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DESCRIPTION

PYRIDAZIN-3-ONE DERIVATIVES, THEIR USE, AND INTERMEDIATES FOR THEIR PRODUCTION

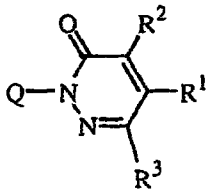
Technical Field

The present invention relates to pyridazin-3-one derivatives, their use as herbicides, and intermediates for their production.

Disclosure of Invention

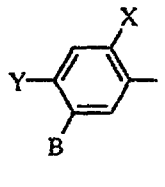
The present inventors have intensively studied to find a compound having excellent herbicidal activity. As a result, they have found that pyridazin-3-one derivatives represented by formula [1] as depicted below have excellent herbicidal activity, thereby completing the present invention.

Thus the present invention provides a compound of the formula:

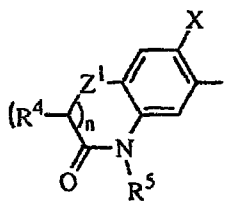


[1]

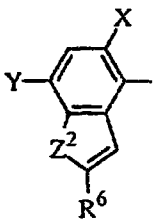
wherein R^1 is C_1-C_3 haloalkyl; R^2 and R^3 are the same or different and are hydrogen, C_1-C_3 alkyl, C_1-C_3 haloalkyl, or C_1-C_3 alkoxy C_1-C_3 alkyl; and Q is [Q-1], [Q-2], [Q-3], [Q-4], or [Q-5] of the formula:



[Q-1]

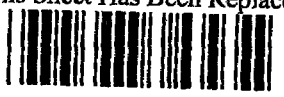


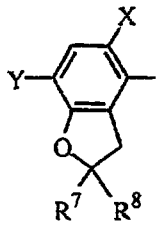
[Q-2]



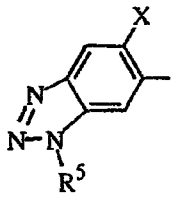
[Q-3]

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[Q-4]



[Q-5]

wherein X is hydrogen or halogen;

Y is halogen, nitro, cyano, or trifluoromethyl;

Z^1 is oxygen, sulfur, or NH;

Z^2 is oxygen or sulfur;

n is 0 or 1;

B is hydrogen, halogen, nitro, cyano, chlorosulfonyl, OR^{10}, SR^{10}, SO_2-OR^{10}, $N(R^{11})R^{12}$, $SO_2N(R^{11})R^{12}$, $NR^{11}(COR^{13})$, $NR^{11}(SO_2R^{14})$, $N(SO_2R^{14})$-(SO_2R^{15}), $N(SO_2R^{14})(COR^{13})$, $NHCOOR^{13}$, $COOR^{10}$, $CON(R^{11})R^{12}$, $CSN(R^{11})R^{12}$, COR^{16}, $CR^{17}=CR^{18}COR^{16}$, $CR^{17}=CR^{18}COOR^{13}$, $CR^{17}=CR^{18}CON(R^{11})R^{12}$, CH_2CH-$WCOOR^{13}$, $CH_2CHWCON(R^{11})R^{12}$, $CR^{17}=NOR^{33}$, $CR^{17}=NN(R^{11})R^{12}$, $CR^{17}(Z^2$-$R^{34})_2$, OCO_2R^{19}, or $OCOR^{19}$;

R^4 is hydrogen or C_1-C_3 alkyl;

R^5 is hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_8 cycloalkylalkyl, C_3-C_6 alkenyl, C_3-C_6 haloalkenyl, C_3-C_6 alkynyl, C_3-C_6 haloalkynyl, cyano C_1-C_6 alkyl, C_2-C_8 alkoxyalkyl, C_3-C_8 alkoxyalkoxyalkyl, carboxy C_1-C_6 alkyl, (C_1-C_6 alkoxy)-carbonyl C_1-C_6 alkyl, {(C_1-C_4 alkoxy) C_1-C_4 alkoxy}carbonyl C_1-C_6 alkyl, (C_3-C_8 cycloalkoxy)carbonyl C_1-C_6 alkyl, $CH_2CON(R^{11})R^{12}$, $CH_2COON(R^{11})R^{12}$, $CH(C_1$-C_4 alkyl)$CON(R^{11})R^{12}$, $CH(C_1$-C_4 alkyl)$COON(R^{11})R^{12}$, C_2-C_8 alkylthioalkyl, or hydroxy C_1-C_6 alkyl;

R^6 is C_1-C_6 alkyl, C_1-C_6 haloalkyl, formyl, cyano, carboxyl, hydroxy C_1-C_6 alkyl, C_1-C_6 alkoxy C_1-C_6 alkyl, C_1-C_6 alkoxy C_1-C_6 alkoxy C_1-C_6 alkyl, (C_1-C_6 alkyl)carbonyloxy C_1-C_6 alkyl, (C_1-C_6 haloalkyl)carbonyloxy C_1-C_6 alkyl,

(C_1-C_6 alkoxy)carbonyl, or (C_1-C_6 alkyl)carbonyl;

R^7 is hydrogen or C_1-C_6 alkyl; and

R^8 is hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, hydroxy C_1-C_6 alkyl, C_2-C_8 alkoxyalkyl, C_3-C_{10} alkoxyalkoxyalkyl, (C_1-C_5 alkyl)carbonyloxy C_1-C_6 alkyl, (C_1-C_6 haloalkyl)carbonyloxy C_1-C_6 alkyl, carboxyl, carboxy C_1-C_6 alkyl, (C_1-C_8 alkoxy)-carbonyl, (C_1-C_6 haloalkoxy)carbonyl, (C_3-C_{10} cycloalkoxy)carbonyl, (C_3-C_8 alkenyl-oxy)carbonyl, (C_3-C_8 alkynyloxy)carbonyl, aminocarbonyl, (C_1-C_6 alkyl)amino-carbonyl, di(C_1-C_6 alkyl)aminocarbonyl, (C_1-C_6 alkyl)aminocarbonyloxy C_1-C_6 alkyl, or di(C_1-C_6 alkyl)aminocarbonyloxy C_1-C_6 alkyl;

wherein R^{10} is hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_8 cycloalkyl, benzyl, C_3-C_6 alkenyl, C_3-C_6 haloalkenyl, C_3-C_6 alkynyl, C_3-C_6 haloalkynyl, cyano C_1-C_6 alkyl, C_2-C_8 alkoxyalkyl, C_2-C_8 alkylthioalkyl, carboxy C_1-C_6 alkyl, (C_1-C_8 alkoxy)carbonyl C_1-C_6 alkyl, (C_1-C_6 haloalkoxy)carbonyl C_1-C_6 alkyl, {(C_1-C_4 alkoxy) C_1-C_4 alkoxy}carbonyl C_1-C_6 alkyl, (C_3-C_8 cycloalkoxy)carbonyl C_1-C_6 alkyl, (C_1-C_6 alkyl)carbonyl C_1-C_6 alkyl, (C_1-C_6 haloalkyl)carbonyl C_1-C_6 alkyl, {(C_1-C_4 alkoxy) C_1-C_4 alkyl}carbonyl C_1-C_6 alkyl, (C_3-C_8 cycloalkyl)carbonyl C_1-C_6 alkyl, CH_2CON-(R^{11})R^{12}, $CH_2COON(R^{11})R^{12}$, $CH(C_1$-C_4 alkyl)$CON(R^{11})R^{12}$, $CH(C_1$-C_4 alkyl)-$COON(R^{11})R^{12}$, {(C_1-C_6 alkoxy)carbonyl C_1-C_6 alkyl}oxycarbonyl C_1-C_6 alkyl, or hydroxy C_1-C_6 alkyl;

R^{11} and R^{12} are independently hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_6 alkenyl, C_3-C_6 alkynyl, cyano C_1-C_6 alkyl, C_2-C_8 alkoxyalkyl, C_2-C_8 alkylthio-alkyl, carboxy C_1-C_6 alkyl, (C_1-C_6 alkoxy)carbonyl C_1-C_6 alkyl, (C_3-C_8 cycloalkoxy)-carbonyl C_1-C_6 alkyl, {(C_1-C_4 alkoxy) C_1-C_4 alkoxy}carbonyl C_1-C_6 alkyl, or R^{11} and R^{12} are combined together to form tetramethylene, pentamethylene, or ethyleneoxy-ethylene;

R^{13} is hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_8 cycloalkyl, or C_3-C_6 alkenyl;

R^{14} and R^{15} are independently C_1-C_6 alkyl, C_1-C_6 haloalkyl, or phenyl

optionally substituted with methyl or nitro;

R^{16} is hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_2-C_6 haloalkynyl, C_2-C_8 alkoxyalkyl, or hydroxy C_1-C_6 alkyl;

R^{17} and R^{18} are independently hydrogen or C_1-C_6 alkyl;

R^{19} is C_1-C_6 alkyl;

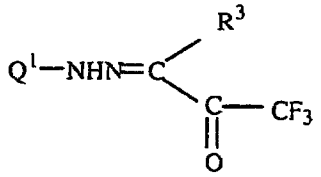
R^{33} is hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_8 cycloalkyl, C_3-C_6 alkenyl, C_3-C_6 haloalkenyl, C_3-C_6 alkynyl, C_3-C_6 haloalkynyl, cyano C_1-C_6 alkyl, or (C_1-C_6 alkoxy)carbonyl C_1-C_6 alkyl;

R^{34} is C_1-C_6 alkyl, or two R^{34}'s are combined together to form $(CH_2)_2$ or $(CH_2)_3$; and

W is hydrogen, chlorine, or bromine,

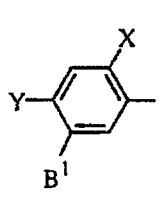
(hereinafter referred to as the present compound(s)); and a herbicide containing it as an active ingredient.

The present invention also provides a compound of the formula:

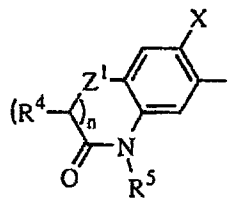


[2]

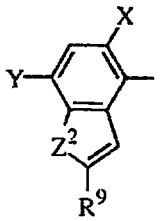
wherein R^3 is as defined above, and Q^1 is [Q^1-1], [Q-2], [Q^1-3], [Q-4], or [Q-5] of the formula:



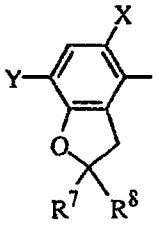
[Q^1-1]



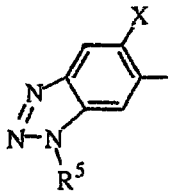
[Q-2]



[Q^1-3]



[Q-4]



[Q-5]

wherein X, Y, Z^1, Z^2, n, R^4, R^5, R^7, and R^8 are as defined above; B^1 is hydrogen, halogen, nitro, cyano, OR^{27}, SR^{27}, SO_2OR^{27}, $NR^{11}(R^{12})$, $SO_2NR^{11}(R^{12})$, NR^{11}-(COR^{13}), $NR^{11}(SO_2R^{14})$, $N(SO_2R^{14})(SO_2R^{15})$, $N(SO_2R^{14})(COR^{13})$, $NHCOOR^{13}$, $COOR^{27}$, $CONR^{11}(R^{12})$, $CSNR^{11}(R^{12})$, $CR^{17}=CR^{18}COOR^{13}$, $CR^{17}=CR^{18}CONR^{11}$-(R^{12}), $CH_2CHWCOOR^{13}$, $CH_2CHWCONR^{11}(R^{12})$, $CR^{17}=NOR^{33}$, $CR^{17}=NNR^{11}$-(R^{12}), $CR^{17}(Z^2R^{34})_2$, OCO_2R^{19}, or $OCOR^{19}$; R^9 is C_1-C_6 alkyl, C_1-C_6 haloalkyl, cyano, carboxyl, hydroxy C_1-C_6 alkyl, C_1-C_6 alkoxy C_1-C_6 alkyl, C_1-C_6 alkoxy C_1-C_6 alkoxy C_1-C_6 alkyl, (C_1-C_6 alkyl)carbonyloxy C_1-C_6 alkyl, (C_1-C_6 haloalkyl)carbonyl-oxy C_1-C_6 alkyl, (C_1-C_6 alkoxy)carbonyl, or (C_1-C_6 alkyl)carbonyl; wherein R^{19} is as defined above; R^{27} is hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_8 cycloalkyl, benzyl, C_3-C_6 alkenyl, C_3-C_6 haloalkenyl, C_3-C_6 alkynyl, C_3-C_6 haloalkynyl, cyano C_1-C_6 alkyl, C_2-C_8 alkoxyalkyl, C_2-C_8 alkylthioalkyl, carboxy C_1-C_6 alkyl, (C_1-C_8 alkoxy)carbonyl C_1-C_6 alkyl, (C_1-C_6 haloalkoxy)carbonyl C_1-C_6 alkyl, {(C_1-C_4 alkoxy) C_1-C_4 alkoxy}carbonyl C_1-C_6 alkyl, (C_3-C_8 cycloalkoxy)carbonyl C_1-C_6 alkyl, $CH_2CON(R^{11})R^{12}$, $CH_2COON(R^{11})R^{12}$, $CH(C_1$-C_4 alkyl)$CON(R^{11})R^{12}$, $CH(C_1$-C_4 alkyl)$COON(R^{11})R^{12}$, {(C_1-C_6 alkoxy)carbonyl C_1-C_6 alkyl}oxycarbonyl C_1-C_6 alkyl, or hydroxy C_1-C_6 alkyl; and R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{17}, R^{18}, R^{19}, R^{33}, R^{34}, and Z^2 are as defined above.

In the above definition of the present compounds, the respective substituents are exemplified as follows:

Examples of the C_1-C_3 haloalkyl represented by R^1 include trifluoromethyl and chlorodifluoromethyl.

Examples of the C_1-C_3 alkyl represented by R^2 and R^3 include methyl, ethyl, and isopropyl.

Examples of the C_1-C_3 haloalkyl represented by R^2 and R^3 include trichloromethyl, trifluoromethyl, difluoromethyl, chlorodifluoromethyl, and pentafluoroethyl.

Examples of the C_1-C_3 alkoxy C_1-C_3 alkyl represented by R^2 and R^3 include methoxymethyl.

Examples of the halogen represented by X, Y, and B include chlorine, fluorine, bromine, or iodine.

Examples of the C_1-C_6 alkyl represented by R^{10} include methyl, ethyl, isopropyl, propyl, isobutyl, butyl, t-butyl, amyl, isoamyl, and t-amyl.

Examples of the C_1-C_6 haloalkyl represented by R^{10} include 2-chloroethyl, 3-chloropropyl, and 2,2,2-trifluoroethyl.

Examples of the C_3-C_8 cycloalkyl represented by R^{10} include cyclopropyl, cyclobutyl, cyclopentyl, and cyclohexyl.

Examples of the C_3-C_6 alkenyl represented by R^{10} include allyl, 1-methyl-2-propenyl, 3-butenyl, 2-butenyl, 3-methyl-2-butenyl, and 2-methyl-3-butenyl.

Examples of the C_3-C_6 haloalkenyl represented by R^{10} include 2-chloro-2-propenyl and 3,3-dichloro-2-propenyl.

Examples of the C_3-C_6 alkynyl represented by R^{10} include propargyl, 1-methyl-2-propynyl, 2-butynyl, and 1,1-dimethyl-2-propynyl.

Examples of the C_3-C_6 haloalkynyl represented by R^{10} include 4-bromo-2-butynyl.

Examples of the cyano C_1-C_6 alkyl represented by R^{10} include cyanomethyl.

Examples of the C_2-C_8 alkoxyalkyl represented by R^{10} include methoxymethyl, methoxyethyl, ethoxymethyl, and ethoxyethyl.

Examples of the C_2-C_8 alkylthioalkyl represented by R^{10} include methylthiomethyl.

Examples of the carboxy C_1-C_6 alkyl represented by R^{10} include carboxy-

methyl, 1-carboxyethyl, and 2-carboxyethyl.

Examples of the (C_1-C_8 alkoxy)carbonyl C_1-C_6 alkyl represented by R^{10} include methoxycarbonylmethyl, ethoxycarbonylmethyl, propoxycarbonylmethyl, isopropoxycarbonylmethyl, butoxycarbonylmethyl, isobutoxycarbonylmethyl, t-butoxycarbonylmethyl, amyloxycarbonylmethyl, isoamyloxycarbonylmethyl, t-amyloxycarbonylmethyl, 1-methoxycarbonylethyl, 1-ethoxycarbonylethyl, 1-propoxycarbonylethyl, 1-isopropoxycarbonylethyl, 1-butoxycarbonylethyl, 1-isobutoxycarbonylethyl, 1-t-butoxycarbonylethyl, 1-amyloxycarbonylethyl, 1-isoamyloxycarbonylethyl, and 1-t-amyloxycarbonylethyl.

Examples of the (C_1-C_6 haloalkoxy)carbonyl C_1-C_6 alkyl represented by R^{10} include 2-chloroethoxycarbonylmethyl.

Examples of the {(C_1-C_4 alkoxy) C_1-C_4 alkoxy}carbonyl C_1-C_6 alkyl represented by R^{10} include methoxymethoxycarbonylmethyl and 1-methoxymethoxycarbonylethyl.

Examples of the (C_3-C_8 cycloalkoxy)carbonyl C_1-C_6 alkyl represented by R^{10} include cyclobutyloxycarbonylmethyl, cyclopentyloxycarbonylmethyl, cyclohexyloxycarbonylmethyl, 1-cyclobutyloxycarbonylethyl, 1-cyclopentyloxycarbonylethyl, and 1-cyclohexyloxycarbonylethyl.

Examples of the (C_1-C_6 alkyl)carbonyl C_1-C_6 alkyl represented by R^{10} include methylcarbonylmethyl.

Examples of the (C_1-C_6 haloalkyl)carbonyl C_1-C_6 alkyl represented by R^{10} include chloromethylcarbonylmethyl.

Examples of the {(C_1-C_4 alkoxy) C_1-C_4 alkyl}carbonyl C_1-C_6 alkyl represented by R^{10} include 2-methoxyethylcarbonylmethyl.

Examples of the (C_3-C_8 cycloalkyl)carbonyl C_1-C_6 alkyl represented by R^{10} include cyclopentylcarbonylmethyl.

Examples of the {(C_1-C_6 alkoxy)carbonyl C_1-C_6 alkyl}oxycarbonyl C_1-C_6 alkyl represented by R^{10} include (ethoxycarbonyl)methoxycarbonylmethyl.

Examples of the C_1-C_6 alkyl represented by R^{11} and R^{12} include methyl, ethyl, propyl, butyl, isopropyl, and isobutyl.

Examples of the C_1-C_6 haloalkyl represented by R^{11} and R^{12} include chloroethyl and bromoethyl.

Examples of the C_3-C_6 alkenyl represented by R^{11} and R^{12} include allyl, 1-methyl-2-propenyl, and 3-butenyl.

Examples of the C_3-C_6 alkynyl represented by R^{11} and R^{12} include propargyl and 1-methyl-2-propynyl.

Examples of the cyano C_1-C_6 alkyl represented by R^{11} and R^{12} include cyanomethyl.

Examples of the C_2-C_8 alkoxyalkyl represented by R^{11} and R^{12} include methoxymethyl and ethoxyethyl.

Examples of the C_2-C_8 alkylthioalkyl represented by R^{11} and R^{12} include methylthiomethyl and methylthioethyl.

Examples of the carboxy C_1-C_6 alkyl represented by R^{11} and R^{12} include carboxymethyl and 1-carboxyethyl.

Examples of the (C_1-C_6 alkoxy)carbonyl C_1-C_6 alkyl represented by R^{11} and R^{12} include methoxycarbonylmethyl, ethoxycarbonylmethyl, propoxycarbonylmethyl, isopropoxycarbonylmethyl, butoxycarbonylmethyl, isobutoxycarbonylmethyl, t-butoxycarbonylmethyl, amyloxycarbonylmethyl, isoamyloxycarbonylmethyl, t-amyloxycarbonylmethyl, 1-methoxycarbonylethyl, 1-ethoxycarbonylethyl, 1-propoxycarbonylethyl, 1-isopropoxycarbonylethyl, 1-butoxycarbonylethyl, 1-isobutoxycarbonylethyl, 1-t-butoxycarbonylethyl, 1-amyloxycarbonylethyl, 1-isoamyloxycarbonylethyl, and 1-t-amyloxycarbonylethyl.

