum of fungicidal action is frequently increased.

Use examples

- 25 The active ingredients used for comparison purposes were methyl 2-[2-(phenyloxymethylene)-phenyl]-3-methoxyacrylate (A) - disclosed in EP 178 826 - and 2-[2-(phenyloxymethylene)-phenyl]-glyoxylic acid methyl ester-O-methyloxime ether (B) - disclosed in EP 253 213.

30

Use Example

Action on Plasmopara viticola

- 35 Leaves of potted vines of the Müller-Thurgau variety were sprayed with aqueous suspensions containing (dry basis) 80% of active ingredient and 20% of emulsifier. To assess the duration of action, the plants were set up, after the sprayed-on layer had dried, for 8 days in the greenhouse. Then the leaves were infected with a zoospore suspension of
- 40 Plasmopara viticola. The plants were first placed for 48 hours in a water vapor-saturated chamber at 24°C and then in a greenhouse for 5 days at from 20 to 30°C. To accelerate and intensify the sporangiophore discharge, the plants were

then again placed in the moist chamber for 16 hours. The extent of fungus attack was then assessed on the undersides of the leaves.

- 5 The results show that active ingredients 1,52, 1.56, 1.98, 1.100, 2,52 and 2.100, applied as spray liquors containing 15 ppm of active ingredient, have a better fungicidal action (95%) than prior art comparative agents A (30%) and B (65%).

10

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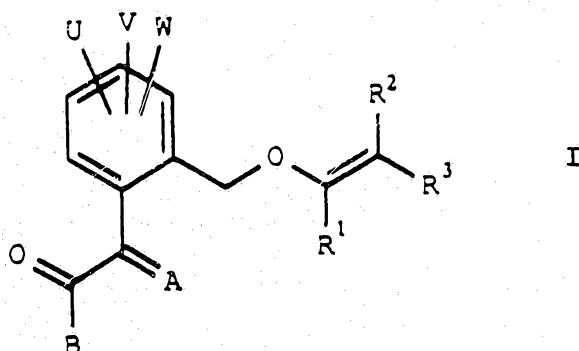
35

40

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

~~we claim~~

1. A benzyl enol ether derivative of the general formula I



5 where

A is

CH₂, CHCl, CH-C₁-C₄-alkyl, CH-O-C₁-C₄-alkyl, CH-S-C₁-C₄-alkyl, N-O-C₁-C₄-alkyl,

B is

10 OH, C₁-C₄-alkoxy, C₁-C₄-alkylthio and C₁-C₄-alkylamino,

U, V and W

are identical or different and are hydrogen, halogen, C₁-C₄-alkyl or C₁-C₄-alkoxy,

R¹, R² and R³

15 are identical or different and are hydrogen, cyano, halogen, NR⁴R⁵, CO₂R⁴, CONR⁴R⁵, COR⁴, S(O)_nR⁴ where n = 0, 1 or 2, PO(OR⁴)₂, unbranched or branched C₁-C₁₀-alkyl, C₁-C₄-haloalkyl, C₃-C₆-cycloalkyl, C₃-C₆-halocycloalkyl, C₃-C₆-cycloalkyl-C₁-C₄-alkyl, C₁-C₄-alkoxy-C₁-C₄-alkyl, C₁-C₄-alkylthio-C₁-C₄-alkyl, arylthio-C₁-C₄-alkyl, C₂-C₆-alkenyl, C₂-C₆-haloalkenyl, C₃-C₆-cycloalkenyl, C₃-C₆-halocycloalkenyl, C₂-C₆-alkynyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, C₁-C₄-alkylthio, benzylthio, C₁-C₄-alkylcarbonyl, unsubstituted or substituted phenylcarbonyl, unsubstituted or substituted benzylcarbonyl, C₁-C₄-alkoxycarbonyl, unsubstituted or substituted phenoxycarbonyl, unsubstituted or substituted