Examples of the (C_3-C_8 cycloalkoxy)carbonyl C_1-C_6 alkyl represented by R^{11} and R^{12} include cyclopentyloxycarbonylmethyl.

Examples of the {(C_1-C_4 alkoxy) C_1-C_4 alkoxy}carbonyl C_1-C_6 alkyl represented by R^{11} and R^{12} include methoxymethoxycarbonylmethyl and 1-methoxy-

methoxycarbonylethyl.

Examples of the C_1-C_6 alkyl represented by R^{13} include methyl, ethyl, propyl, butyl, amyl, isopropyl, isobutyl, and isoamyl.

Examples of the C_1-C_6 haloalkyl represented by R^{13} include 2,2,2-trifluoroethyl.

Examples of the C_3-C_8 cycloalkyl represented by R^{13} include cyclopropyl, cyclobutyl, cyclopentyl, and cyclohexyl.

Examples of the C_3-C_6 alkenyl represented by R^{13} include allyl.

Examples of the C_1-C_6 alkyl represented by R^{14} and R^{15} include methyl, ethyl, propyl, butyl, and isopropyl.

Examples of the C_1-C_6 haloalkyl represented by R^{14} and R^{15} include trifluoromethyl, 2,2,2-trifluoroethyl, 2-chloroethyl, chloromethyl, and trichloromethyl.

Examples of the phenyl optionally substituted by methyl or nitro, which is represented by R^{14} and R^{15}, include phenyl, p-methylphenyl, 2-nitrophenyl, 3-nitrophenyl, and 4-nitrophenyl.

Examples of the C_1-C_6 alkyl represented by R^{16} include methyl, ethyl, propyl, butyl, amyl, isopropyl, isobutyl, t-butyl, isoamyl, and t-amyl.

Examples of the C_1-C_6 haloalkyl represented by R^{16} include chloromethyl, dichloromethyl, bromomethyl, dibromomethyl, 1-chloroethyl, 1,1-dichloroethyl, 1-bromoethyl, and 1,1-dibromoethyl.

Examples of the C_2-C_6 alkenyl represented by R^{16} include vinyl, allyl, 1-propenyl, and 1-methyl-2-propenyl.

Examples of the C_2-C_6 haloalkenyl represented by R^{16} include 3,3-dichloro-2-propenyl and 3,3-dibromo-2-propenyl.

Examples of the C_2-C_6 alkynyl represented by R^{16} include ethynyl and 2-butynyl.

Examples of the C_2-C_6 haloalkynyl represented by R^{16} include 3-bromo-2-propynyl.

Examples of the C_2-C_8 alkoxyalkyl represented by R^{16} include methoxymethyl, ethoxymethyl, and isopropoxymethyl.

Examples of the hydroxy C_1-C_6 alkyl represented by R^{16} include hydroxymethyl.

Examples of the C_1-C_6 alkyl represented by R^{17} and R^{18} include methyl.

Examples of the C_1-C_6 alkyl represented by R^{19} include methyl and ethyl.

Examples of the C_1-C_6 alkyl represented by R^{33} include methyl and ethyl.

Examples of the C_1-C_6 haloalkyl represented by R^{33} include 2-chloroethyl.

Examples of the C_3-C_8 cycloalkyl represented by R^{33} include cyclopentyl.

Examples of the C_3-C_6 alkenyl represented by R^{33} include allyl.

Examples of the C_3-C_6 haloalkenyl represented by R^{33} include 2-chloro-2-propenyl.

Examples of the C_3-C_6 alkynyl represented by R^{33} include propargyl.

Examples of the C_3-C_6 haloalkynyl represented by R^{33} include 4-chloro-2-butynyl.

Examples of the cyano C_1-C_6 alkyl represented by R^{33} include 2-cyanoethyl and cyanomethyl.

Examples of the (C_1-C_6 alkoxy)carbonyl C_1-C_6 alkyl represented by R^{33} include ethoxycarbonylmethyl.

Examples of the C_1-C_6 alkyl represented by R^{34} include methyl and ethyl.

Examples of the C_1-C_3 alkyl represented by R^4 include methyl.

Examples of the C_1-C_6 alkyl represented by R^5 include methyl, ethyl, propyl, butyl, amyl, isopropyl, isobutyl, and isoamyl.

Examples of the C_1-C_6 haloalkyl represented by R^5 include 2-chloroethyl, 2-bromoethyl, 3-chlorobutyl, 3-bromobutyl, difluoromethyl, and bromodifluoromethyl.

Examples of the C_3-C_8 cycloalkylalkyl represented by R^5 include cyclopentylmethyl.

Examples of the C_3-C_6 alkenyl represented by R^5 include allyl, 1-methyl-2-

propenyl, 3-butenyl, 2-butenyl, 3-methyl-2-butenyl, and 2-methyl-3-butenyl.

Examples of the C_3-C_6 haloalkenyl represented by R^5 include 2-chloro-2-propenyl and 3,3-dichloro-2-propenyl.

Examples of the C_3-C_6 alkynyl represented by R^5 include propargyl, 1-methyl-2-propynyl, 2-butynyl, and 1,1-dimethyl-2-propynyl.

Examples of the C_3-C_6 haloalkynyl represented by R^5 include 3-iodo-2-propynyl and 3-bromo-2-propynyl.

Examples of the cyano C_1-C_6 alkyl represented by R^5 include cyanomethyl.

Examples of the C_2-C_8 alkoxyalkyl represented by R^5 include methoxymethyl, ethoxymethyl, and 1-methoxyethyl.

Examples of the C_3-C_8 alkoxyalkoxyalkyl represented by R^5 include methoxyethoxymethyl.

Examples of the carboxy C_1-C_6 alkyl represented by R^5 include carboxymethyl, 1-carboxyethyl, and 2-carboxyethyl.

Examples of the (C_1-C_6 alkoxy)carbonyl C_1-C_6 alkyl represented by R^5 include methoxycarbonylmethyl, ethoxycarbonylmethyl, propoxycarbonylmethyl, isopropoxycarbonylmethyl, butoxycarbonylmethyl, isobutoxycarbonylmethyl, t-butoxycarbonylmethyl, amyloxycarbonylmethyl, isoamyloxycarbonylmethyl, t-amyloxycarbonylmethyl, 1-methoxycarbonylethyl, 1-ethoxycarbonylethyl, 1-propoxycarbonylethyl, 1-isopropoxycarbonylethyl, 1-butoxycarbonylethyl, 1-isobutoxycarbonylethyl, 1-t-butoxycarbonylethyl, 1-amyloxycarbonylethyl, 1-isoamyloxycarbonylethyl, and 1-t-amyloxycarbonylethyl.

Examples of the {(C_1-C_4 alkoxy) C_1-C_4 alkoxy}carbonyl C_1-C_6 alkyl represented by R^5 include methoxymethoxycarbonylmethyl and 1-methoxymethoxycarbonylethyl.

Examples of the (C_3-C_8 cycloalkoxy)carbonyl C_1-C_6 alkyl represented by R^5 include cyclobutyloxycarbonylmethyl, cyclopentyloxycarbonylmethyl, cyclohexyloxycarbonylmethyl, 1-cyclobutyloxycarbonylethyl, 1-cyclopentyloxycarbonylethyl, and

1-cyclohexyloxycarbonylethyl.

Examples of the C_2-C_8 alkylthioalkyl represented by R^5 include methylthiomethyl.

Examples of the hydroxy C_1-C_6 alkyl represented by R^5 include hydroxymethyl, hydroxyethyl, and hydroxypropyl.

Examples of the C_1-C_6 alkyl represented by R^6 include methyl and ethyl.

Examples of the C_1-C_6 haloalkyl represented by R^6 include bromomethyl, dibromomethyl, tribromomethyl, 1-bromoethyl, chloromethyl, dichloromethyl, and trichloromethyl.

Examples of the hydroxy C_1-C_6 alkyl represented by R^6 include hydroxymethyl.

Examples of the C_1-C_6 alkoxy C_1-C_6 alkyl represented by R^6 include methoxymethyl, ethoxymethyl, propoxymethyl, and isopropoxymethyl.

Examples of the C_1-C_6 alkoxy C_1-C_6 alkoxy C_1-C_6 alkyl represented by R^6 include methoxymethoxymethyl, methoxyethoxymethyl, and ethoxymethoxymethyl.

Examples of the (C_1-C_6 alkyl)carbonyloxy C_1-C_6 alkyl represented by R^6 include acetyloxymethyl, ethylcarbonyloxymethyl, and isopropylcarbonyloxymethyl.

Examples of the (C_1-C_6 haloalkyl)carbonyloxy C_1-C_6 alkyl represented by R^6 include trifluoroacetyloxymethyl, chloroacetyloxymethyl, and trichloroacetyloxymethyl.

Examples of the (C_1-C_6 alkoxy)carbonyl represented by R^6 include methoxycarbonyl, ethoxycarbonyl, propoxycarbonyl, butoxycarbonyl, amyloxycarbonyl, isopropoxycarbonyl, isobutoxycarbonyl, and isoamyloxycarbonyl.

Examples of the (C_1-C_6 alkyl)carbonyl represented by R^6 include methylcarbonyl, ethylcarbonyl, and isopropylcarbonyl.

Examples of the C_1-C_6 alkyl represented by R^7 include methyl.

Examples of the C_1-C_6 alkyl represented by R^8 include methyl and ethyl.

Examples of the C_1-C_6 haloalkyl represented by R^8 include chloromethyl,

bromomethyl, and fluoromethyl.

Examples of the C_1-C_6 hydroxyalkyl represented by R^8 include hydroxymethyl.

Examples of the C_2-C_8 alkoxyalkyl represented by R^8 include methoxymethyl, ethoxymethyl, isopropoxymethyl, butoxymethyl, and isobutoxymethyl.

Examples of the C_3-C_{10} alkoxyalkoxyalkyl represented by R^8 include methoxymethoxymethyl, methoxyethoxymethyl, and ethoxymethoxymethyl.

Examples of the (C_1-C_5 alkyl)carbonyloxy C_1-C_6 alkyl represented by R^8 include acetyloxymethyl, ethylcarbonyloxymethyl, and isopropylcarbonyloxymethyl.

Examples of the (C_1-C_6 haloalkyl)carbonyloxy C_1-C_6 alkyl represented by R^8 include 2-chloroethylcarbonyloxymethyl.

Examples of the carboxy C_1-C_6 alkyl represented by R^8 include carboxymethyl.

Examples of the (C_1-C_8)alkoxycarbonyl represented by R^8 include methoxycarbonyl, ethoxycarbonyl, propoxycarbonyl, butoxycarbonyl, amyloxycarbonyl, isopropoxycarbonyl, isobutoxycarbonyl, and isoamyloxycarbonyl.

Examples of the (C_1-C_6 haloalkoxy)carbonyl represented by R^8 include 2-chloroethoxycarbonyl, 2-bromoethoxycarbonyl, 3-chlorobutoxycarbonyl, 1-chloro-2-propoxycarbonyl, 1,3-dichloro-2-propoxycarbonyl, 2,2-dichloroethoxycarbonyl, 2,2,2-trifluoroethoxycarbonyl, 2,2,2-trichloroethoxycarbonyl, and 2,2,2-tribromoethoxycarbonyl.

Examples of the (C_3-C_{10} cycloalkoxy)carbonyl represented by R^8 include cyclobutyloxycarbonyl, cyclopentyloxycarbonyl, and cyclohexyloxycarbonyl.

Examples of the (C_3-C_8 alkenyloxy)carbonyl represented by R^8 include allyloxycarbonyl and 3-butenyloxycarbonyl.

Examples of the (C_3-C_8 alkynyloxy)carbonyl represented by R^8 include propargyloxycarbonyl, 3-butynyloxycarbonyl, and 1-methyl-2-propynyloxycarbonyl.

Examples of the (C_1-C_6 alkyl)aminocarbonyl represented by R^8 include

methylaminocarbonyl, ethylaminocarbonyl, and propylaminocarbonyl.

Examples of the di(C_1-C_6 alkyl)aminocarbonyl represented by R^8 include dimethylaminocarbonyl, diethylaminocarbonyl, and diisopropylaminocarbonyl.

Examples of the (C_1-C_6 alkyl)aminocarbonyloxy C_1-C_6 alkyl represented by R^8 include methylaminocarbonyloxymethyl, ethylaminocarbonyloxymethyl, and propylaminocarbonyloxymethyl.

Examples of the di(C_1-C_6 alkyl)aminocarbonyloxy C_1-C_6 alkyl represented by R^8 include dimethylaminocarbonyloxyalkyl and diethylaminocarbonyloxyalkyl.

In the present compounds, preferred substituents from the viewpoint of their herbicidal activity are as follows:

R^1 is preferably methyl substituted with one or more fluorine atoms, such as trifluoromethyl or chlorodifluoromethyl, or ethyl substituted with one or more fluorine atoms, such as pentafluoroethyl, and more preferably trifluoromethyl;

R^2 is preferably C_1-C_3 alkyl such as methyl or ethyl, or hydrogen, and more preferably methyl or hydrogen;

R^3 is preferably C_1-C_3 alkyl such as methyl or ethyl, or hydrogen, and more preferably methyl or hydrogen; and

Q is preferably [Q-1], [Q-2], [Q-3], or [Q-4].

Preferred examples of the present compounds from the viewpoint of their herbicidal activity are those which contain the above preferred substituents in combination.

When Q is [Q-1], more preferred compounds are those wherein X is hydrogen or fluorine and Y is chlorine. Among these compounds are more preferred ones wherein B is OR^{10}, SR^{10}, $N(R^{11})R^{12}$, $NR^{11}(SO_2R^{14})$, or $COOR^{10}$. Among these compounds are more preferred ones wherein R^{10} is C_1-C_6 alkyl, C_3-C_6 alkynyl, (C_1-C_8 alkoxy)carbonyl C_1-C_6 alkyl, or (C_3-C_8 cycloalkoxy)carbonyl C_1-C_6 alkyl; R^{11} is hydrogen; R^{12} is (C_1-C_6 alkoxy)carbonyl C_1-C_6 alkyl; and R^{14} is C_1-C_6 alkyl or C_1-C_6 haloalkyl.

When Q is [Q-2], more preferred compounds are those wherein X is fluorine or hydrogen; Z^1 is oxygen; R^4 is hydrogen; and n is 1. Among these compounds are more preferred ones wherein R^5 is C_3-C_6 alkynyl.

Typical examples of the preferred compounds are as follows:

7-Fluoro-6-(5-trifluoromethyl-3-pyridazinon-2-yl)-4-propargyl-2H-1,4-benzoxazin-3-one;

7-Fluoro-6-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-4-propargyl-2H-1,4-benzoxazin-3-one;

6-(5-Trifluoromethyl-3-pyridazinon-2-yl)-4-propargyl-2H-1,4-benzoxazin-3-one;

6-(4-Methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-4-propargyl-2H-1,4-benzoxazin-3-one;

2-(4-Chloro-2-fluoro-5-isopropoxyphenyl)-4-methyl-5-trifluoromethyl-pyridazin-3-one;

2-(4-Chloro-2-fluoro-5-methoxyphenyl)-4-methyl-5-trifluoromethyl-pyridazin-3-one;

2-(4-Chloro-2-fluoro-5-ethoxyphenyl)-4-methyl-5-trifluoromethylpyridazin-3-one;

2-(4-Chloro-2-fluoro-5-propargyloxyphenyl)-4-methyl-5-trifluoromethyl-pyridazin-3-one;

Methyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-phenoxyacetate;

Ethyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-phenoxyacetate;

Propyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-phenoxyacetate;

Isopropyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenoxyacetate;

Butyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-phenoxyacetate;

Pentyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-phenoxyacetate;

Cyclopentyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenoxyacetate;

Ethyl 2-{2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenoxy}propionate;

Methyl 2-{2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenoxy}propionate;

Ethyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-phenylthioacetate;

Methyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-phenylthioacetate;

Ethyl 2-{2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenylthio}propionate;

Methyl 2-{2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenylthio}propionate;

Methyl 2-{2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenoxy}propionate;

Ethyl 2-{2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenoxy}propionate;

Ethyl 2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenylthioacetate;

Methyl 2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenylthioacetate;

Ethyl 2-{2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenylthio}propionate;

Methyl 2-{2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenylthio}propionate;

Isopropyl 2-{2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)-phenylthio}propionate;

Ethyl 2-{2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenylamino}propionate;

Ethyl 2-{2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenylamino}propionate;

N-{2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-phenyl}methanesulfonamide;

N-{2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-phenyl}chloromethanesulfonamide;

N-{2-chloro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenyl}-methanesulfonamide;

Methyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-benzoate;

Ethyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-benzoate;

Ethyl 2-chloro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)benzoate;

Isopropyl 2-chloro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)benzoate; and

2-(4-Chloro-2-fluoro-5-propargyloxyphenyl)-6-methyl-5-trifluoromethylpyridazin-3-one.

Among these compounds, more preferred ones from the viewpoint of their herbicidal activity are as follows:

7-Fluoro-6-(5-trifluoromethyl-3-pyridazinon-2-yl)-4-proparygyl-2H-1,4-benzoxazin-3-one;

7-Fluoro-6-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-4-propargyl-2H-

1,4-benzoxazin-3-one;

6-(4-Methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-4-propargyl-2H-1,4-benzoxazin-3-one;

Ethyl 2-{2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyrizazinon-2-yl)phenoxy}propionate; and

Ethyl 2-{2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenylthio}propionate.

In addition, more preferred ones from the viewpoint of their selectivity between crop plants and undesired weeds are as follows:

2-(4-Chloro-2-fluoro-5-propargyloxyphenyl)-4-methyl-5-trifluoromethylpyrizazin-3-one;

Ethyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-phenoxyacetate;

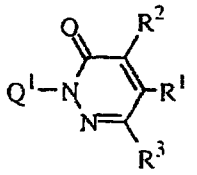
N-{2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenyl}methanesulfonamide; and

Ethyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-benzoate.

The present compounds can be produced, for example, according to the production processes described below.

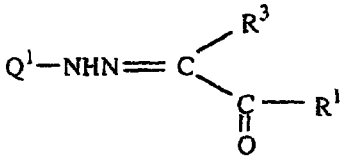
(Production Process 1)

This is the production process in which among the present compounds, a compound of the formula:



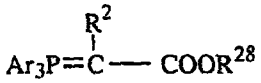
[3]

wherein R^1, R^2, R^3, and Q^1 are as defined above, is produced by reacting a hydrazone derivative of the formula:



[4]

wherein R^1, R^3, and Q^1 are as defined above, with a compound of the formula:



[5]

wherein R^2 is as defined above; R^{28} is C_1-C_6 alkyl such as methyl or ethyl; and Ar is an optionally substituted phenyl such as phenyl.

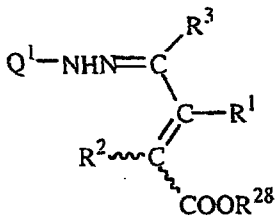
The reaction is usually effected in a solvent. The reaction temperature is usually in the range of -20° to 150°C, preferably 0° to 100°C. The reaction time is usually in the range of a moment to 72 hours. The amounts of the reagents to be used in the reaction, although the proportion of 1 mole of compound [5] to 1 mole of compound [4] is ideal, can be freely changed depending upon the reaction conditions.

Examples of the solvent which can be used include aliphatic hydrocarbons such as hexane, heptane, ligroin, cyclohexane, and petroleum ether; aromatic hydrocarbons such as benzene, toluene, and xylene; ethers such as diethyl ether, diisopropyl ether, dioxane, tetrahydrofuran (THF), and ethylene glycol dimethyl ether; nitro compounds such as nitromethane and nitrobenzene; acid amides such as formamide, N,N-dimethylformamide, and acetamide; tertiary amines such as pyridine, triethylamine, diisopropylethylamine, N,N-dimethylaniline, N,N-diethylaniline, and N-methylmorpholine; sulfur compounds such as dimethylsulfoxide and sulforane; alcohols such as methanol, ethanol, ethylene glycol, and isopropanol; water; and mixtures thereof.

After completion of the reaction, the reaction solvent is distilled out from the reaction mixture and the residue is subjected to chromatography, or the reaction mixture is subjected to ordinary post-treatments such as extraction with an organic solvent and concentration, followed by, if necessary, subsequent purification by a technique such as

chromatography or recrystallization. Thus the desired compound of the present invention can be isolated.

The above reaction is effected through a compound of the formula:



[6]

wherein R^1, R^2, R^3, R^{28}, and Q^1 are as defined above.

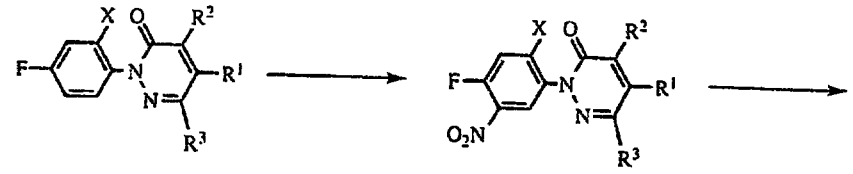
This production process can also be conducted by isolating compound [6] and effecting intramolecular cyclization of compound [6]. The cyclization can usually be effected in a solvent. The reaction temperature is usually in the range of –20° to 150°C, preferably 50° to 150°C. The reaction time is usually in the range of a moment to 72 hours.

Examples of the solvent which can be used include aliphatic hydrocarbons such as hexane, heptane, ligroin, cyclohexane, and petroleum ether; aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as chloroform, carbon tetrachloride, dichloromethane, dichloroethane, chlorobenzene, and dichlorobenzene; ethers such as diethyl ether, diisopropyl ether, dioxane, tetrahydrofuran, and ethylene glycol dimethyl ether; ketones such as acetone, methyl ethyl ketone, methyl isobutyl ketone, isophorone, and cyclohexanone; esters such as ethyl formate, ethyl acetate, butyl acetate, and diethyl carbonate; nitro compounds such as nitromethane and nitrobenzene; nitriles such as acetonitrile and isobutyronitrile; acid amides such as formamide, N,N-dimethylformamide, and acetamide; tertiary amines such as pyridine, triethylamine, diisopropylethylamine, N,N-dimethylaniline, N,N-diethylaniline, and N-methylmorpholine; sulfur compounds such as dimethylsulfoxide and sulforane; fatty acids such as formic acid, acetic acid, and propionic acid; alcohols such as methanol, ethanol, ethylene glycol, and isopropanol; water; and mixtures thereof.

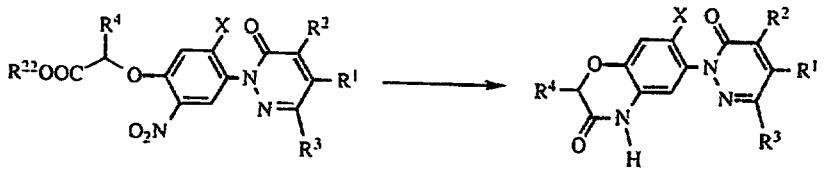
As the reaction catalyst, acids such as sulfuric acid or bases such as sodium methylate can be used.

(Production Process 2)

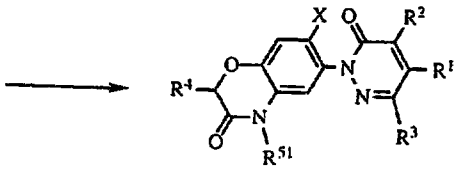
This is the production process according to the following scheme:



[7] [8]



[9] [10]



[11]

wherein R^{51} is a substituent other than hydrogen, which is included in the definition of R^5; R^1, R^2, R^3, R^4, and X are as defined above; R^{22} is C_1-C_6 alkyl; and D is chlorine, bromine, iodine, methanesulfonyloxy, trifluoromethanesulfonyloxy, or p-toluenesulfonyl-oxy.

Process for Producing Compound [8] from Compound [7]

Compound [8] can be produced by reacting compound [7] with a nitrating agent in a solvent.

Nitrating agent: nitric acid or the like

Amount of nitrating agent: 1 to 10 moles per mole of compound [7]

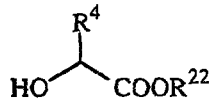
Solvent: sulfuric acid

Temperature: −10°C to room temperature

Time: a moment to 24 hours

Process for Producing Compound [9] from Compound [8]

Compound [9] can be produced by reacting compound [8] with a compound of the formula:



[12]

wherein R^4 and R^{22} are as defined above, in the presence of potassium fluoride in a solvent.

Amount of compound [12]: 1 to 50 moles per mole of compound [8]

Amount of potassium fluoride: 1 to 50 moles per mole of compound [8]

Solvent: 1,4-dioxane or the like

Temperature: room temperature to refluxing temperature under heating

Time: a moment to 96 hours

Process for Producing Compound [10] from Compound [9]

Compound [10] can be produced by reducing compound [9] with iron powder or the like in the presence of an acid in a solvent.

Amount of iron powder: 3 moles to an excess per mole of compound [9]

Acid: acetic acid or the like

Amount of acid: 1 to 10 moles

Solvent: water, ethyl acetate, or the like

Temperature: room temperature to refluxing temperature under heating

Time: a moment to 24 hours

Process for Producing Compound [11] from Compound [10]

Compound [11] can be produced by reacting compound [10] with a compound of the formula:

R^{51}-D [13]

wherein R^{51} and D are as defined above.

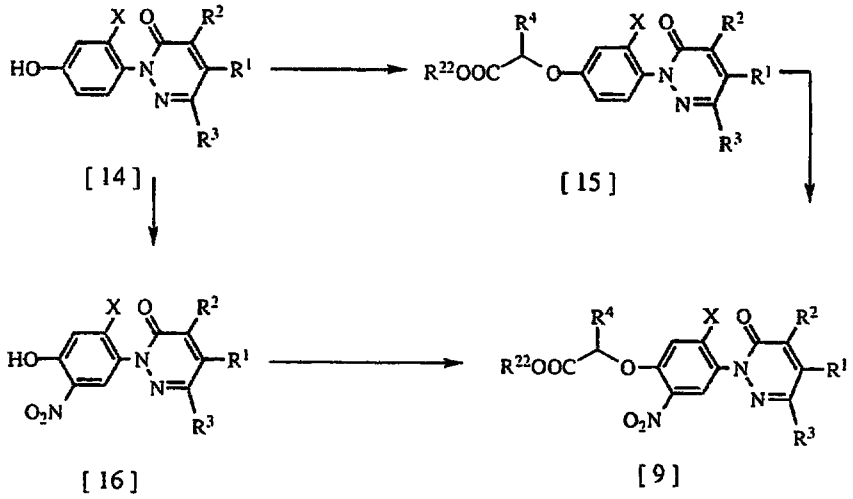
The reaction is usually effected in the presence of a base in a solvent. The reaction temperature is usually in the range of –20° to 150°C, preferably 0° to 50°C. The reaction time is usually in the range of a moment to 48 hours. The amounts of the reagents to be used in the reaction are usually 1 to 3 moles of compound [13] and usually 1 to 2 moles of the base, per mole of compound [10].

Examples of the base which can be used include inorganic bases such as sodium hydride, potassium hydride, sodium hydroxide, potassium hydroxide, potassium carbonate, and sodium carbonate; and organic bases such as triethylamine, diisopropylethylamine, pyridine, 4-dimethylaminopyridine, N,N-dimethylaniline, and N,N-diethylaniline.

Examples of the solvent which can be used include aliphatic hydrocarbons such as hexane, heptane, ligroin, cyclohexane, and petroleum ether; aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as chlorobenzene and dichlorobenzene; ethers such as diethyl ether, diisopropyl ether, dioxane, tetrahydrofuran, and ethylene glycol dimethyl ether; nitro compounds such as nitrobenzene; acid amides such as formamide, N,N-dimethylformamide, and acetamide; tertiary amines such as pyridine, triethylamine, diisopropylethylamine, N,N-dimethylamine, N,N-diethylaniline, and N-methylmorpholine; and mixtures thereof.

After completion of the reaction, the reaction mixture is poured into water, if necessary, and subjected to ordinary post-treatments such as extraction with an organic solvent and concentration, followed by, if necessary, subsequent purification by a technique such as column chromatography or recrystallization. Thus the present compound [11] can be obtained.

The above compound [9] can also be produced according to the following scheme:

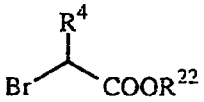


[14] [15] [16] [9]

wherein R^1, R^2, R^3, R^4, R^{22}, and X are as defined above.

Process for Producing Compound [15] from Compound [14]

Compound [15] can be produced by reacting compound [14] with a compound of the formula:



[17]

wherein R^4 and R^{22} are as defined above, in the presence of a base in a solvent.

Amount of compound [17]: 1 to 2 moles per mole of compound [14]

Base: sodium hydride, sodium carbonate, or the like

Amount of base: 1 to 2 moles per mole of compound [14]

Solvent: 1,4-dioxane, N,N-dimethylformamide, or the like

Temperature: 0° to 100°C

Time: a moment to 24 hours

Process for Producing Compound [9] from Compound [15]

Compound [9] can be produced by reacting compound [15] with a nitrating agent in a solvent.

Nitrating agent: nitric acid or the like

Amount of nitrating agent: 1 to 10 moles per mole of compound [15]

Solvent: sulfuric acid, acetic acid, or the like

Temperature: −10°C to room temperature

Time: a moment to 24 hours

Process for Producing Compound [16] from Compound [14]

Compound [16] can be produced by reacting compound [14] with a nitrating agent in a solvent.

Nitrating agent: nitric acid or the like

Amount of nitrating agent: 1 to 10 moles per mole of compound [14]

Solvent: sulfuric acid, acetic acid, or the like

Temperature: −10°C to room temperature

Time: a moment to 24 hours

Process for Producing Compound [9] from Compound [16]

Compound [9] can be produced by reacting compound [16] with compound[17] in the presence of a base in a solvent.

Amount of compound [17]: 1 to 2 moles per mole of compound [16]

Base: sodium hydride, potassium carbonate, or the like

Amount of base: 1 to 2 moles per mole of compound [16]

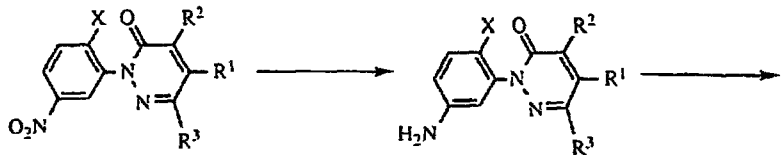
Solvent: 1,4-dioxane, N,N-dimethylformamide, or the like

Temperature: 0° to 100°C

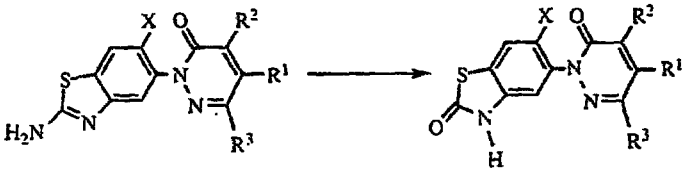
Time: a moment to 24 hours

(Production Process 3)

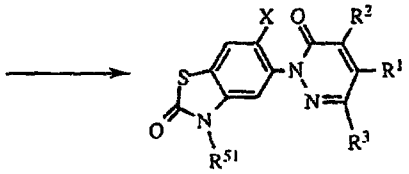
This is the production process according to the following scheme:



[18] [19]



[20] [21]



[22]

wherein X, R^1, R^2, R^3, R^{51}, and D are as defined above.

Process for Producing Compound [19] from Compound [18]

Compound [19] can be produced by reducing compound [18] with iron powder or the like in the presence of an acid in a solvent.

Amount of iron powder: 3 moles to an excess per mole of compound [18]

Acid: acetic acid or the like

Amount of acid: 1 to 10 moles per mole of compound [18]

Solvent: water, ethyl acetate, or the like

Temperature: room temperature to refluxing temperature under heating

Time: a moment to 24 hours

Process for Producing Compound [21] from Compound [20]

Compound [20] can be produced by reacting compound [19] with sodium thiocyanate, potassium thiocyanate, or the like in a solvent, and then reacting it with bromine or chlorine in a solvent.

Amount of sodium thiocyanate, potassium thiocyanate, or the like: 1 to 10 moles per mole of compound [19]

Amount of bromine or chlorine: 1 to 10 moles per mole of compound [19]

Solvent: aqueous hydrochloric acid, aqueous acetic acid, aqueous sulfuric acid, or the like

Temperature: 0° to 50°C

Time: a moment to 150 hours

Process for Producing Compound [21] from Compound [20]

Compound [21] can be produced by 1) reacting compound [20] with sodium nitrite, potassium nitrite, or the like in a solvent, and then 2) heating it in an acidic solution.

<Reaction 1)>

Amount of sodium nitrite, potassium nitrite, or the like: 1 to 2 moles per mole of compound [20]

Solvent: aqueous hydrochloric acid or aqueous sulfuric acid

Temperature: −10° to 10°C

Time: a moment to 5 hours

<Reaction 2)>

Acidic solution: aqueous hydrochloric acid, aqueous sulfuric acid, or the like

Temperature: 70°C to refluxing temperature under heating

Time: a moment to 24 hours

Process for Producing Compound [22] from Compound [21]

Compound [22] can be produced by reacting compound [21] with compound [13] in the presence of a base in a solvent.

Amount of compound [13]: 1 to 3 moles per mole of compound [21]

Base: sodium hydride, potassium carbonate, or the like

Amount of base: 1 to 2 moles per mole of compound [21]

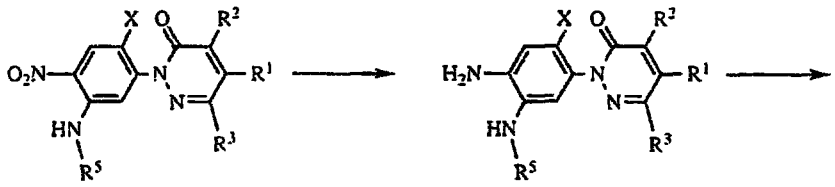
Solvent: 1,4-dioxane, N,N-dimethylformamide, or the like

Temperature: 0° to 100°C

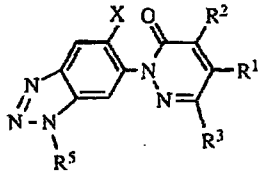
Time: a moment to 48 hours

(Production Process 4)

This is the production process according to the following scheme:



[23] [24]



[25]

wherein X, R^1, R^2, R^3, and R^5 are as defined above.

Process for Producing Compound [24] from Compound [23]

Compound [24] can be produced by reducing compound [23] with iron powder or the like in the presence of an acid in a solvent.

Amount of iron powder: 3 moles to an excess per mole of compound [23]

Acid: acetic acid or the like

Amount of acid: 1 to 10 moles per mole of compound [23]

Solvent: water, ethyl acetate, or the like

Temperature: room temperature to refluxing temperature under heating

Time: a moment to 24 hours

Process for Producing Compound [25] from Compound [24]

Compound [25] can be produced by 1) reacting compound [24] with a nitrite salt in a solvent to form a diazonium salt, and then 2) raising the temperature to cause the cyclization of the diazonium salt in a solvent.

<Reaction 1)>

Nitrite salt: sodium nitrite, potassium nitrite, or the like

Amount of nitrite salt: 1 to 2 moles per mole of compound [24]

Solvent: aqueous hydrochloric acid, aqueous sulfuric acid, or the like

Temperature: −10° to 10°C

Time: a moment to 5 hours

<Reaction 2)>

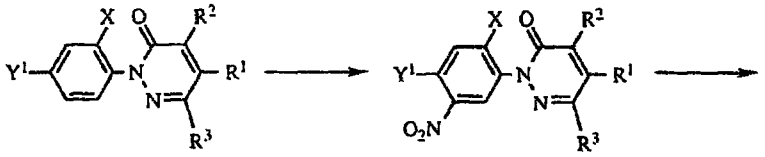
Solvent: aqueous hydrochloric acid, aqueous sulfuric acid, or the like

Temperature: room temperature to 80°C

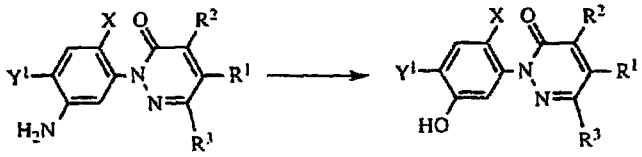
Time: a moment to 24 hours

(Production Process 5)

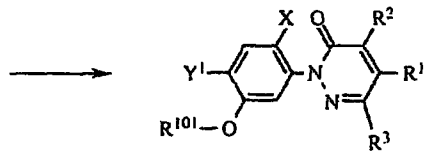
This is the production process according to the following scheme:



[26] [27]



[28] [29]



[30]

wherein Y^1 is a substituent other than nitro, which is included in the definition of Y; R^{101} is a substituent other than hydrogen, which is included in the definition of R^{10}; and X, R^1, R^2, and R^3 are as defined above.

Process for Producing Compound [27] from compound [26]

Compound [27] can be produced by adding nitric acid to compound [26] in a solvent (see Organic Synthesis Collective, Vol. 1, p. 372).

The reaction temperature is usually in the range of 0° to 100°C. The reaction time is usually in the range of a moment to 24 hours. The amounts of the reagents to be used in the reaction, although the proportion of 1 mole of nitric acid to 1 mole of compound [26] is ideal, can be freely changed depending upon the reaction conditions.

Examples of the solvent which can be used include acidic solvents such as sulfuric acid.

Process for Producing Compound [28] from compound [27]

Compound [28] can be produced by reducing compound [27] in a solvent (see Organic Synthesis Collective, Vol. 2, p. 471, and *ibid.*, Vol. 5, p. 829).

For example, the production can be achieved by adding compound [27], which is neat or dissolved in a solvent such as ethyl acetate, to a mixture of acetic acid, iron powder, and water. The reaction temperature is usually in the range of 0° to 100°C. The reaction time is usually in the range of a moment to 24 hours.

After completion of the reaction, the reaction mixture is filtered to collect the crystals, which may be precipitated by the addition of water, if necessary, or the reaction mixture is subjected to ordinary post-treatments such as extraction with an organic solvent and concentration, followed by, if necessary, subsequent purification by a technique such as column chromatography or recrystallization. Thus the desired product can be isolated.

Process for Producing Compound [29] from compound [28]

Compound [29] can be produced by 1) reacting compound [28] with a nitrite salt in a solvent, and then 2) heating it in an acidic solvent.

<Reaction 1)>

Nitrite salt: sodium nitrite, potassium nitrite, or the like

Amount of nitrite salt: 1 to 2 moles per mole of compound [28]

Solvent: aqueous hydrochloric acid, aqueous sulfuric acid, or the like

Temperature: −10° to 10°C

Time: a moment to 5 hours

<Reaction 2)>

Acidic solvent: aqueous hydrochloric acid or aqueous sulfuric acid

Temperature: 70°C to refluxing temperature under heating

Time: a moment to 24 hours.

Process for Producing Compound [30] from Compound [29]

Compound [30] can be produced by reacting compound [29] with a compound of the formula:

$$R^{101}\text{-}D \qquad [31]$$

wherein R^{101} and D are as defined above, in the presence of a base in a solvent.

The reaction is usually effected in a solvent. The reaction temperature is usually in the range of –20° to 150°C, preferably 0° to 100°C. The reaction time is usually in the range of a moment to 72 hours. The amounts of the reagents to be used in the reaction, although the proportion of 1 mole of compound [31] and 1 mole of a base to 1 mole of compound [29] is ideal, can be freely changed depending upon the reaction conditions.

Examples of the base which can be used include organic bases and inorganic bases such as potassium carbonate, sodium hydroxide, and sodium hydride.