25 unsubstituted or substituted benzylcarbonyl, C₁-C₄-alkoxycarbonyl, unsubstituted or substituted phenoxycarbonyl, unsubstituted or substituted

benzyloxycarbonyl, unsubstituted or substituted aryl,
 unsubstituted or substituted aryloxy, unsubstituted or
 substituted arylthio, unsubstituted or substituted aryl-
 C_1-C_4 -alkyl, unsubstituted or substituted aryl- C_2-C_4 -
 5 alkenyl, unsubstituted or substituted aryloxy- C_1-C_4 -alkyl,
 unsubstituted or substituted arylthio- C_1-C_4 -alkyl, unsub-
 stituted or substituted hetaryl, unsubstituted or substi-
 tuted hetaryloxy, unsubstituted or substituted hetaryl-
 thio, unsubstituted or substituted heteroaryl- C_1-C_4 -alkyl,
 10 unsubstituted or substituted hetaryl- C_2-C_4 -alkenyl,
 unsubstituted or substituted hetaryloxy- C_1-C_4 -alkyl,
 unsubstituted or substituted heterocyclyl, unsubstituted
 or substituted heterocyclyloxy,

where unsubstituted or substituted, in addition to
 15 hydrogen, includes the radicals halogen, cyano, nitro,
 C_1-C_4 -alkyl, C_1-C_4 -alkoxy, C_1-C_4 -haloalkyl, C_1-C_4 -halo-
 alkoxy, C_1-C_{10} -alkoximino- C_1-C_2 -alkyl, aryl, aryloxy,
 benzyloxy, hetaryl, hetaryloxy, C_3-C_6 -cycloalkyl, hetero-
 cyclyl, heterocyclyloxy,

20 and the radicals

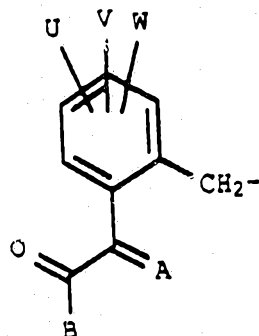
R^4 and R^5

are identical or different and are hydrogen or C_1-C_4 -
 alkyl,

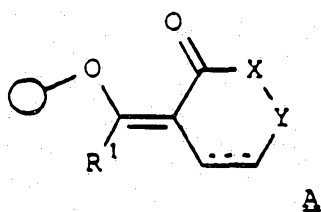
R^1 and R^3 together, and also R^2 and R^3 together, in each
 25 case can form a carbocyclic or a heterocyclic ring which
 can in turn be benzo-fused and can be substituted by the
 radical mentioned under unsubstituted or substituted,
 where, inter alia, the following ring systems A - F are
 possible:

30 the symbol 

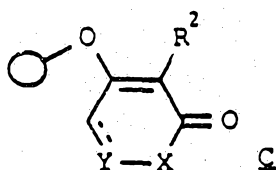
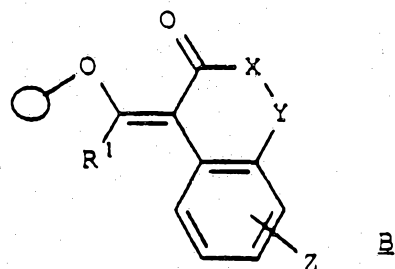
is the group



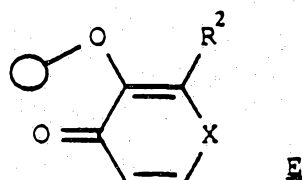
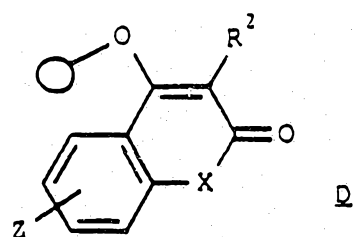
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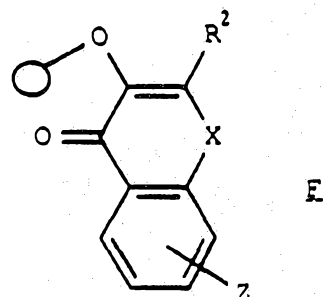
or