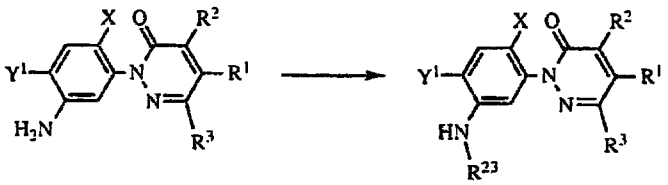
Examples of the solvent which can be used include aliphatic hydrocarbons such as hexane, heptane, ligroin, cyclohexane, and petroleum ether; aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as chloroform, carbon tetrachloride, dichloromethane, dichloroethane, chlorobenzene, and dichlorobenzene; ethers such as diethyl ether, diisopropyl ether, dioxane, tetrahydrofuran, and ethylene glycol dimethyl ether; ketones such as acetone, methyl ethyl ketone, methyl isobutyl ketone, isophorone, and cyclohexanone; esters such as ethyl formate, ethyl acetate, butyl acetate, and diethyl carbonate; nitro compounds such as nitromethane and nitrobenzene; nitriles such as acetonitrile and isobutyronitrile; acid amides such as

formamide, N,N-dimethylformamide, and acetamide; tertiary amines such as pyridine, triethylamine, diisopropylethylamine, N,N-dimethylaniline, N;N-diethylaniline, and N-methylmorpholine; sulfur compounds such as dimethylsulfoxide and sulforane; and mixtures thereof.

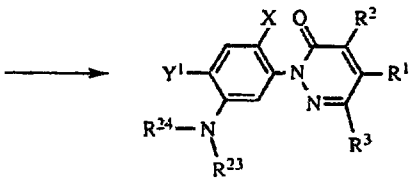
After completion of the reaction, the reaction mixture is filtered to collect the crystals, which may be precipitated by the addition of water, if necessary, or the reaction mixture is subjected to ordinary post-treatments such as extraction with an organic solvent and concentration, followed by, if necessary, subsequent purification by a technique such as column chromatography or recrystallization. Thus the desired product can be isolated.

(Production Process 6)

This is the production process according to the following scheme:



[28] [32]



[33]

wherein R^{23} and R^{24} are independently a substituent other than hydrogen, which is included in the definition of R^{11} and R^{12}; or COR^{13}, SO_2R^{14}, SO_2R^{15}, or $COOR^{10}$, wherein R^{10}, R^{13}, R^{14}, and R^{15} are as defined above; X, Y^1, R^1, R^2, and R^3 are as defined above.

Process for Producing compound [32] from Compound [28]

Compound [32] can be produced by reacting compound [28] with a compound of the formula:

$$R^{20}\text{-}D \qquad [34]$$

wherein R^{20} is a substituent other than hydrogen, which is included in the definition of R^{11} or R^{12}; or COR^{13}, SO_2R^{14}, SO_2R^{15}, or $COOR^{10}$, wherein R^{10}, R^{13}, R^{14}, and R^{15} are as defined above; and D is as defined above; or with a compound of the formula:

$$(R^{21})_2O \qquad [35]$$

wherein R^{21} is COR^{13}, SO_2R^{14}, SO_2R^{15}, or $COOR^{10}$, wherein R^{10}, R^{13}, R^{14}, and R^{15} are as defined above, usually in the presence of a base and usually in a solvent.

The reaction temperature is usually in the range of –20° to 200°C, preferably 0° to 180°C. The reaction time is usually in the range of a moment to 72 hours. The amounts of the reagents to be used in the reaction, although the proportion of 1 mole of compound [34] or [35] to 1 mole of compound [28] is ideal, can be freely changed depending upon the reaction conditions.

Examples of the base which can be used include organic bases such as pyridine and triethylamine, and inorganic bases.

Examples of the solvent which can be used include aliphatic hydrocarbons such as hexane, heptane, ligroin, cyclohexane, and petroleum ether; aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as chloroform, carbon tetrachloride, dichloromethane, dichloroethane, chlorobenzene, and dichlorobenzene; ethers such as diethyl ether, diisopropyl ether, dioxane, tetrahydrofuran, and ethylene glycol dimethyl ether; ketones such as acetone, methyl ethyl ketone, methyl isobutyl ketone, isophorone, and cyclohexanone; esters such as ethyl formate, ethyl acetate, butyl acetate, and diethyl carbonate; nitro compounds such as nitromethane

and nitrobenzene; nitriles such as acetonitrile and isobutyronitrile; acid amides such as formamide, N,N-dimethylformamide, and acetamide; tertiary amines such as pyridine, triethylamine, diisopropylethylamine, N,N-dimethylaniline, N,N-diethylaniline, and N-methylmorpholine; sulfur compounds such as dimethylsulfoxide and sulforane; and mixtures thereof.

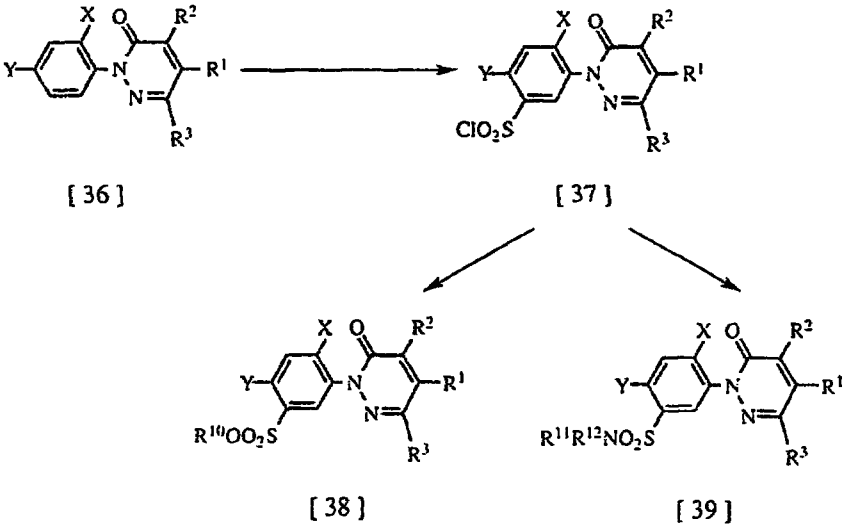
After completion of the reaction, the reaction mixture is filtered to collect the precipitated crystals, or the reaction mixture is subjected to ordinary post-treatments such as extraction with an organic solvent and concentration, followed by, if necessary, subsequent purification by a technique such as column chromatography or recrystallization. Thus the desired product can be isolated.

Process for Producing compound [33] from Compound [32]

Compound [33] can be produced by reacting compound [32] with compound [34] or [35]. This production process is based on the process for producing compound [32] from compound [28].

(Production Process 7)

This is the production process according to the following scheme:



[36] [37] [38] [39]

wherein X, Y, R^1, R^2, R^3, R^{10}, R^{11}, and R^{12} are as defined above.

Process for Producing compound [37] from compound [36]

Compound [37] can be produced by reacting compound [36] with chlorosulfonic acid without any solvent or in a solvent.

Amount of chlorosulfonic acid: 1 mole to an excess per mole of compound [36]

Solvent: sulfuric acid

Temperature: 0° to 70°C

Time: a moment to 24 hours

(see Org. Syn. Coll., Vol. 1, 8 (1941))

Process for Producing Compound [38] from Compound [37]

Compound [38] can be produced by reacting compound [37] with a compound of the formula:

$$R^{10}\text{-OH} \qquad [40]$$

wherein R^{10} is as defined above, in the presence of a base without any solvent or in a solvent.

Amount of compound [24]: 1 mole to an excess per mole of compound [37]

Base: organic bases such as triethylamine or inorganic bases such as potassium carbonate

Amount of base: 1 to 2 moles per mole of compound [37]

Solvent: N,N-dimethylformamide, 1,4-dioxane, or the like

Temperature: 0° to 100°C

Time: a moment to 24 hours

Process for Producing Compound [39] from Compound [37]

Compound [39] can be produced by reacting compound [37] with a compound of the formula:

$R^{11}R^{12}NH$ [41]

wherein R^{11} and R^{12} are as defined above, in the presence or absence of a base without any solvent or in a solvent.

Amount of compound [41]: 1 mole to an excess per mole of compound [37]

Base: organic bases such as triethylamine or inorganic bases such as potassium carbonate

Amount of base: 1 to 2 moles per mole of compound [37]

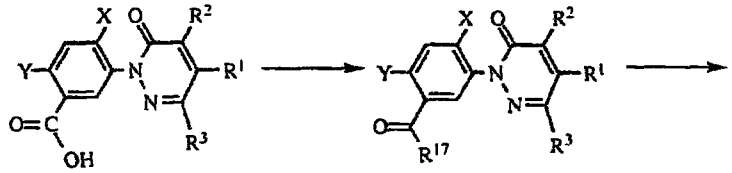
Solvent: 1,4-dioxane, N,N-dimethylformamide, or the like

Temperature: 0° to 100°C

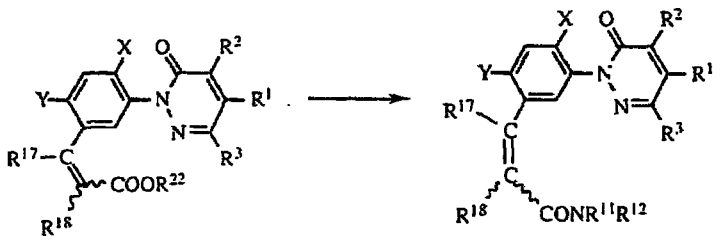
Time: a moment to 24 hours

(Production Process 8)

This is the production process according to the following scheme:



[42] [43]



[44] [45]

wherein X, Y, R^1, R^2, R^3, R^{11}, R^{12}, R^{17}, R^{18}, and R^{22} are as defined above.

Process for Producing Compound [43] from Compound [42]

Compound [43] can be produced from compound [42] according to the method described in JP-A 5-294920/1993, pp. 15-16.

Process for Producing Compound [44] from Compound [43]

Compound [44] can be produced by reacting compound [43] with a compound of the formula:

$$(C_6H_5)_3P=CR^{18}COOR^{22} \qquad [45]$$

or

$$(C_2H_5O)_2P(O)CHR^{18}COOR^{22} \qquad [46]$$

wherein R^{18} and R^{22} are as defined above, in a solvent, and when compound [46] is used, in the presence of a base.

Amount of compound [45] or [46]: 1 to 2 moles per mole of compound [43]

Solvent: tetrahydrofuran, toluene, or the like

Base: sodium hydride or the like

Amount of base: 1 to 2 moles per mole of compound [43]

Temperature: 0° to 50°C

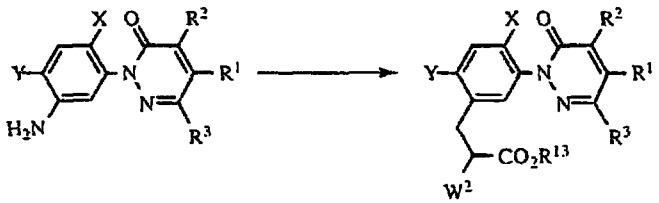
Time: a moment to 24 hours

Process for Producing Compound [45] from Compound [44]

Compound[45] can be produced by reacting compound [44] with compound [41].

(Production Process 9)

This is the production process according to the following scheme:



[48] [49]

wherein W^2 is chlorine or bromine; and X, Y, R^1, R^2, R^3, and R^{13} are as defined above.

The reaction conditions are described, for example, in USP 5,208,212.

The production can be achieved by converting compound [48] into a diazonium salt in a solution of hydrochloric acid, hydrobromic acid, or the like according to the ordinary method, and then reacting it with a compound of the formula:

$$CH_2=CHCO_2R^{13} \qquad [50]$$

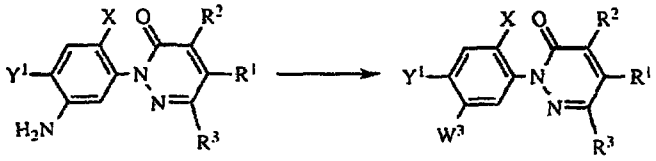
wherein R^{13} is as defined above, in the presence of a copper salt, such as copper (II) chloride or copper (II) bromide, in a solvent such as acetonitrile.

The reaction temperature is usually in the range of –20° to 150°C, preferably 0° to 60°C. The reaction time is usually in the range of a moment to 72 hours.

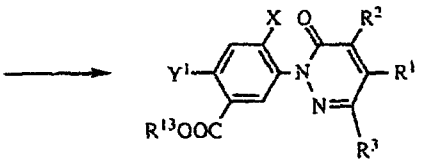
After completion of the reaction, the reaction mixture is filtered to collect the crystals, which may be precipitated by the addition of water, if necessary, or the reaction mixture is subjected to ordinary post-treatments such as extraction with an organic solvent and concentration, followed by, if necessary, subsequent purification by a technique such as column chromatography or recrystallization. Thus the desired product can be isolated.

(Production Process 10)

This is the production process according to the following scheme:



[28] [51]



[52]

wherein W^3 is bromine or iodine: and X, Y^1, R^1, R^2, R^3, and R^{13} are as defined above.

Process for Producing Compound [51] from compound [28]

Compound [51] can be produced by 1) making a diazonium salt from compound [28] in a solvent and then 2) reacting it with potassium iodide or copper (I) bromide in a solvent.

<Reaction 1)>

Diazotizing agent: sodium nitrite, potassium nitrite, or the like.

Amount of diazotizing agent: 1 to 2 moles per mole of compound [28]

Solvent: aqueous hydrogen bromide, aqueous sulfuric acid, or the like.

Temperature: −10° to 10°C

Time: a moment to 5 hours

<Reaction 2)>

Amount of potassium iodide or copper (I) bromide: 1 mole to an excess per mole of compound [28]

Solvent: aqueous hydrogen bromide, aqueous sulfuric acid, or the like

Temperature: 0° to 80°C

Time: a moment to 24 hours

(see Org. Syn. Coll., Vol. 2, 604 (1943), and *ibid.*, Vol. 1, 136 (1941))

Process for Producing Compound [52] from Compound [51]

Compound [52] can be produced by reacting compound [51] with a compound of the formula:

$$R^{13}\text{-OH} \qquad [53]$$

wherein R^{13} is as defined above, in the presence of a transition metal catalyst and a base in a solvent under an atmosphere of carbon monoxide.

Catalyst: $PdCl_2(PPh_3)_2$ or the like

Amount of catalyst: a catalytic amount to 0.5 mole per mole of compound [51]

Amount of compound [53]: 1 mole to an excess per mole of compound [51]

Base: organic bases such as diethylamine

Amount of base: 1 to 2 moles per mole of compound [51]

Solvent: N,N-dimethylformamide or the like

Pressure of carbon monoxide: 1 to 150 atm.

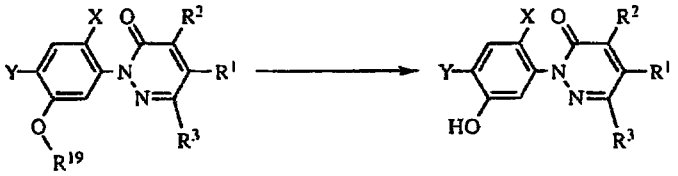
Temperature: 0° to 100°C

Time: a moment to 72 hours

(see Bull. Chem. Soc. Jpn., 48 (7) 2075 (1975))

(Production Process 11)

This is the production process according to the following scheme:



[54] [55]

wherein X, Y, R^1, R^2, R^3, and R^{19} are as defined above.

Compound [55] can be produced by hydrolyzing compound [54] in an acid solvent such as sulfuric acid, or in the presence of an acid such as boron tribromide in a solvent such as methylene chloride.

The reaction temperature is usually in the range of –20° to 150°C, preferably 0° to 100°C. The reaction time is usually in the range of a moment to 72 hours.

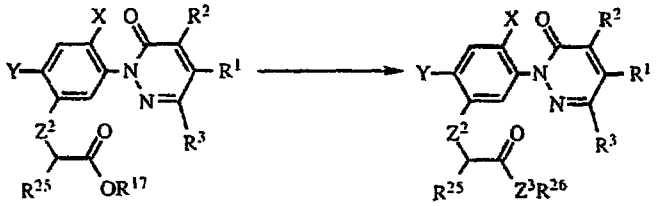
The amount of the acid to be used in the reaction, although the proportion of 1 mole of the acid to 1 mole of compound [54] is ideal, can be freely changed depending upon the reaction conditions.

After completion of the reaction, the reaction mixture is filtered to collect the crystals, which may be precipitated by the addition of water, if necessary, or the reaction mixture is subjected to ordinary post-treatments such as extraction with an organic

solvent and concentration, followed by, if necessary, subsequent purification by a technique such as column chromatography or recrystallization. Thus the desired product can be isolated.

(Production Process 12)

This is the production process according to the following scheme:



[56] [57]

wherein X, Y, R^1, R^2, R^3, Z^2, and R^{17} are as defined above; Z^3 is oxygen or sulfur; R^{25} is hydrogen or C_1-C_5 alkyl; and R^{26} is C_1-C_6 alkyl, C_3-C_6 alkenyl, or C_3-C_6 alkynyl.

Compound [57] can be produced by reacting compound [56] with a compound of the formula:

$$R^{26}Z^3H \qquad [58]$$

wherein R^{26} and Z^3 are as defined above, in the presence or absence of a catalyst and usually in a solvent.

The amount of compound [58] to be used in the reaction, although the proportion of 1 mole of compound [58] to 1 mole of compound [56] is ideal, can be freely changed depending upon the reaction conditions.

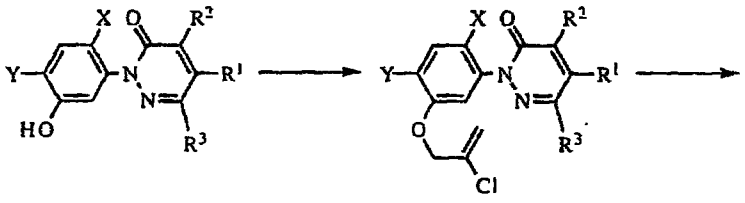
Examples of the catalyst which can be used include p-toluenesulfonic acid. Examples of the solvent which can be used include toluene, xylene or the like, or compound [56].

The reaction temperature is usually in the range of 0° to 200°C, preferably 50° to 150°C. The reaction time is usually in the range of a moment to 72 hours.

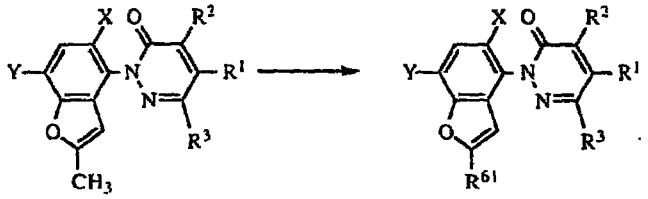
After completion of the reaction, the reaction mixture is filtered to collect the crystals, which may be precipitated by the addition of water, if necessary, or the reaction mixture is subjected to ordinary post-treatments such as extraction with an organic solvent and concentration, followed by, if necessary, subsequent purification by a technique such as column chromatography or recrystallization. Thus the desired product can be isolated.

(Production Process 13)

This is the production process according to the following scheme:



[55] [59]



[60] [61]

wherein R^{61} is a substituent other than methyl, which is included in the definition of R^6; and X, Y, R^1, R^2, and R^3 are as defined above.

Process for Producing Compound [59] from Compound [55]

Compound [59] can be produced by reacting compound [55] with 2,3-dichloropropene in the presence of a base in a solvent.

Amount of 2,3-dichloropropene: 1 to 3 moles per mole compound [55]

Base: inorganic bases such as potassium carbonate

Amount of base: 1 to 2 moles per mole of compound [55]

Solvent: N,N-dimethylformamide or the like

Temperature: 0° to 70°C

Time: a moment to 24 hours

Process for Producing Compound [60] from Compound [59]

Compound [60] can be produced by heating compound [59] in a solvent.

Solvent: N,N-dimethylformamide, N,N-dimethylaniline, N,N-diethylaniline, p-diisopropylbenzene, or the like

Temperature: 70° to 200°C

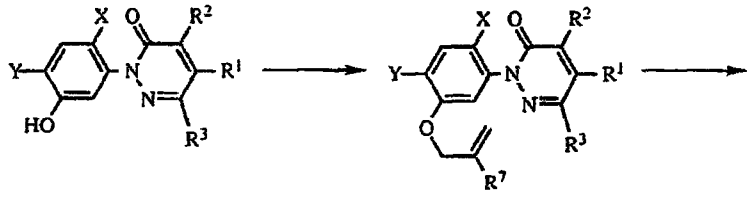
Time: a moment to 24 hours

Process for Producing Compound [61] from Compound [60]

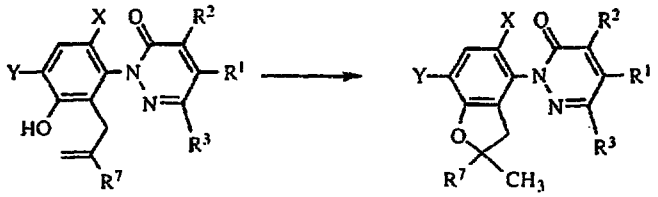
Compound [61] can be produced from compound [62] according to the method in which the methyl group in position 2 on the benzofuran ring is replaced with another substituent, as described in USP 5,308,829, columns 2-11.

(Production Process 14)

This is the production process according to the following scheme:



[55] [62]



[63] [64]

wherein X, Y, R^1, R^2, R^3, and R^7 are as defined above.

Process for Producing Compound [62] from compound [55]

Compound [62] can be produced by reacting compound [55] with a compound of the formula:

$$CH_2=CR^7CH_2W^2 \qquad [65]$$

wherein W^2 and R^7 are as defined above, in the presence of a base in a solvent.

Amount of compound [65]: 1 to 5 moles per mole of compound [55]

Base: inorganic bases such as potassium carbonate

Amount of base: 1 to 2 moles per mole of compound [55]

Solvent: N,N-dimethylformamide, 1,4-dioxane, or the like

Temperature: 0° to 70°C

Time: a moment to 24 hours

Process for Producing Compound [63] from Compound [62]

Compound [64] can be produced by heating compound [62] in a solvent.

Solvent: N,N-dimethylaniline, N,N-diethylaniline, p-diisopropylbenzene, or the like

Temperature: 100° to 200°C

Time: a moment to 24 hours

Process for Producing Compound [64] from Compound [63]

Compound [64] can be produced by heating compound [63] in the presence of an acid in a solvent.

Acid: organic acids such as p-toluenesulfonic acid; and inorganic acids such as sulfuric acid

Amount of acid: a catalytic amount to 1 mole per mole of compound [63]

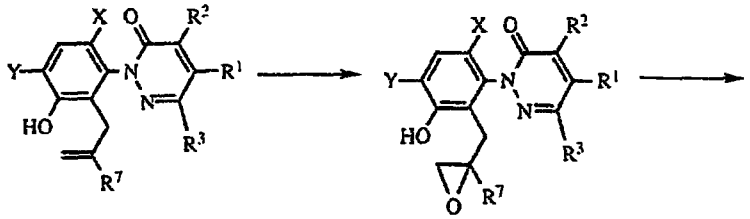
Solvent: toluene, xylene, or the like

Temperature: 100° to 250°C

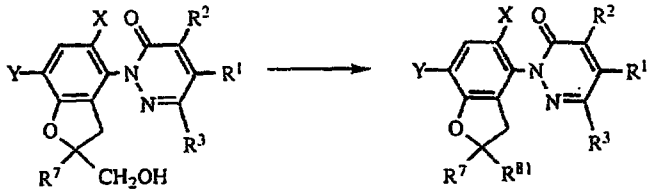
Time: a moment to 24 hours

(Production Process 15)

This is the production process according to the following scheme:



[63] [66]



[67] [68]

wherein R^{81} is a substituent other than methyl and hydroxymethyl, which is included in the definition of R^8; and X, Y, R^1, R^2, R^3, and R^7 are as defined above.

Process for Producing Compound [66] from Compound [63]

Compound [66] can be produced by reacting compound [63] with a peracid in a solvent.

Peracid: m-chloroperbenzoic acid or peracetic acid

Amount of peracid: 1 mole to an excess per mole of compound [63]

Solvent: halogenated hydrocarbons such as dichloromethane; and organic acids such as acetic acid

Temperature: –20°C to room temperature

Time: a moment to 24 hours

Process for Producing Compound [67] from Compound [66]

Compound [67] can be produced by reacting compound [66] in the presence of a base in a solvent.

Base: potassium carbonate or the like

Amount of base: 1 to 2 moles per mole of compound [66]

Solvent: methanol, ethanol, or the like

Temperature: 0° to 50°C

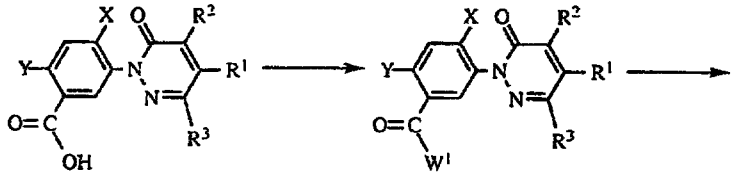
Time: a moment to 5 hours

Process for Producing Compound [68] from Compound [67]

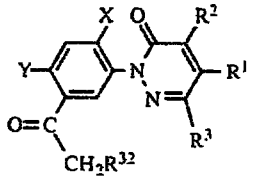
Compound [68] can be produced from compound [67] according to the method in which the hydroxyalkyl group in position 2 on the dihydrobenzofuran ring is replaced with another substituent, as described in USP 5,411,935, columns 5-10.

(Production Process 16)

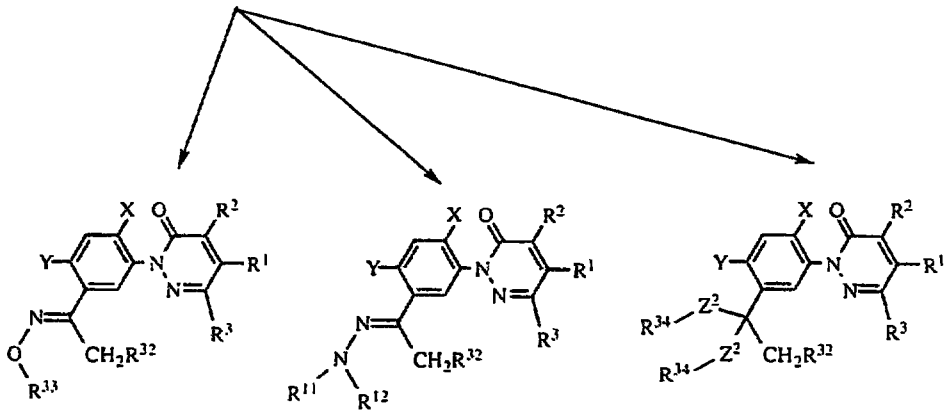
This is the production process according to the following scheme:



[42] [69]



[70]



[71] [72] [73]

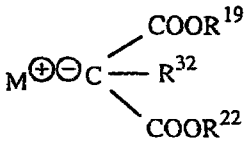
wherein W^1 is halogen, preferably chlorine; R^{32} is hydrogen or C_1-C_5 alkyl; and X, Y, Z^2, R^1, R^2, R^3, R^{11}, R^{12}, R^{33}, and R^{34} are as defined above.

Process for Producing Compound [69] from compound [42]

Compound [69] can be produced by reacting compound [42] with a halogenating agent such as thionyl chloride in a solvent according to the ordinary method.

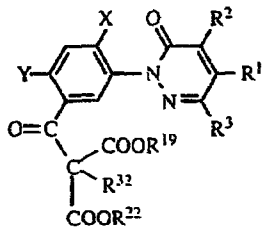
Process for Producing Compound [70] from Compound [69]

Compound [70] can be produced by reacting compound [69] with a compound of the formula:



[74]

wherein $M^{\oplus}$ is an alkali metal cation, preferably lithium cation or sodium cation; and R^{19}, R^{22}, and R^{32} are as defined above, to give a compound of the formula:



[75]

wherein X, Y, R^1, R^2, R^3, R^{19}, R^{22}, and R^{32} are as defined above, and then hydrolyzing and decarboxylating compound [75].

The first reaction is usually effected in a solvent. The reaction temperature is usually in the range of -20° to 50°C, preferably room temperature. The reaction time is usually in the range of a moment to 72 hours.

Examples of the solvent which can be used include aliphatic hydrocarbons such as hexane, heptane, ligroin, cyclohexane, and petroleum ether; ethers such as diethyl ether, diisopropyl ether, dioxane, tetrahydrofuran, and ethylene glycol dimethyl ether; acid amides such as formamide, N,N-dimethylformamide, and acetamide; sulfur compounds such as dimethylsulfoxide and sulforane; and mixtures thereof.

The second reaction is effected in the presence of sulfuric acid, hydrobromic

acid, or the like in a solvent such as a lower carboxylic acid, e.g., acetic acid, or without any solvent. The reaction temperature is usually in the range of 80° to 140°C, preferably 100° to 120°C. The reaction time is usually in the range of a moment to 72 hours.

Process for Producing Compound [71] from Compound [70]

Compound [71] can be produced by reacting compound [70] with a compound of the formula:

$$H_2N\text{-}O\text{-}R^{33} \qquad [76]$$

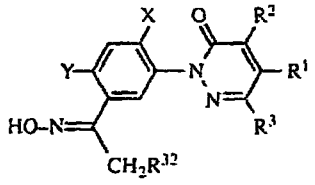
wherein R^{33} is as defined above.

The reaction is effected in a lower alcohol such as methanol, ethanol or isopropanol, or in a mixed solution of such a lower alcohol and water. The reaction temperature is in the range of 0° to 80°C. The reaction time is in the range of a moment to 72 hours.

Compound [76] can be used in the form of a free base or an acid addition salt such as a hydrochloride salt or a sulfate salt.

The above reaction can also be effected with the addition of a basic catalyst such as an organic base, e.g., pyridine; an alkali metal carbonate, e.g., sodium carbonate, potassium carbonate or the like; alkali metal hydrogencarbonate; or alkaline earth metal carbonate.

Compound [71] can also be produced by reacting a compound of the formula:



[77]

wherein X, Y, R^1, R^2, R^3, and R^{32} are as defined above, with a compound of the formula:

R^{33}-D [78]

wherein R^{33} and D are as defined above, in the presence of a base, usually in a solvent.

Examples of the base which can be used include alkali metal alcoholates and alkali metal hydrides such as sodium hydride.

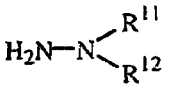
The amounts of the reagents to be used in the reaction, although the proportion of about 1 mole of compound [78] and 1 to 2 moles of the base to 1 mole of compound [77] is ideal, can be free changed depending upon the reaction conditions.

Examples of the solvent which can be used include ethers such as diethyl ether, diisopropyl ether, dioxane, tetrahydrofuran, and ethylene glycol dimethyl ether; acid amides such as formamide, N,N-dimethylformamide, and acetamide; sulfur compounds such as dimethylsulfoxide and sulforane; alcohols such as methanol, ethanol, ethylene glycol, and isopropanol; and mixtures thereof.

The reaction temperature in the above reaction is in the range of −10° to 100°C, preferably 0° to 80°C. The reaction time is in the range of a moment to 72 hours.

Process for Producing Compound [72] from compound [70]

Compound [72] can be produced by reacting compound [70] with a compound of the formula:

 [79]

wherein R^{11} and R^{12} are as defined above.

The reaction is effected in a lower alcohol such as methanol, ethanol or isopropanol, or in a mixed solution of such a lower alcohol and water. The reaction temperature is in the range of 0° to 80°C. The reaction time is in the range of a moment to 72 hours.

Compound [79] can be used in the form of a free base or an acid addition salt such as a hydrochloride salt or a sulfate salt.

The above reaction can also be effected with the addition of a basic catalyst such as an organic base, e.g., pyridine; an alkali metal carbonate, e.g., sodium carbonate, potassium carbonate or the like; alkali metal hydrogencarbonate; or alkaline earth metal carbonate.

Process for Producing Compound [73] from Compound [70]

Compound [73] can be produced by reacting compound [70] with a compound of the formula:

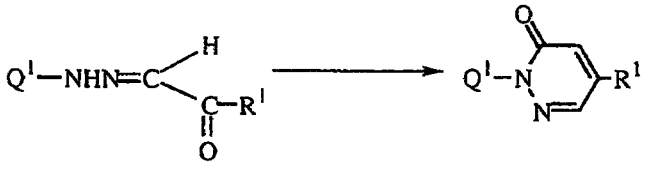
$$R^{34}\text{-}Z^{2}H \qquad [80]$$

wherein Z^2 and R^{34} are as defined above, usually in the presence of a catalytic amount to an excess of an acid such as p-toluenesulfonic acid, hydrochloric acid or sulfuric acid, in an organic solvent such as benzene or chloroform.

The reaction temperature is in the range of –30°C to the boiling temperature of the reaction mixture. The reaction time is in the range of a moment to 72 hours.

(Production Process 17)

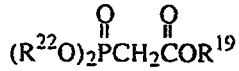
This is the production process according to the following scheme:



[81] [82]

wherein Q^1 and R^1 are as defined above.

Compound [82] can be produced by reacting compound [81] with a compound of the formula:



[83]

wherein R^{19} and R^{22} are as defined above, in a solvent.

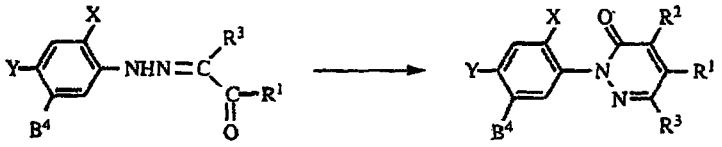
The reaction temperature is usually in the range of 30° to 120°C, preferably 40° to 80°C. The reaction time is usually in the range of 5 to 72 hours. The amounts of the reagents to be used in the reaction, although the proportion of 1 mole of compound [83] to 1 mole of compound [81] is ideal, can be changed depending upon the reaction conditions.

Examples the solvent which can be used include tertiary amines such as triethylamine.

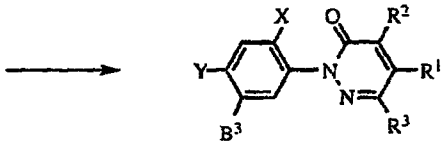
After completion of the reaction, the reaction solvent is distilled out from the reaction mixture and the residue is subjected to chromatography, or the reaction mixture is subjected to ordinary post-treatments such as extraction with an organic solvent and concentration, followed by, if necessary, subsequent purification by a technique such as column chromatography or recrystallization. Thus the desired compound of the present invention can be isolated.

(Production Process 18)

This is the production process according to the following scheme:



[99] [100]



[101]

wherein B^3 is OR^{35}, SR^{35}, $COOR^{35}$, COR^{16}, or $CR^{17}=CR^{18}COR^{16}$ (wherein R^{35} is (C_1-C_6 alkyl)carbonyl C_1-C_6 alkyl (C_1-C_6 haloalkyl)carbonyl C_1-C_6 alkyl, {(C_1-C_4 alkoxy) C_1-C_4 alkyl}carbonyl C_1-C_6 alkyl, or (C_3-C_8 cycloalkyl)carbonyl C_1-C_6 alkyl; and R^{16}, R^{17}, and R^{18} are as defined above); B^4 is a substituent derived from B^3 by protecting its ketone or aldehyde moiety with an alcohol; and X, Y, R^1, R^2, and R^3 are as defined above.

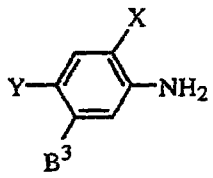
Process for Producing Compound [100] from Compound [99]

Compound [100] can be produced in the same manner as described in Production Process 1, except that compound [99] is used in place of compound [4].

Process for Producing Compound [101] from Compound [100]

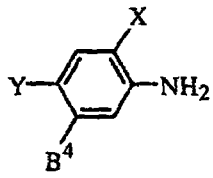
Compound [101] can be produced by deprotecting the ketal or acetal moiety of compound [100] by the ordinary method.

Compound [99] can be produced in the same manner as described below in the production process for compound [4], except that the ketone or aldehyde moiety in the substituent B^3 of a compound of the formula:



[102]

wherein X, Y, and B^3 are as defined above, is protected with an alcohol such as methanol to give a compound of the formula:



[103]

wherein X, Y, and B^4 are as defined above, and compound [103] is used in place of compound [91] as described below.

Compound [5], which is one of the starting compounds in the production of the present compounds by production process 1, can be obtained from commercial sources or can be produced, for example, according to the method described in Jikken Kagaku Kouza (Maruzen K.K.), 4th ed., Vol. 24, pp. 259-260.

Compound [4], which is the other starting compound used in production process 1, can be produced by reacting a compound of the formula:

$$R^1CCV_2R^3 \quad [84]$$

wherein R^1 and R^3 are as defined above; and V is iodine, bromine, or chlorine, with water in the presence of a base to give a compound of the formula:

$$R^1-C-C-R^3 \quad [85]$$

wherein R^1 and R^3 are as defined above (hereinafter referred to as reaction 1), and then reacting compound [85] with a compound of the formula:

$$Q^1\text{-}NHNH_2 \quad [86]$$

wherein Q^1 is as defined above (hereinafter referred to as reaction 2).

Compound [85] can also be reacted as its hydrate or acetal derivative in water or an alcohol.

Reaction 1 is usually effected in a solvent. The reaction temperature is usually in the range of 20° to 100°C. The reaction time is usually in the range of a moment to 24 hours. The amounts of the reagents to be used in the reaction, although the proportion of 2 moles of water and 2 moles of a base to 1 mole of compound [84] is ideal, can be changed, if necessary.

Examples of the base which can be used include organic bases and inorganic bases such as sodium acetate and potassium acetate.

Examples of the solvent which can be used include aliphatic hydrocarbons such as hexane, heptane, ligroin, cyclohexane, and petroleum ether; aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as chlorobenzene and dichlorobenzene; ethers such as diethyl ether, diisopropyl ether, dioxane, tetrahydrofuran, and ethylene glycol dimethyl ether; esters such as ethyl formate, ethyl acetate, butyl acetate, and diethyl carbonate; nitro compounds such as nitromethane and

nitrobenzene; nitriles such as acetonitrile and isobutyronitrile; acid amides such as N,N-dimethylformamide; tertiary amines such as pyridine, triethylamine, diisopropylethylamine, N,N-dimethylaniline, N,N-diethylaniline, and N-methylmorpholine; sulfur compounds such as dimethylsulfoxide and sulforane; alcohols such as methanol, ethanol, ethylene glycol, and isopropanol; water; and mixtures thereof.

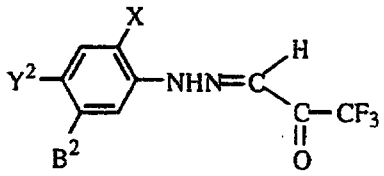
Reaction 2 is usually effected in a solvent. The reaction temperature is usually in the range of –20° to 200°C. The reaction time is usually in the range of a moment to 72 hours. The amounts of the reagents to be used in the reaction, although the proportion of 1 mole of compound [86] to 1 mole of compound [84] used in reaction 1 is ideal, can be freely changed depending upon the reaction conditions. If necessary, the hydrochloride salt or sulfate salt of compound [86] can also be used.

Examples of the solvent which can be used include aliphatic hydrocarbons such as hexane, heptane, ligroin, cyclohexane, and petroleum ether; aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as chloroform, carbon tetrachloride, dichloromethane, dichloroethane, chlorobenzene, and dichlorobenzene; ethers such as diethyl ether, diisopropyl ether, dioxane, tetrahydrofuran, and ethylene glycol dimethyl ether; esters such as ethyl formate, ethyl acetate, butyl acetate, and diethyl carbonate; nitro compounds such as nitromethane and nitrobenzene; nitriles such as acetonitrile and isobutyronitrile; acid amides such as formamide, N,N-dimethylformamide, and acetamide; tertiary amines such as pyridine, triethylamine, diisopropylethylamine, N,N-dimethylaniline, N,N-diethylaniline, and N-methylmorpholine; sulfur compounds such as dimethylsulfoxide and sulforane; fatty acids such as formic acid, acetic acid, and propionic acid; alcohols such as methanol, ethanol, ethylene glycol, and isopropanol; water; and mixtures thereof.