or



or



5

where

X is

CH_2 , O, NR^4 ,

Y is

CH , $(\text{CH}_2)_n$, where $n = 0, 1$ or 2 ,

10

Z is

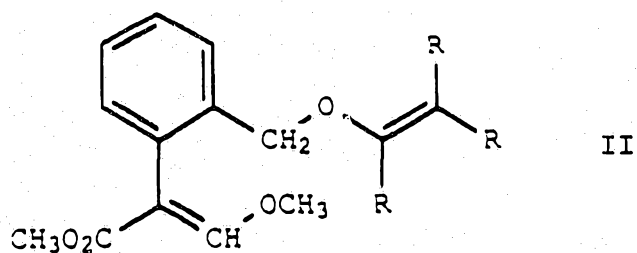
hydrogen, halogen, $\text{C}_1\text{-C}_4$ -alkyl or $\text{C}_1\text{-C}_4$ -alkoxy and

R^4 is

hydrogen or $\text{C}_1\text{-C}_4$ -alkyl and --- is a single bond or a double bond.

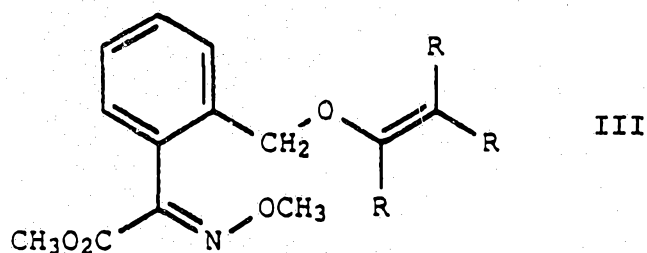
15

2. A benzyl enol ether of the formula II



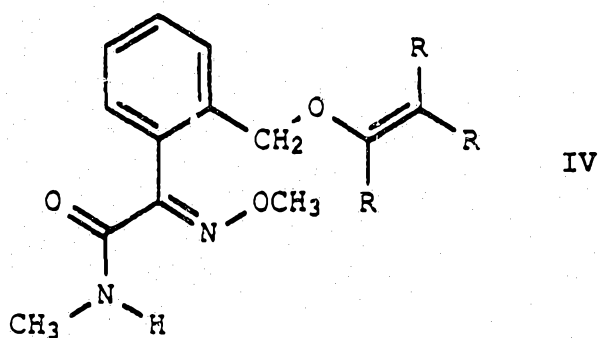
where R^1 , R^2 and R^3 are the radicals mentioned in claim 1.

3. A benzyl enol ether of the formula III



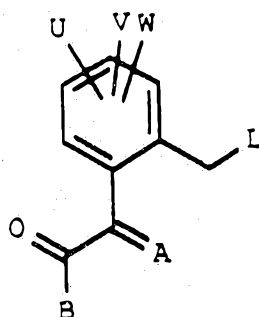
5 where R^1 , R^2 and R^3 are the radicals mentioned in claim 1.

4. A benzyl enol ether of the formula IV

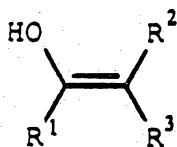


where R^1 , R^2 and R^3 are the radicals mentioned in claim 1.

10 5. A process for preparing a benzyl enol ether of the formula I as claimed in claim 1, which comprises reacting a benzyl derivative of the formula



in which U, V, W, A and B have the meaning mentioned in claim 1 and L is a leaving group, with an enol of the formula

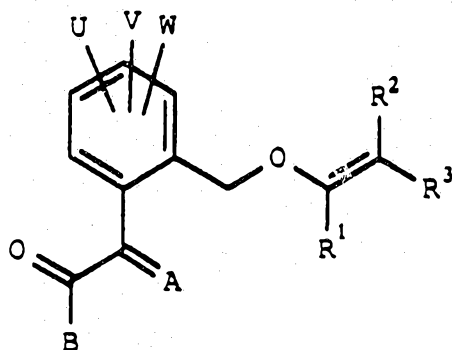


5

in which R¹, R² and R³ have the meaning mentioned in claim 1.