After completion of the reaction, the reaction mixture is filtered to collect the crystals, which may be precipitated by the addition of water, if necessary, or the reaction mixture is subjected to ordinary post-treatments such as extraction with an organic solvent and concentration, followed by, if necessary, subsequent purification by a

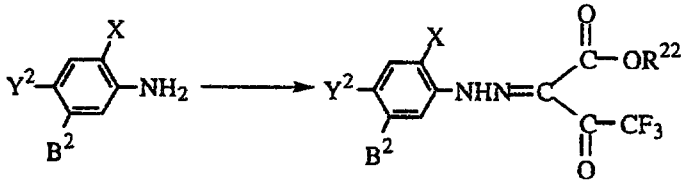
technique such as column chromatography or recrystallization. Thus the desired product can be isolated.

Among the examples of compound [4], a compound of the formula:

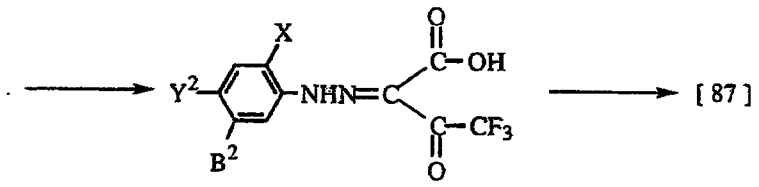


[87]

wherein X is as defined above; Y^2 is halogen; and B^2 is hydrogen, halogen, C_1-C_6 alkoxy, or C_1-C_6 alkylthio, can also be produced according to the following scheme:



[88] [89]



[90]

wherein X, Y^2, B^2, and R^{22} are as defined above.

Process for Producing Compound [89] from Compound [88]

Compound [89] can be produced by reacting compound [88] with a nitrite salt in hydrochloric acid or sulfuric acid to convert it into a diazonium salt, and then reacting the diazonium salt with a compound of the formula:



[104]

wherein R^{22} is as defined above, in the presence of a base such as sodium acetate or pyridine.

(see, e.g., Tetrahedron, Vol. 35, p. 2013.(1979))

Process for Producing Compound [90] from Compound [89]

Compound [90] can be produced by hydrolyzing compound [89] usually in the presence of a base in a solvent.

The reaction temperature is in the range of 0° to 150°C, preferably 20° to 100°C. The reaction time is in the range of 1 to 24 hours, preferably 1 to 10 hours. The amounts of the reagents to be used in the reaction, although the proportion of 1 mole of a base to 1 mole of compound [89] is ideal, can be changed, if necessary.

Examples of the base which can be used include inorganic bases such as potassium hydroxide, lithium hydroxide, barium hydroxide, and sodium hydroxide.

Examples of the solvent which can be used include aliphatic hydrocarbons such as hexane, heptane, ligroin, cyclohexane, and petroleum ether; aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as chlorobenzene and dichlorobenzene; ethers such as diethyl ether, diisopropyl ether, dioxane, tetrahydrofuran, and ethylene glycol dimethyl ether; ketones such as acetone, methyl ethyl ketone, methyl isobutyl ketone, isophorone, and cyclohexanone; nitro compounds such as nitromethane and nitrobenzene; acid amides such as N,N-dimethylformamide; tertiary amines such as pyridine, triethylamine, diisopropylethylamine, N,N-dimethylaniline, N,N-diethylaniline, and N-methylmorpholine; sulfur compounds such as dimethylsulfoxide and sulforane; alcohols such as methanol, ethanol, ethylene glycol, and isopropanol; water; and mixtures thereof.

Process for Producing Compound [87] from Compound [90]

Compound [87] can be produced by heating compound [90] in a solvent.

The reaction temperature is in the range of 50° to 200°C, preferably 50° to 150°C. The reaction time is in the range of a moment to 72 hours.

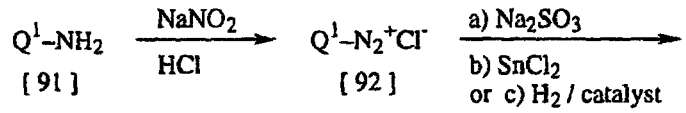
Examples of the solvent which can be used include aliphatic hydrocarbons such as hexane, heptane, ligroin, cyclohexane, and petroleum ether; aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as chloroform, carbon tetrachloride, dichloromethane, dichloroethane, chlorobenzene, and

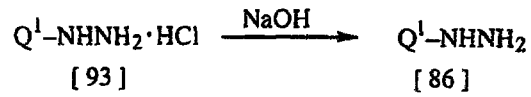
dichlorobenzene; ethers such as diethyl ether, diisopropyl ether, dioxane, tetrahydrofuran, and ethylene glycol dimethyl ether; ketones such as acetone, methyl ethyl ketone, methyl isobutyl ketone, isophorone, and cyclohexanone; esters such as ethyl formate, ethyl acetate, butyl acetate, and diethyl carbonate; nitro compounds such as nitromethane and nitrobenzene; nitriles such as acetonitrile and isobutyronitrile; acid amides such as formamide, N,N-dimethylformamide, and acetamide; tertiary amines such as pyridine, triethylamine, diisopropylethylamine, N,N-dimethylaniline, N,N-diethylaniline, and N-methylmorpholine; sulfur compounds such as dimethylsulfoxide and sulforane; fatty acids such as formic acid, acetic acid, and propionic acid; alcohols such as methanol, ethanol, ethylene glycol, and isopropanol; water; and mixtures thereof.

The above reaction can also be effected with the use of a metal, e.g., copper, as a catalyst.

After completion of the reaction, the reaction mixture is filtered to collect the precipitated crystals, or the reaction mixture is subjected to ordinary post-treatments such as extraction with an organic solvent and concentration, followed by, if necessary, subsequent purification by a technique such as column chromatography or recrystallization. Thus the desired compound can be isolated.

Compound [86] can also be produced by the following scheme:





wherein Q^1 is as defined above.

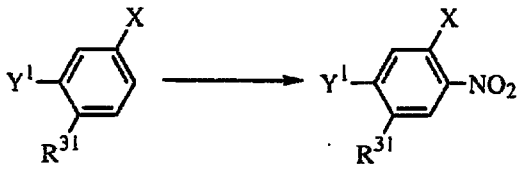
(see Organic Synthesis Collective, Vol. 1, p. 442)

Compound [91] is known in, or can be produced according to the method as described in, EP-61741-A; USP 4,670,046, USP 4,770,695, USP 4,709,049, USP

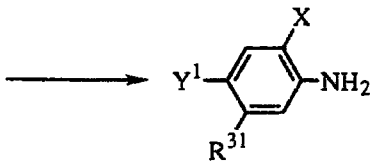
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4,640,707, USP 4,720,927, USP 5,169,431; and JP-A 63-156787/1988.

Some examples of compound [91] can also be produced according to the following scheme:



[94] [95]



[96]

wherein R^{31} is COR^{16} or $COOR^{10}$.

Process for Producing Compound [95] from Compound [94]

Compound [95] can be produced by reacting compound [94] with nitric acid in a solvent.

The reaction temperature is usually in the range of 0° to 100°C. The reaction time is usually in the range of a moment to 24 hours. The amounts of the reagents to be used in the reaction, although the proportion of 1 mole of nitric acid to 1 mole of compound [94] is ideal, can be freely changed depending upon the reaction conditions.

Examples of the solvent which can be used include acidic solvents such as mixtures of nitric acid and sulfuric acid.

(see Organic Synthesis Collective, Vol. 1, p. 372)

Process for Producing Compound [96] from Compound [95]

Compound [96] can be produced by reducing compound [95] in a mixture of acetic acid, iron powder, and water.

The reaction temperature is usually in the range of 0° to 100°C. The reaction time is usually in the range of a moment to 24 hours.

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After completion of the reaction, the reaction mixture is subjected to ordinary post-treatments such as extraction with an organic solvent and concentration, followed by, if necessary, subsequent purification by a technique such as column chromatography or recrystallization. Thus the desired compound can be isolated.

(see Organic Synthesis Collective, Vol. 2, p. 471, and *ibid.*, Vol. 5, p. 829)

The present compounds have excellent herbicidal activity, and some of them exhibit excellent selectivity between crop plants and unfavorable weeds. In particular, the present compounds have herbicidal activity against various unfavorable weeds as recited below, which may cause trouble in the foliar treatment and soil treatment on upland fields.

Polygonaceae:

wild buckwheat (*Polygonum convolvulus*), pale smartweed (*Polygonum lapathifolium*), Pennsylvania smartweed (*Polygonum pensylvanicum*), ladysthumb (*Polygonum persicaria*), curly dock (*Rumex crispus*), broadleaf dock (*Rumex obtusifolius*), Japanese knotweed (*Polygonum cuspidatum*)

Portulacaceae:

common purslane (*Portulaca oleracea*)

Caryophyllaceae:

common chickweed (*Stellaria media*)

Chenopodiaceae:

common lambsquarters (*Chenopodium album*), kochia (*Kochia scoparia*)

Amaranthaceae:

redroot pigweed (*Amaranthus retroflexus*), smooth pigweed (*Amaranthus hybridus*)

Crusiferae:

wild radish (*Raphanus raphanistrum*), wild mustard (*Sinapis arvensis*), shepherdspurse (*Capsella bursa-pastoris*)

Leguminosae:

hemp sesbania (*Sesbania exaltata*), sicklepod (*Cassia obtusifolia*), Florida beggarweed (*Desmodium tortuosum*), white clover (*Trifolium repens*)

Malvaceae:

velvetleaf (*Abutilon theophrasti*), prickly sida (*Sida spinosa*)

Violaceae:

field pansy (*Viola arvensis*), wild pansy (*Viola tricolor*)

Rubiaceae:

catchweed bedstraw (cleavers) (*Galium aparine*)

Convolvulaceae:

ivyleaf morningglory (*Ipomoea hederacea*), tall morningglory (*Ipomoea purpurea*), entireleaf morningglory (*Ipomoea hederacea* var. *integriuscula*), pitted morningglory (*Ipomoea lacunosa*), field bindweed (*Convolvulus arvensis*)

Labiatae:

red deadnettle (*Lamium purpureum*), henbit (*Lamium amplexicaule*)

Solanaceae:

jimsonweed (*Datura stramonium*), black nightshade (*Solanum nigrum*)

Scrophulariaceae:

birdseye speedwell (*Veronica persica*), ivyleaf speedwell (*Veronica hederaefolia*)

Compositae:

common cocklebur (*Xanthium pensylvanicum*), common sunflower (*Helianthus annuus*), scentless chamomile (*Matricaria perforata* or *inodora*), corn marigold (*Chrysanthemum segetum*), pineappleweed (*Matricaria matricarioides*), common ragweed (*Ambrosia artemisiifolia*), giant ragweed (*Ambrosia trifida*), horseweed (*Erigeron canadensis*), Japanese mugwort (*Artemisia princeps*), tall goldenrod (*Solidago altissima*)

Boraginaceae:

field forget-me-not (*Myosotis arvensis*)

Asclepiadaceae:

common milkweed (*Asclepias syriaca*)

Euphorbiaceae:

sun spurge (*Euphorbia helioscopia*), spotted spurge (*Euphorbia maculata*)

Gramineae:

barnyardgrass (*Echinochloa crus-galli*), green foxtail (*Setaria viridis*), giant foxtail (*Setaria faberi*), large crabgrass (*Digitaria sanguinalis*), goosegrass (*Eleusine indica*), annual bluegrass (*Poa annua*), blackgrass (*Alopecurus myosuroides*), wild oat (*Avena fatua*), johnsongrass (*Sorghum halepense*), quackgrass (*Agropyron repens*), downy brome (*Bromus tectorum*), bermudagrass (*Cynodon dactylon*), fall panicum (*Panicum dichotomiflorum*), Texas panicum (*Panicum texanum*), shattercane (*Sorghum vulgare*)

Commelinaceae:

common dayflower (*Commelina communis*)

Equisetaceae:

field horsetail (*Equisetum arvense*)

Cyperaceae:

rice flatsedge (*Cyperus iria*), purple nutsedge (*Cyperus rotundus*), yellow nutsedge (*Cyperus esculentus*)

Furthermore, some of the present compounds have no problematic phytotoxicity on main crops such as corn (*Zea mays*), wheat (*Triticum aestivum*), barley (*Hordeum vulgare*), rice (*Oryza sativa*), sorghum (*Sorghum bicolor*), soybean (*Glycine max*), cotton (*Gossypium* spp.), sugar beet (*Beta vulgaris*), peanut (*Arachis hypogaea*), sunflower (*Helianthus annuus*) and canola (*Brassica napus*); garden crops such as flowers and ornamental plants; and vegetable crops.

The present compounds can attain effective control of unfavorable weeds in the no-tillage cultivation of soybean (*Glycine max*), corn (*Zea mays*), and wheat (*Triticum aestivum*). Furthermore, some of them exhibit no problematic phytotoxicity on crop plants.

The present compounds have herbicidal activity against various unfavorable weeds as recited below under the flooding treatment on paddy fields.

Gramineae:

barnyardgrass (*Echinochloa oryzicola*)

Scrophulariaceae:

common falsepimpernel (*Lindernia procumbens*)

Lythraceae:

Rotala indica, Ammannia multiflora

Elatinaceae:

Elatine triandra

Cyperaceae:

smallflower umbrellaplant (*Cyperus difformis*), hardstem bulrush (*Scirpus juncoides*), needle spikerush (*Eleocharis acicularis*), *Cyperus serotinus, Eleocharis kuroguwai*

Pontederiaceae:

Monochoria vaginalis

Alismataceae:

Sagittaria pygmaea, Sagittaria trifolia, Alisma canaliculatum

Potamogetonaceae:

roundleaf pondweed (*Potamogeton distinctus*)

Umbelliferae:

Oenanthe javanica

Furthermore, some of the present compounds have no problematic phytotoxicity on transplanted paddy rice.

The present compounds can attain effective control of various unfavorable weeds in orchards, grasslands, lawns, forests, waterways, canals, or other non-cultivated lands.

The present compounds also have herbicidal activity against various aquatic

plants such as water hyacinth (*Eichhornia crassipes*), which will grow in waterways, canals, or the like.

The present compounds have substantially the same characteristics as those of the herbicidal compounds described in the publication of International Patent Application, WO95/34659. In the case where crop plants with tolerance imparted by introducing a herbicide tolerance gene described in the publication are cultivated, the present compounds can be used at greater doses than those used when ordinary crop plants without tolerance are cultivated, and it is, therefore, possible to attain effective control of other unfavorable plants.

When the present compounds are used as active ingredients of herbicides, they are usually mixed with solid or liquid carriers or diluents, surfactants, and other auxiliary agents to give formulations such as emulsifiable concentrates, wettable powders, flowables, granules, concentrated emulsions, and water-dispersible granules.

These formulations may contain any of the present compounds as an active ingredient at an amount of 0.001% to 80% by weight, preferably 0.005% to 70% by weight, based on the total weight of the formulation.

Examples of the solid carrier or diluent may include fine powders or granules of the following materials: mineral matters such as kaolin clay, attapulgite clay, bentonite, terra alba, pyrophyllite, talc, diatomaceous earth, and calcite; organic substances such as walnut shell powder; water-soluble organic substances such as urea; inorganic salts such as ammonium sulfate; and synthetic hydrated silicon oxide. Examples of the liquid carrier or diluent may include aromatic hydrocarbons such as methylnaphthalene, phenylxylylethane, and alkylbenzenes (e.g., xylene); alcohols such as isopropanol, ethylene glycol, and 2-ethoxyethanol; esters such as phthalic acid dialkyl esters; ketones such as acetone, cyclohexanone, and isophorone; mineral oils such as machine oil; vegetable oils such as soybean oil and cotton seed oil; dimethylsulfoxide, N,N-dimethylformamide, acetonitrile, N-methylpyrrolidone, water, and the like.

Examples of the surfactant used for emulsification, dispersing, or spreading

may include surfactants of the anionic type, such as alkylsulfates, alkylsulfonates, alkylarylsulfonates, dialkylsulfosuccinates, and phosphates of polyoxyethylene alkyl aryl ethers; and surfactants of the nonionic type, such as polyoxyethylene alkyl ethers, polyoxyethylene alkyl aryl ethers, polyoxyethylene polyoxypropylene block copolymers, sorbitan fatty acid esters, and polyoxyethylene sorbitan fatty acid esters.

Examples of the auxiliary agent used for formulation may include lignin-sulfonates, alginates, polyvinyl alcohol, gum arabic, carboxymethyl cellulose (CMC), and isopropyl acid phosphate (PAP).

The present compounds are usually formulated as described above and then used for the pre- or post-emergence soil, foliar, or flooding treatment of unfavorable weeds. The soil treatment may include soil surface treatment and soil incorporation. The foliar treatment may include application over the plants and directed application in which a chemical is applied only to the unfavorable weeds so as to keep off the crop plants.

The present compounds can be used, if necessary, in combination with other compounds having herbicidal activity. Examples of the compounds which can be used in combination with the present compounds may include various compounds described in Catalog 1995 Edition of Farm Chemicals Handbook (Meister Publishing Company); AG CHEM NEW COMPOUND REVIEW, VOL. 13, 1995 (AG CHEM INFORMATION SERVICE); or JOSOUZAI KENKYU SOURAN (Hakuyu-sha). Typical examples of such compounds are as follows: atrazin, cyanazine, dimethametryn, metribuzin, prometryn, simazine, simetryn, chlorotoluron, diuron, dymuron, fluometuron, isoproturon, linuron, methabenzthiazuron, bromoxynil, ioxynil, ethalfluralin, pendimethalin, trifluralin, acifluorfen, acifluorfen-sodium, bifenox, chlomethoxynil, fomesafen, lactofen, oxadiazon, oxyfluorfen, carfentrazone, flumiclorac-pentyl, flumioxazine, fluthiacet-methyl, sulfentrazone, thidiazimin, difenzoquat, diquat, paraquat, 2,4-D, 2,4-DB, DCPA, MCPA, MCPB, clomeprop, clopyralid, dicamba, dithiopyr, fluroxypyr, mecoprop, naploanilide, phenothiol, quinclorac, triclopyr, acetochlor, alachlor, butachlor, diethatyl-ethyl, metolachlor, pretilachlor, propachlor, bensulfuron-methyl, chlorsulfuron, chlori-

muron-ethyl, halosulfuron-methyl, metsulfuron-methyl, nicosulfuron, primisulfuron, pyrazosulfuron-ethyl, sulfometuron-methyl, thifensulfuron-methyl, triasulfuron, tribenuron-methyl, azimsulfuron, cloransulam-methyl, cyclosulfamuron, flumeturam, flupyrsulfuron, flazasulfuron, imazosulfuron, metosulam, prosulfuron, rimsulfuron, triflusulfuron-methyl, imazamethabenz-methyl, imazapyr, imazaquin, imazethapyr, imazameth, imazamox, bispyribac-sodium, pyriminobac-methyl, pyrithiobac-sodium, alloxydim-sodium, clethodim, sethoxydim, tralkoxydim, diclofop-methyl, fenoxaprop-ethyl, fenoxaprop-p-ethyl, fluazifop-butyl, fluazifop-p-butyl, haloxyfop-methyl, quizalofop-p-ethyl, cyhalofop-butyl, clodinafop-propargyl, benzofenap, clomazone, diflufenican, norflurazon, pyrazolate, pyrazoxyfen, isoxaflutole, sulcotrione, glufosinate-ammonium, glyphosate, bentazon, benthiocarb, bromobutide, butamifos, butylate, dimepiperate, dimethenamid, DSMA, EPTC, esprocarb, isoxaben, mefenacet, molinate, MSMA, piperophos, pributycarb, propanil, pyridate, triallate, cafenstrol, flupoxam, and thiafluamide.