6. A fungicide containing an inert carrier and a fungicidally active amount of a benzyl enol ether of the formula I

10



I

where

A is

CH₂, CHCl, CH-C₁-C₄-alkyl, CH-O-C₁-C₄-alkyl, CH-S-C₁-C₄-

alkyl, N-O-C₁-C₄-alkyl,

B is

OH, C₁-C₄-alkoxy, C₁-C₄-alkylthio and C₁-C₄-alkylamino,

U, V and W

5 are identical or different and are hydrogen, halogen, C₁-C₄-alkyl or C₁-C₄-alkoxy, R¹, R² and R³

are identical or different and are hydrogen, cyano, halogen, NR⁴R⁵, CO₂R⁴, CONR⁴R⁵, COR⁴, S(O)_nR⁴ where n = 0, 1
10 or 2, PO(OR⁴)₂, unbranched or branched C₁-C₁₀-alkyl, C₁-C₄-haloalkyl, C₃-C₆-cycloalkyl, C₃-C₆-halocycloalkyl, C₃-C₆-cycloalkyl-C₁-C₄-alkyl, C₁-C₄-alkoxy-C₁-C₄-alkyl, C₁-C₄-alkylthio-C₁-C₄-alkyl, arylthio-C₁-C₄-alkyl, C₂-C₆-alkenyl, C₂-C₆-haloalkenyl, C₃-C₆-cycloalkenyl, C₃-C₆-halocyclo-
15 alkenyl, C₂-C₆-alkynyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, C₁-C₄-alkylthio, benzylthio, C₁-C₄-alkylcarbonyl,

unsubstituted or substituted phenylcarbonyl,

unsubstituted or substituted benzylcarbonyl, C₁-C₄-

alkoxycarbonyl, unsubstituted or substituted

20 phenoxy carbonyl, unsubstituted or substituted

benzyloxy carbonyl, unsubstituted or substituted aryl,

unsubstituted or substituted aryloxy, unsubstituted or

substituted arylthio, unsubstituted or substituted aryl-

C₁-C₄-alkyl, unsubstituted or substituted aryl-C₂-C₄-

25 alkenyl, unsubstituted or substituted aryloxy-C₁-C₄-alkyl,

unsubstituted or substituted arylthio-C₁-C₄-alkyl, unsub-

stituted or substituted hetaryl, unsubstituted or substi-

tuted hetaryloxy, unsubstituted or substituted hetaryl-

thio, unsubstituted or substituted heteroaryl-C₁-C₄-alkyl,

30 unsubstituted or substituted hetaryl-C₂-C₄-alkenyl,

unsubstituted or substituted hetaryloxy-C₁-C₄-alkyl,

unsubstituted or substituted heterocyclyl, unsubstituted

or substituted heterocyclyloxy,

where unsubstituted or substituted, in addition to

35 hydrogen, includes the radicals halogen, cyano, nitro,

C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₄-haloalkyl, C₁-C₄-halo-

alkoxy, C₁-C₁₀-alkoximino-C₁-C₂-alkyl, aryl, aryloxy,

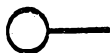
benzyloxy, hetaryl, hetaryloxy, C₃-C₆-cycloalkyl, hetero-
cyclyl, heterocyclyloxy,
and the radicals

R⁴ and R⁵

5 are identical or different and are hydrogen or C₁-C₄-
alkyl,

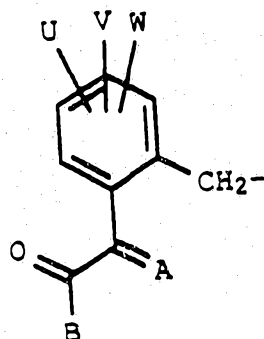
R¹ and R³ together, and also R² and R³ together, in each
case can form a carbocyclic or a heterocyclic ring which
can in turn be benzo-fused and can be substituted by the
10 radical mentioned under unsubstituted or substituted,
where, inter alia, the following ring systems A - F are
possible:

the symbol

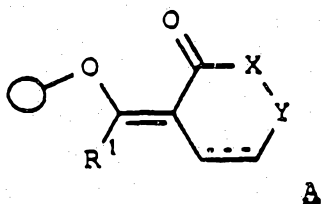


is the group

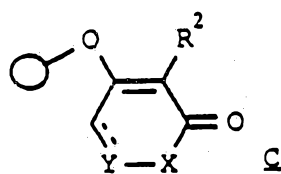
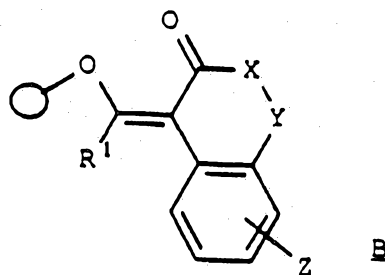
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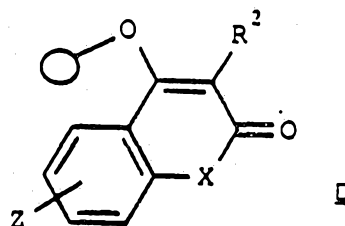
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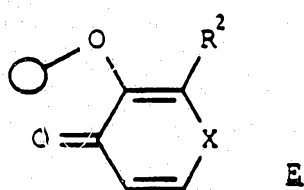


or

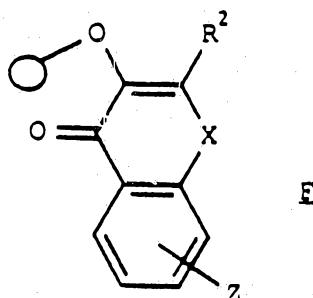


or





or



where

X is

CH₂, O, NR⁴,

5 Y is

CH, (CH₂)_n, where n = 0, 1 or 2,

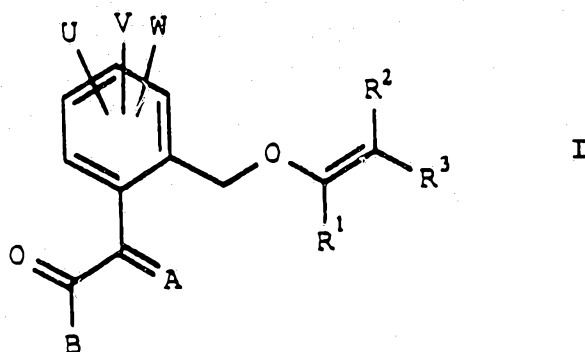
Z is

hydrogen, halogen, C₁-C₄-alkyl or C₁-C₄-alkoxy and

R⁴ is

10 hydrogen or C₁-C₄-alkyl and is a single bond or a double bond.

7. A method for controlling fungi, which comprises treating the fungi or the materials, plants, seeds or the ground threatened by fungal attack with a fungicidally active amount of a compound of the formula I



where

A is

CH₂, CHCl, CH-C₁-C₄-alkyl, CH-O-C₁-C₄-alkyl, CH-S-C₁-C₄-alkyl, N-O-C₁-C₄-alkyl,

B is

5 OH, C₁-C₄-alkoxy, C₁-C₄-alkylthio and C₁-C₄-alkylamino,
U, V and W

are identical or different and are hydrogen, halogen, C₁-C₄-alkyl or C₁-C₄-alkoxy,