The following will describe typical examples of such a combination, where the present compounds are designated by their compound numbers shown in Tables 1 to 5.

1. A mixture of one compound selected from the group consisting of compounds 1-495, 1-496, 1-499, 1-503 and 1-577, and one compound selected from the group consisting of atrazin, cyanazine, bromoxynil and bentazon at a weight ratio of 1 : 1 to 100.

2. A mixture of one compound selected from the group consisting of compounds 1-495, 1-496, 1-499, 1-503 and 1-577, and one compound selected from the group consisting of clethodim, sethoxydim, dichlofop-methyl, quizalofop-p-ethyl, lactofen, acifluorfen, acifluorfen-sodium, fomesafen, flumiclorac-pentyl and dicamba at a weight ratio of 1 : 0.5 to 50.

3. A mixture of one compound selected from the group consisting of compounds 1-495, 1-496, 1-499, 1-503 and 1-577, and one compound selected from the group consisting of nicosulfuron, primisulfuron, prosulfuron, chlorimuran-ethyl, thifen-

sulfuron, rimsulfuron, halosulfuron, oxasulfuron, isoxaflutole, imazethapyr and imazamox at a weight ratio of 1 : 0.1 to 10.

4. A mixture of one compound selected from the group consisting of compounds 1-439, 1-482, 1-486, 1-496, 1-1076, 1-1123 and 1-1441, and one compound selected from the group consisting of isoproturon and chlorotoluron at a weight ratio of 1 : 1 to 100.

5. A mixture of one compound selected from the group consisting of compounds 1-439, 1-482, 1-486, 1-496, 1-1076, 1-1123 and 1-1441, and one compound selected from the group consisting of mecoprop, fluroxypyr and ioxynil at a weight ratio of 1 : 0.5 to 50.

6. A mixture of one compound selected from the group consisting of compounds 1-439, 1-482, 1-486, 1-496, 1-1076, 1-1123 and 1-1441, and one compound selected from the group consisting of diflufenican, metsulfuron-methyl, fenoxaprop-ethyl and clodinafop-propargyl at a weight ratio of 1 : 0.1 to 10.

7. A mixture of one compound selected from the group consisting of compounds 1-1141, 1-1222 and 2-203, and one compound selected from the group consisting of glyphosate, glufosinate-ammonium and paraquat at a weight ratio of 1 : 1 to 100.

Moreover, the present compounds may also be used in admixture with insecticides, acaricides, nematocides, fungicides, plant growth regulators, fertilizers, soil improver, and the like.

When the present compounds are used as active ingredients of herbicides, the application amount is usually in the range of 0.01 to 10,000 g, preferably 1 to 8000 g, per hectare, although it may vary depending upon the weather conditions, formulation type, application timing, application method, soil conditions, crop plants, unfavorable weeds, and the like. In the case of emulsifiable concentrates, wettable powders, flowables, concentrated emulsions, water-dispersible granules, or the like, the formulation is usually applied at a prescribed amount after diluted with water having a volume of about

10 to 1000 liters per hectare, if necessary, with the addition of an adjuvant such as a spreading agent. In the case of granules or some types of flowables, the formulation is usually applied as such without any dilution.

Examples of the adjuvant used, if necessary, may include, in addition to the surfactants recited above, polyoxyethylene resin acids (esters), ligninsulfonates, abietates, dinaphthylmethanedisulfonates, crop oil concentrates, and vegetable oils such as soybean oil, corn oil, cotton seed oil, and sunflower oil.

The present compounds can also be used as active ingredients of harvesting aids such as defoliants and desiccating agents for cotton, and desiccating agents for potato. In these cases, the present compounds are usually formulated in the same manner as the case where they are used as active ingredients of herbicides, and used alone or in combination with other harvesting aids for foliar treatment before the harvesting of crops.

The present invention will be further illustrated by the following production examples, reference examples, formulation examples, and test examples; however, the present invention is not limited to these examples.

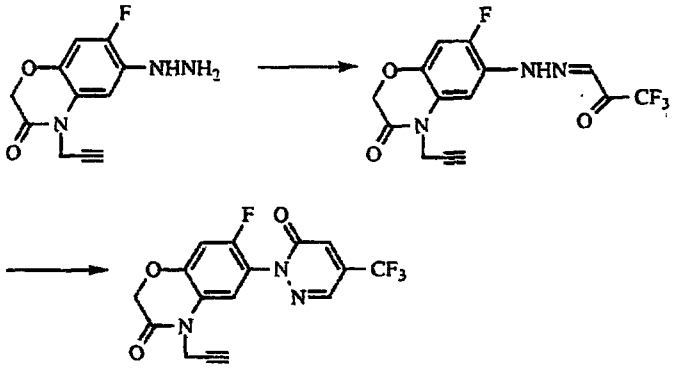
The following will describe production examples for the present compounds and the hydrazones of formula [2] as the intermediate compounds, where the present compounds are designated by their compound numbers shown in Tables 1 to 5.

Production Example 1 (Production of Compound 2-631)

To a mixed solution of 8.0 g (97.2 mmol) of sodium acetate and 50 ml of water was added under ice cooling 6.6 g (24.3 mmol) of 1,1-dibromo-3,3,3-trifluoroacetone, and the reaction was allowed to proceed at 80°C for 30 minutes. Then, the reaction mixture was cooled to 0°C, to which 4.4 g (18.7 mmol) of 7-fluoro-6-hydrazino-4-propargyl-2H-1,4-benzoxazin-3-one was added, and the reaction mixture was stirred at room temperature for 2 hours. The precipitated crystals were collected by filtration, washed twice with 10 ml of water, and dried, which afforded 6.3 g (18.37 mmol) of 7-fluoro-6-trifluoroacetylmethylidenhydrazino-4-propargyl-2H-1,4-benzoxazin-3-one [another name: 3,3,3-trifluoro-2-oxopropanal 1-(7-fluoro-3-oxo-4-propargyl-2H-1,4-

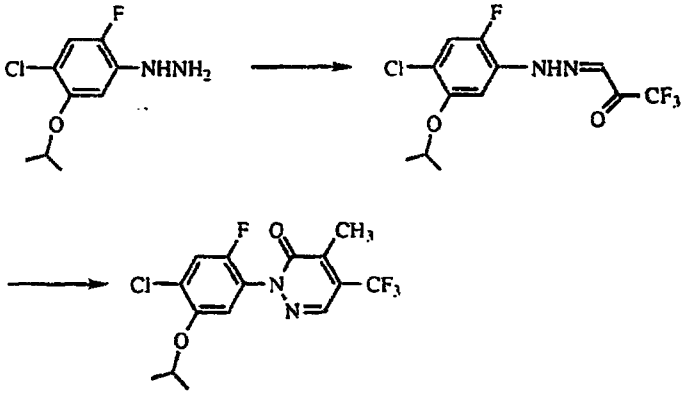
benzoxazin-6-ylhydrazone)], m.p. 190.6°C (decomp.).

To a mixed solution of 6.0 g (17.5 mmol) of the above compound and 50 ml of toluene was added 9.1 g (26.2 mmol) of carbethoxymethylenetriphenylphosphorane, and the mixture was heated under reflux for 1 hour. The toluene was distilled out under reduced pressure, and the residue was subjected to silica gel column chromatography, which afforded 1.3 g (3.5 mmol) of 7-fluoro-6-[5-trifluoromethyl-3-pyridazinon-2-yl]-4-propargyl-2H-1,4-benzoxazin-3-one (compound 2-631).



Production Example 2 (Production of Compound 1-476)

To a mixed solution of 5.3 g (53.5 mmol) of sodium acetate and about 100 ml of water was added under ice cooling 6.6 g (24.3 mmol) of 1,1-dibromo-3,3,3-trifluoroacetone, and the reaction was allowed to proceed at 70°C for 20 minutes. Then, the reaction mixture was cooled to room temperature, to which a solution of 5.8 g (21.5 mmol) of 2-fluoro-4-chloro-5-isopropoxyphenylhydrazine dissolved in about 20 ml of diethyl ether was added, and the reaction mixture was stirred at room temperature for 1 hour. The ether layer was separated and concentrated. Then, about 60 ml of THF was added to the residue, to which 8.3 g (23.0 mmol) of carbethoxyethylidenetriphenylphosphorane was added, and the mixture was heated under reflux for 2 hours. The toluene was distilled out under reduced pressure, and the residue was subjected to silica gel column chromatography, which afforded 3.8 g (10.5 mmol) of 2-[2-fluoro-4-chloro-5-isopropoxyphenyl]-4-methyl-5-trifluoromethylpyridazin-3-one (compound 1-476).



Production Example 3 (Production of Compound 1-391)

First, 3.5 g (9.7 mmol) of 2-[2-fluoro-4-chloro-5-isopropoxyphenyl]-4-methyl-5-trifluoromethylpyridazin-3-one (compound 1-476) was dissolved in about 10 ml of concentrated sulfuric acid under ice cooling, and the solution was warmed to room temperature. After 10 minutes, about 100 ml of water was added to the reaction mixture, and the precipitated crystals were collected by filtration, and washed twice with 20 ml of water and once with 10 ml of hexane. These crystals were recrystallized from isopropanol, which afforded 3.2 g (9.0 mmol) of 2-[2-fluoro-4-chloro-5-hydroxyphenyl]-4-methyl-5-trifluoromethylpyridazin-3-one (compound 1-391).



Production Example 4 (Production of Compound 1-486)

First, 3.2 g (10 mmol) of compound 1-391 was dissolved in about 50 ml of DMF, to which 2.0 g (13 mmol) of potassium carbonate was added at room temperature and 1.3 g (11 mmol) of propargyl bromide was then added, and the mixture was stirred at room temperature for 30 minutes, followed by the addition of 100 ml of water. The precipitated crystals were collected by filtration, washed with hexane, and recrystallized from isopropanol, which afforded 3.4 g (9 mmol) of compound 1-486.



Production Example 5 (Production of Compound 1-496)

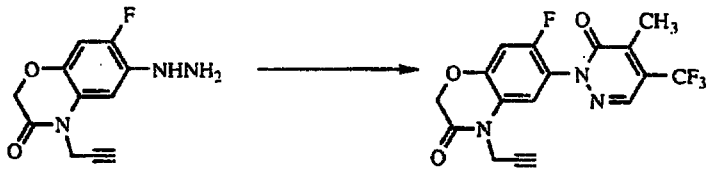
First, 3.2 g (10 mmol) of compound 1-391 was dissolved in about 50 ml of DMF, to which 0.44 g (11 mmol) of sodium hydride (60 wt.%, oil dispersion) was added, and the mixture was allowed to stand at room temperature for 30 minutes, followed by the addition of 1.8 g (11 mmol) of ethyl bromoacetate under ice cooling. After stirring at room temperature for 1 hour, the reaction mixture was extracted with diethyl ether. The organic layer was washed with 10% aqueous HCl, aqueous sodium bicarbonate solution and then with saturated sodium chloride solution, and dried with anhydrous magnesium sulfate. The solvent was distilled out under reduced pressure, and the residue was subjected to silica gel column chromatography, which afforded 2.4 g (5.5 mmol) of compound 1-496.



Production Example 6 (Production of Compound 2-251)

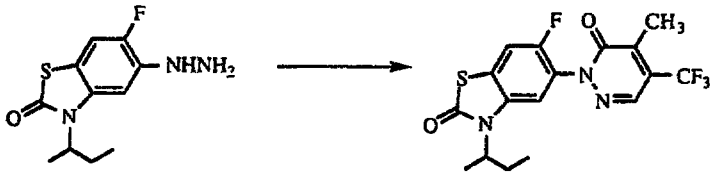
To a mixed solution of 5.3 g (53.5 mmol) of sodium acetate and about 50 ml of water was added under ice cooling 6.6 g (24.3 mmol) of 1,1-dibromo-3,3,3-trifluoro-acetone, and the reaction was allowed to proceed at 80°C for 1 hour. Then, the reaction mixture was cooled to 0°C, to which 4.4 g (18.7 mmol) of 7-fluoro-6-hydrazino-4-propargyl-2H-1,4-benzoxazin-3-one was added, and the reaction mixture was stirred at room temperature for 2 hours. The precipitated crystals were collected by filtration, washed twice with 10 ml of water and once with 10 ml of hexane, and then dissolved in 50 ml of toluene without drying. To this solution was added 8.8 g (24.3 mmol) of

carbethoxyethylidenetriphenylphosphorane, and the mixture was heated under reflux for 1 hour, while conducting azeotropic dehydration. The toluene was distilled out under reduced pressure, and the residue was subjected to silica gel column chromatography, which afforded 3.5 g (9.01 mmol) of compound 2-251.



Production Example 7 (Production of Compound 2-328)

To a mixed solution of 5.3 g (53.5 mmol) of sodium acetate and about 50 ml of water was added under ice cooling 6.6 g (24.3 mmol) of 1,1-dibromo-3,3,3-trifluoro-acetone, and the reaction was allowed to proceed at 80°C for 1 hour. Then, the reaction mixture was cooled to 0°C, to which 4.8 g (18.7 mmol) of 6-fluoro-5-hydrazino-3-(sec-butyl)-1,3-benzothiazol-2-one was added, and the reaction mixture was stirred at room temperature for 2 hours. Then, 100 ml of ether was added to the reaction mixture, followed by stirring and phase separation, and the organic layer was concentrated. The residue was dissolved in 50 ml of THF, to which 8.8 g (24.3 mmol) of carbethoxyethyli-denetriphenylphosphorane was added, and the mixture was heated under reflux for 1 hour. The THF was distilled out under reduced pressure, and the residue was subjected to silica gel column chromatography, which afforded 3.7 g (9.6 mmol) of compound 2-328.



Production Example 8 (Production of Compound 1-347)

First, 50 ml of concentrated sulfuric acid was ice cooled, in which 7.0 g (22.8 mmol) of compound 1-341 was dissolved. Then, 1.51 g (24 mmol) of fuming

nitric acid was added dropwise at 5°C or lower, followed by maturation at 0° to 5°C for 1 hour. The mixture was poured into 300 ml of ice-water and extracted three times with 50 ml of ether. The combined ether layer was washed with about 100 ml of water and neutralized with 100 ml of aqueous sodium bicarbonate solution, followed by phase separation. The organic layer was dried with magnesium sulfate and concentrated to half volume, and the residue was subjected to silica gel column chromatography, which afforded 6.1 g (17.4 mmol) of compound 1-347.



Production Example 9 (Production of Compound 1-353)

First, 5.0 g of iron powder, 75 ml of acetic acid, and 10 ml of water were mixed, and the mixture was warmed to about 80°C, followed by maturation for about 15 minutes. Then, 6.0 g (17.1 mmol) of compound 1-347 was dissolved in 40 ml of ethyl acetate, which was added dropwise to the above mixture at 80°C or lower. After maturation at about 80°C for 1 hour, the reaction mixture was allowed to stand for cooling to room temperature, and extracted twice with 100 ml of ethyl acetate. The combined ethyl acetate layer was washed twice with 50 ml of water and neutralized with aqueous sodium bicarbonate solution, followed by phase separation. The organic layer was dried with magnesium sulfate, and the ethyl acetate was distilled out under reduced pressure. The residue was subjected to silica gel chromatography, which afforded 5.1 g (15.9 mmol) of compound 1-353.



Production Example 10 (Production of Compound 1-420)

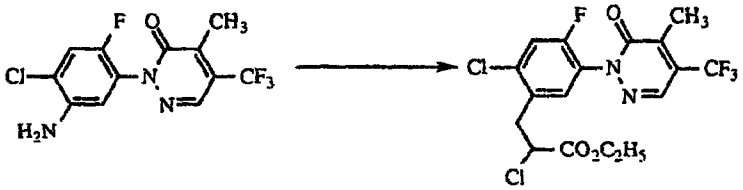
First, 500 mg (1.6 mmol) of compound 1-353 was mixed with 10 ml

(77.3 mmol) of ethyl 2-bromopropionate, and the mixture was heated under reflux at about 160°C for about 12 hours. After allowing to stand for cooling, the reaction mixture was subjected to silica gel column chromatography, which afforded 60 mg (0.6 mmol) of compound 1-420.



Production Example 11 (Production of Compound 1-1622)

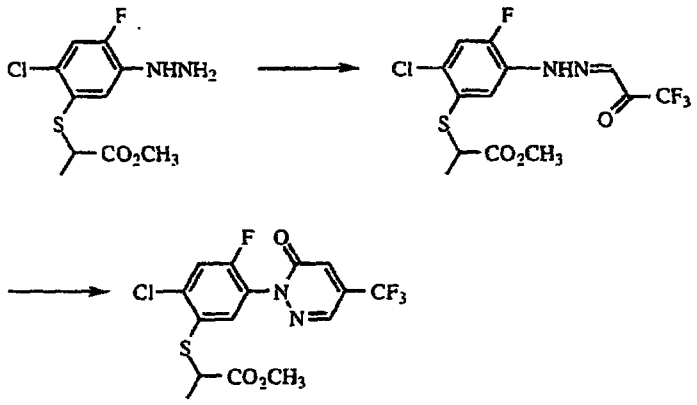
First, 6 ml (55.4 mmol) of ethyl acrylate, 0.5 g (4.8 mmol) of t-butyl nitrite, and 0.6 g (4.5 mmol) of copper (II) chloride were mixed together in 5 ml of acetonitrile, followed by ice cooling. Then, 1.0 g (3.1 mmol) of compound 1-353 dissolved in 5 ml of acetonitrile was added dropwise at 5°C or lower, followed by overnight maturation at room temperature. The reaction mixture was poured into ice-water and extracted twice with 100 ml of ethyl acetate. The combined ethyl acetate layer was washed with 50 ml of diluted hydrochloric acid and dried with magnesium sulfate. The solvent was distilled out under reduced pressure, and the residue was subjected to silica gel column chromatography, which afforded 0.51 g (1.2 mmol) of compound 1-1622.



Production Example 12 (Production of Compound 1-1221)

To a mixed solution of 5.3 g (53.5 mmol) of sodium acetate and about 50 ml of water was added under ice cooling 6.6 g (24.3 mmol) of 1,1-dibromo-3,3,3-trifluoroacetone, and the reaction was allowed to proceed at 80°C for 1 hour. Then, the reaction mixture was cooled to 0°C, to which 5.2 g (18.7 mmol) of methyl 2-(2-chloro-4-fluoro-5-hydrazinophenylthio)propionate was added, and the reaction mixture was stirred at

room temperature for 2 hours. The precipitated crystals were collected by filtration, washed twice with 10 ml of water and once with 10 ml of hexane, and dried. The residue was dissolved in 50 ml of THF, to which 8.4 g (22.4 mmol) of carbethoxymethylenetriphenylphosphorane was added, and the solution was stirred at room temperature for 3 hours. The THF was distilled out under reduced pressure, and the residue was subjected to silica gel column chromatography, which afforded 3.8 g (9.0 mmol) of compound 1-1221.

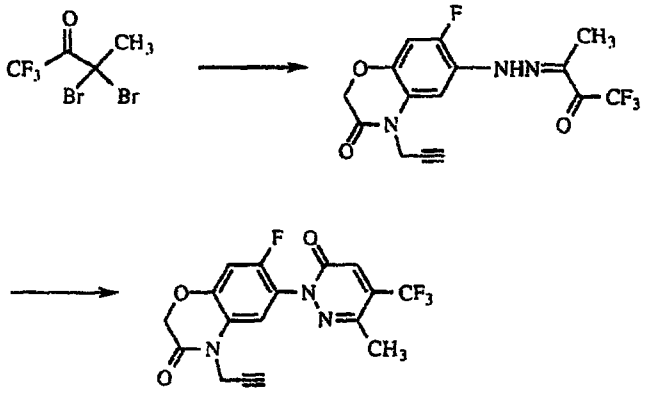


Production Example 13 (Production of Compound 2-821)

To a mixed solution of 8.0 g (97.2 mmol) of sodium acetate and about 50 ml of water was added under ice cooling 6.9 g (24.3 mmol) of 3,3-dibromo-1,1,1-trifluorobutanone, and the reaction was allowed to proceed at 80°C for 30 minutes. Then, the reaction mixture was cooled to 0°C, to which 4.4 g (18.7 mmol) of 7-fluoro-6-hydrazino-4-propargyl-2H-1,4-benzoxazin-3-one was added, and the reaction mixture was stirred at room temperature for 2 hours. The precipitated crystals were collected by filtration, washed twice with 10 ml of water, and dried, which afforded 6.1 g (17.0 mmol) of 1,1,1-trifluoro-2,3-butandione 3-(7-fluoro-3-oxo-4-propargyl-2H-1,4-benzoxazin-6-ylhydrazone).