R¹, R² and R³

10 are identical or different and are hydrogen, cyano, halogen, NR⁴R⁵, CO₂R⁴, CONR⁴R⁵, COR⁴, S(O)_nR⁴ where n = 0, 1 or 2, PO(OR⁴)₂, unbranched or branched C₁-C₁₀-alkyl, C₁-C₄-haloalkyl, C₃-C₆-cycloalkyl, C₃-C₆-halocycloalkyl, C₃-C₆-cycloalkyl-C₁-C₄-alkyl, C₁-C₄-alkoxy-C₁-C₄-alkyl, C₁-C₄-alkylthio-C₁-C₄-alkyl, arylthio-C₁-C₄-alkyl, C₂-C₆-alkenyl, C₂-C₆-haloalkenyl, C₃-C₆-cycloalkenyl, C₃-C₆-halocycloalkenyl, C₂-C₆-alkynyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, C₁-C₄-alkylthio, benzylthio, C₁-C₄-alkylcarbonyl, unsubstituted or substituted phenylcarbonyl, unsubstituted or substituted benzylcarbonyl, C₁-C₄-alkoxycarbonyl, unsubstituted or substituted phenoxycarbonyl, unsubstituted or substituted benzyloxycarbonyl, unsubstituted or substituted aryl, unsubstituted or substituted aryloxy, unsubstituted or substituted arylthio, unsubstituted or substituted aryl-C₁-C₄-alkyl, unsubstituted or substituted aryl-C₂-C₄-alkenyl, unsubstituted or substituted aryloxy-C₁-C₄-alkyl, unsubstituted or substituted arylthio-C₁-C₄-alkyl, unsubstituted or substituted hetaryl, unsubstituted or substituted hetaryloxy, unsubstituted or substituted hetarylthio, unsubstituted or substituted heteroaryl-C₁-C₄-alkyl, unsubstituted or substituted hetaryl-C₂-C₄-alkenyl, unsubstituted or substituted hetaryloxy-C₁-C₄-alkyl, unsubstituted or substituted heterocyclyl, unsubstituted or substituted heterocyclyloxy,

35 where unsubstituted or substituted, in addition to hydrogen, includes the radicals halogen, cyano, nitro,

5 and the radicals

 R^4 and R^5

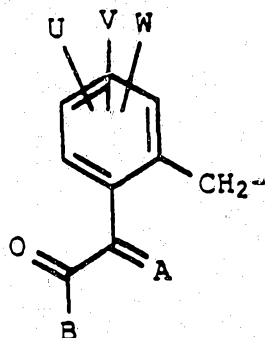
are identical or different and are hydrogen or C₁-C₄-alkyl,

10 R¹ and R³ together, and also R² and R³ together, in each case can form a carbocyclic or a heterocyclic ring which can in turn be benzo-fused and can be substituted by the radical mentioned under unsubstituted or substituted, where, inter alia, the following ring systems A - F are possible:

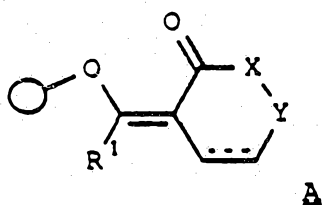
15 the symbol



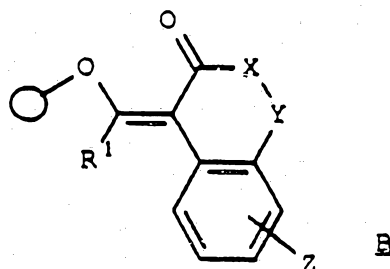
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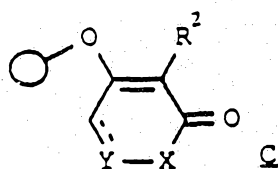


in the following

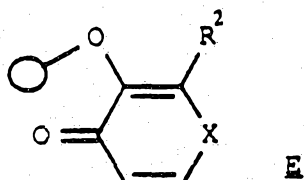
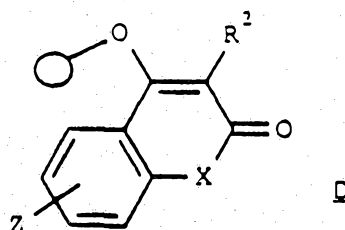


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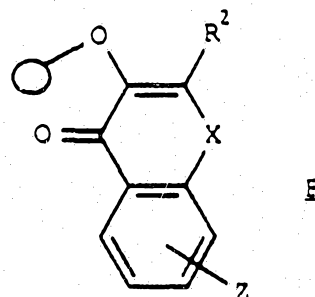




or



or



where

X is

5 CH₂, O, NR⁴,

Y is

CH, (CH₂)_n, where n = 0, 1 or 2,

Z is

10 hydrogen, halogen, C₁-C₄-alkyl or C₁-C₄-alkoxy and

R⁴ is

hydrogen or C₁-C₄-alkyl and is a single bond or a double bond.

8. A compound of the formula I as claimed in claim 1, wherein A is CHOCH₃, B is OCH₃, U, V, W and R¹ are hydrogen, R² is cyano and R³ is 2-fluorophenyl.

9. A compound of the formula I as claimed in claim 1, wherein A is CHOCH₃, B is OCH₃, U, V, W and R¹ are hydrogen, R² is cyano and R³ is 4-methylphenyl.

10. A compound of the formula I as claimed in claim 1, wherein A is NOCH₃, B is OCH₃, U, V, W and R¹ are hydrogen, R² is cyano and R³ is 2-fluorophenyl.

DATED this 28th day of April 1993.

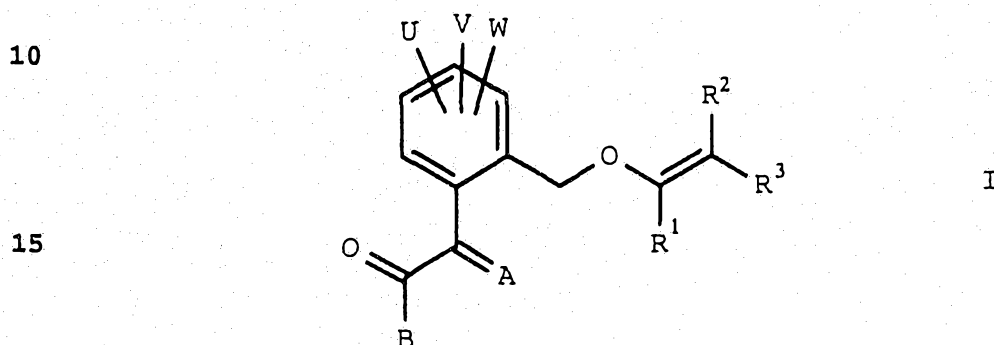
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Novel benzyl enol ethers and their use as crop protection agents

5 ABSTRACT OF THE DISCLOSURE:

Benzyl enol ether derivatives of the general formula I



20 where

A
is CH_2 , CHCl , CH-alkyl , CH-O-alkyl , CH-S-alkyl or N-O-alkyl ,

25 B
is OH , alkoxy, alkylthio and alkylamino,

U, V and W
are identical or different and each is hydrogen, halogen,
30 alkyl or alkoxy,

R^1 , R^2 and R^3
are identical or different and each is hydrogen, cyano, ha-
logen, amino, ester, amide, acyl, $\text{S}(\text{O})_n\text{R}^4$, $\text{PO}(\text{OR}^4)_2$, alkyl,
35 haloalkyl, cycloalkyl, halocycloalkyl, cycloalkyl-alkyl, al-
koxy-alkyl, alkylthio-alkyl, arylthio-alkyl, alkenyl, halo-
alkenyl, cycloalkenyl, halocycloalkenyl, alkynyl, alkoxy,
haloalkoxy, alkylthio, benzylthio, alkylcarbonyl, substitu-
ted or unsubstituted phenylcarbonyl, substituted or unsub-
40 stituted benzylcarbonyl, alkoxycarbonyl, substituted or un-
substituted phenoxy carbonyl, substituted or unsubstituted
benzyloxycarbonyl, substituted or unsubstituted aryl, sub-
stituted or unsubstituted aryloxy, substituted or unsubsti-

tuted arylthio, substituted or unsubstituted arylalkyl, substituted or unsubstituted arylalkenyl, substituted or unsubstituted aryloxyalkyl, substituted or unsubstituted arylthioalkyl, substituted or unsubstituted hetaryl, substituted
5 or unsubstituted hetaryloxy, substituted or unsubstituted hetarylthio, substituted or unsubstituted heteroarylalkyl, substituted or unsubstituted hetarylalkenyl, substituted or unsubstituted hetaryloxyalkyl, substituted or unsubstituted heterocyclyl or substituted or unsubstituted heterocycloxy,
10

and

R⁴
15 is hydrogen or C₁-C₄-alkyl,

R¹ and R³ together, and R² and R³ together, may form a carbocyclic or heterocyclic ring which in turn can be benzo-fused and can be substituted, and fungicides containing these compounds.
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