To a mixed solution of 6.1 g (17.0 mmol) of the above compound and 50 ml of THF was added 7.1 g (20.4 mmol) of carbethoxymethylenetriphenylphosphorane, and the mixture was heated under reflux for 1 hour. The THF was distilled out under

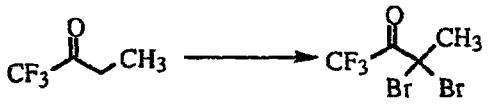
reduced pressure, and the residue was subjected to silica gel column chromatography, which afforded 0.61 g (1.6 mmol) of 7-fluoro-6-(6-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-4-propargyl-2H-1,4-benzoxazin-3-one (compound 2-821).



Reference Example 1

This is a production example for 3,3-dibromo-1,1,1-trifluoro-2-butanone used in Production Example 13.

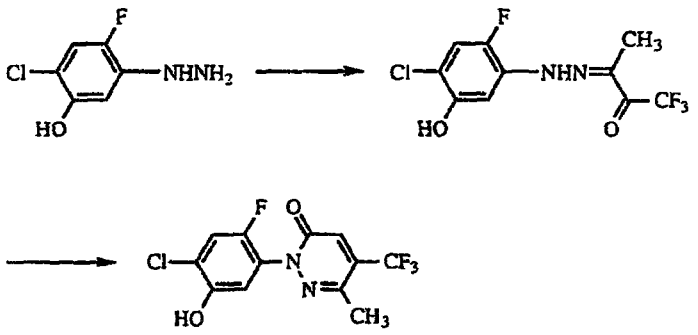
First, 34.0 g of sodium acetate was dissolved in 270 ml of acetic acid, to which 25 g (0.20 mol) of 1,1,1-trifluoro-2-butanone was added, and while keeping the temperature at 15° to 20°C, 66.3 g (0.42 mol) of bromine was added dropwise over 45 minutes. The reaction mixture was stirred for 5 hours, while keeping the temperature at 15° to 20°C, and then allowed to stand at room temperature for 68 hours. The supernatant was taken and washed with 600 ml of concentrated sulfuric acid. Further washing with 307 ml of concentrated sulfuric acid and distillation under normal pressure gave 28 g (0.10 mol) of 3,3-dibromo-1,1,1-trifluoro-2-butanone.



Production Example 14 (Production of Compound 1-1346)

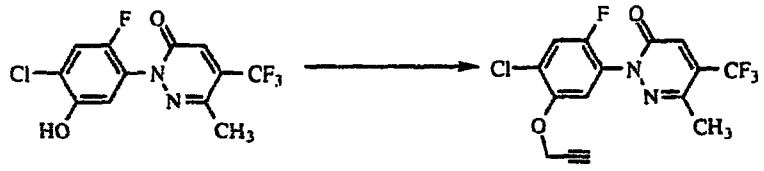
To a mixed solution of 5.3 g (53.5 mmol) of sodium acetate and about 50 ml of water was added under ice cooling 6.9 g (24.3 mmol) of 3,3-dibromo-1,1,1-trifluoro-

2-butanone, and the reaction was allowed to proceed at 80°C for 1 hour. Then, the reaction mixture was cooled to 0°C, to which 3.3 g (18.7 mmol) of 2-chloro-4-fluoro-5-hydrazinophenol was added, and the reaction mixture was stirred at room temperature for 2 hours. The precipitated crystals were collected by filtration, washed twice with 10 ml of water and once with 10 ml of hexane, dried, and then dissolved in 50 ml of THF. To this solution was added 8.8 g (24.3 mmol) of carbethoxymethylenetriphenylphosphorane, and the mixture was stirred at room temperature for 3 hours. The THF was distilled out under reduced pressure, and the residue was subjected to silica gel chromatography, which afforded 0.51 g (1.6 mmol) of compound 1-1346.



Production Example 15 (Production of Compound 1-1441)

First, 3.2 g (10 mmol) of compound 1-1346 was dissolved in about 50 ml of DMF, to which 2.0 g (13 mmol) of potassium carbonate was added at room temperature and 1.3 g (11 mmol) of propargyl bromide was then added, and the mixture was stirred at room temperature for 30 minutes, followed by the addition of 100 ml of water. The precipitated crystals were collected by filtration, washed with hexane, and recrystallized from isopropanol, which afforded 3.2 g (8.5 mmol) of compound 1-1441.



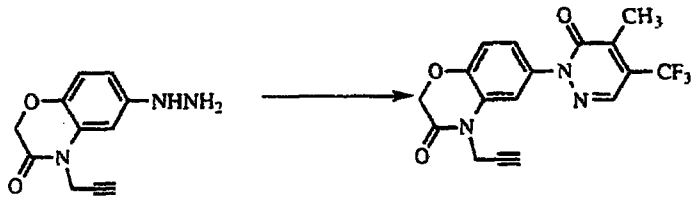
Production Example 16 (Production of Compound 1-499)

This example followed the procedures of Production Example 5, except that 1.8 g (1.1 mmol) of n-pentyl chloroacetate was used in place of ethyl bromoacetate. After the addition of this compound, the reaction mixture was stirred at 40°C for 3 hours and then extracted with diethyl ether. The organic layer was washed with 10% HCl, aqueous sodium bicarbonate solution and saturated sodium chloride solution, and dried with anhydrous magnesium sulfate. The solvent was distilled out under reduced pressure, and the residue was subjected to silica gel chromatography, which afforded 3.8 g (8.0 mmol) of compound 1-499.



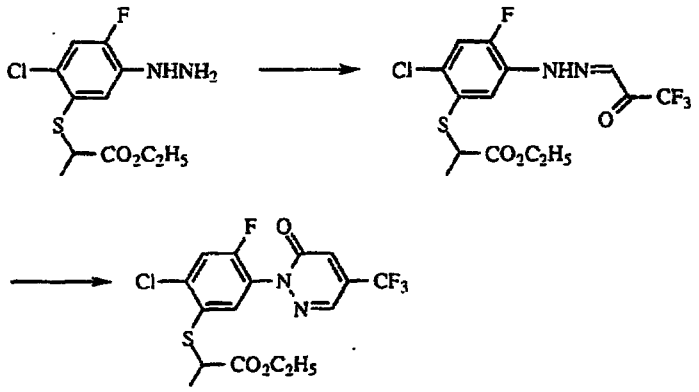
Production Example 17 (Production of Compound 2-203)

To a mixed solution of 5.3 g (53.5 mmol) of sodium acetate and about 50 ml of water was added under ice cooling 6.6 g (24.3 mmol) of 1,1-dibromo-3,3,3-trifluoro-acetone, and the reaction was allowed to proceed at 80°C for 1 hour. Then, the reaction mixture was cooled to 0°C, to which 4.0 g (18.7 mmol) of 6-hydrazino-4-propargyl-2H-1,4-benzoxazin-3-one was added, and the reaction mixture was stirred at room temperature for 2 hours. The precipitated crystals were collected by filtration, washed twice with 10 ml of water and once with 10 ml of hexane, and then dissolved in 50 ml of THF without drying. To this solution was added 8.8 g (24.3 mmol) of carbethoxyethylidene-triphenylphosphorane, and the mixture was heated under reflux for 3 hours. The THF was distilled out under reduced pressure, and the residue was subjected to silica gel column chromatography, which afforded 3.3 g (8.8 mmol) of compound 2-203.



Production Example 18 (Production of Compound 1-1222)

To a mixed solution of 5.3 g (53.5 mmol) of sodium acetate and about 50 ml of water was added under ice cooling 6.6 g (24.3 mmol) of 1,1-dibromo-3,3,3-trifluoro-acetone, and the reaction was allowed to proceed at 80°C for 1 hour. Then, the reaction mixture was cooled to 0°C, to which 5.5 g (18.7 mmol) of ethyl 2-(2-chloro-4-fluoro-5-hydrazinophenylthio)propionate was added, and the reaction mixture was stirred at room temperature for 2 hours. The precipitated crystals were collected by filtration, washed twice with 10 ml of water and once with 10 ml of hexane, dried, and then dissolved in 50 ml of THF. To this solution was added 8.4 g (22.4 mmol) of carbethoxymethylene-triphenylphosphorane, and the mixture was stirred at room temperature for 3 hours. The THF was distilled out under reduced pressure, and the residue was subjected to silica gel column chromatography, which afforded 4.3 g (9.9 mmol) of compound 1-1222.



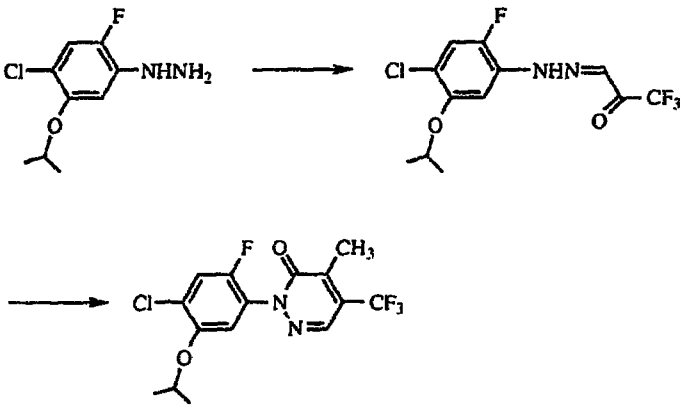
Production Example 19 (Production of Compound 1-476)

To a mixed solution of 5.3 g (53.5 mmol) of sodium acetate and about 100 ml of water was added under ice cooling 6.6 g (24.3 mmol) of 1,1-dibromo-3,3,3-trifluoroacetone, and the reaction was allowed to proceed at 70°C for 20 minutes. Then,

the reaction mixture was cooled to room temperature, to which a solution of 5.8 g (21.5 mmol) of 2-fluoro-4-chloro-5-isopropoxyphenylhydrazine dissolved in about 20 ml of diethyl ether was added, and the reaction mixture was stirred at room temperature for 1 hour. The ether layer was separated, washed once with 10 ml of saturated sodium chloride solution, and dried with magnesium sulfate. The diethyl ether was distilled out, which afforded 6.5 g (20.0 mmol) of 3,3,3-trifluoro-2-oxo-propanal 1-(4-chloro-2-fluoro-5-isopropoxyphenylhydrazone).

^{1}H-NMR (250 MHz, $CDCl_3$, TMS δ (ppm)) 1.39 (6H, d, J = 6.0 Hz), 4.38-4.52 (1H, m), 7.15 (1H, d, J = 10.5 Hz), 7.22 (1H, d, J = 7.3 Hz), 7.43 (1H, q, J = 1.7 Hz), 9.18 (1H, br).

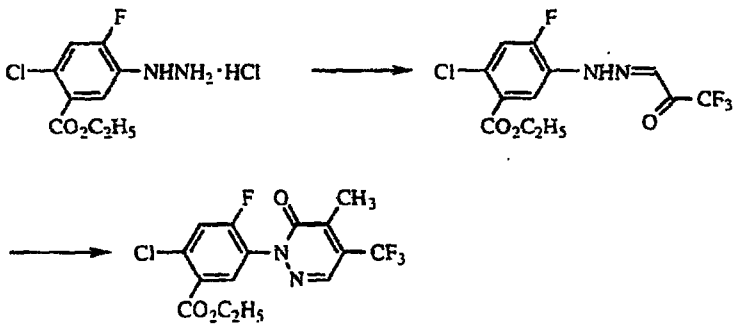
This compound was dissolved in 50 ml of THF. To this solution was added 8.3 g (23.0 mmol) of carbethoxyethylidenetriphenylphosphorane, and the mixture was heated under reflux for 2 hours. The THF was distilled out under reduced pressure, and the residue was subjected to silica gel column chromatography, which afforded 3.8 g (10.5 mmol) of 2-[2-fluoro-4-chloro-5-isopropoxyphenyl]-4-methyl-5-trifluoromethyl-pyridazin-3-one (compound 1-476).



Production Example 20 (Production of Compound 1-642)

To a mixed aqueous solution of 5.3 g (53.5 mmol) of sodium acetate and about 100 ml of water was added under ice cooling 6.6 g (24.3 mmol) of 1,1-dibromo-3,3,3-trifluoroacetone, and the reaction was allowed to proceed at 70°C for 20 minutes.

Then, the reaction mixture was cooled to room temperature. Separately, 5.8 g (21.5 mmol) of crude ethyl 2-chloro-4-fluoro-5-hydrazinobenzoate hydrochloride was dissolved in 30 ml of water, to which 100 ml of diethyl ether was added, and while cooling, the mixture was neutralized by the addition of saturated sodium hydrogencarbonate solution, followed by washing with saturated sodium chloride solution, which afforded a solution of ethyl 2-chloro-4-fluoro-5-hydrazinobenzoate in diethyl ether. This solution was added to the above reaction mixture, followed by vigorous stirring at room temperature for 2 hours. The ether layer was separated, washed once with 10 ml of saturated sodium chloride solution, and dried with magnesium sulfate. The diethyl ether was distilled out. The residue was dissolved in 50 ml of THF, to which 8.3 g (23.0 mmol) of carbethoxyethylidenetriphenylphosphorane was added, and the mixture was heated under reflux for 2 hours. The THF was distilled out under reduced pressure, and the residue was subjected to silica gel column chromatography, which afforded 3.8 g (10.0 mmol) of compound 1-642.

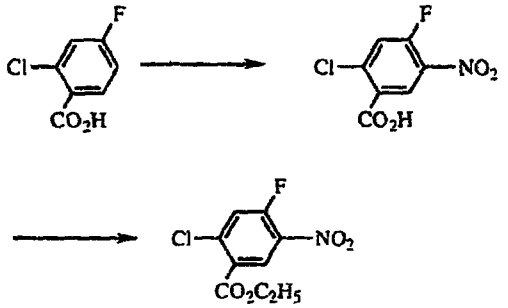


Reference Example 2

This is a production example for ethyl 2-chloro-4-fluoro-5-hydrazinobenzoate hydrochloride used in Production Example 20.

First, 50 g (0.29 mol) of 2-chloro-4-fluorobenzoic acid was dissolved in 150 ml of hydrochloric acid at room temperature, to which a mixed acid of 28 ml (0.31 mol) of fuming nitric acid and 56 ml of concentrated sulfuric acid was added dropwise at 35° to 45°C. Then, the solution was stirred at 40°C for 1 hour and poured

into 250 ml of ice-water. The precipitated crystals were collected by filtration and recrystallized from a mixed solution of hexane and ethyl acetate, which afforded 55 g (0.25 mol) of 2-chloro-4-fluoro-5-nitrobenzoic acid. Then, 55 g (0.25 mol) of 2-chloro-4-fluoro-5-nitrobenzoic acid was dissolved in 50 ml of ethyl acetate, to which 33 g (0.28 mol) of thionyl chloride was added, and the mixture was heated under reflux for 3 hours and then allowed to stand for cooling to room temperature. Then, 20 ml of ethanol and 30 g of triethylamine were added under ice cooling, and the mixture was stirred at room temperature for 2 hours. The solvent was distilled out, and the residue was purified by silica gel chromatography, which afforded 57 g (0.23 mol) of ethyl 2-chloro-4-fluoro-5-nitrobenzoate.



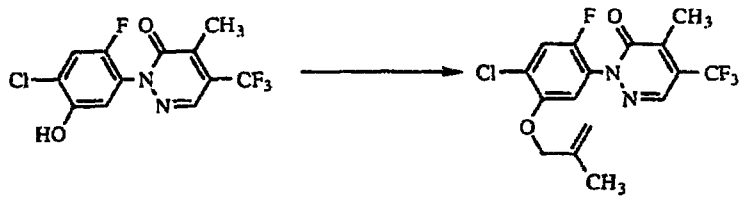
Then, 60 g of iron powder and 500 ml of 10% acetic acid were mixed, and the mixture was heated to 40°C. Separately, 50 g (0.20 mol) of ethyl 2-chloro-4-fluoro-5-nitrobenzoate was dissolved in a mixed solution of 20 ml of acetic acid and 20 ml of ethyl acetate, and added dropwise to the above iron powder-acetic acid mixed solution. Then, the reaction mixture was stirred at 50°C for 1 hour and filtered though celite. The filtrate was extracted with 100 ml of ethyl acetate. The ethyl acetate layer was washed with aqueous sodium bicarbonate solution and saturated sodium chloride solution, and dried with magnesium sulfate. The solvent was distilled out, and the residue was purified by silica gel chromatography, which afforded to 40 g (0.18 mol) of ethyl 5-amino-2-chloro-4-fluorobenzoate.

Then, 19 g (87.4 mmol) of ethyl 5-amino-2-chloro-4-fluorobenzoate was dissolved in 120 ml of hydrochloric acid, followed by cooling to 0°C, to which a solution

of 6.3 g (91.7 mmol) of sodium nitrite dissolved in 10 ml of water was added dropwise at 10°C or lower. The mixture was stirred at 0°C for 30 minutes and then cooled to -30°C, into which a solution of 58 g (0.31 mol) of anhydrous tin (II) chloride dissolved in 40 ml of hydrochloric acid was poured, followed by further stirring at 0°C for 3 hours. The precipitated crystals were collected by filtration and then dried, which afforded 13.6 g (50.7 mmol) of crude ethyl 2-chloro-4-fluoro-5-hydrazinobenzoate hydrochloride.

Production Example 21 (Production of Compound 1-1789)

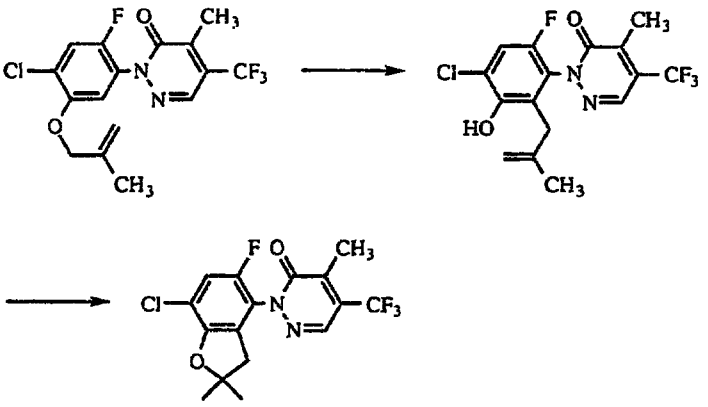
First, 5.0 g (15.5 mmol) of compound 1-391 was dissolved in about 50 ml of DMF, to which 2.8 g (20.2 mmol) of potassium carbonate was added at room temperature and then 1.5 g (17.1 mmol) of 3-bromo-2-methyl-1-propene was added, and the mixture was stirred at room temperature for 30 minutes, followed by the addition of 100 ml of water. The precipitated crystals were collected by filtration, washed with hexane, and recrystallized from isopropanol, which afforded 4.4 g (13.2 mmol) of compound 1-1789.



Production Example 22 (Production of Compound 4-451)

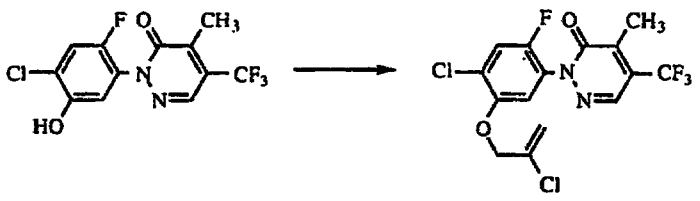
First, 4.0 g (12.0 mmol) of compound 1-1789 was dissolved in 20 ml of N,N-dimethylaniline, and the solution was heated at 180°C for 3 hours. After cooling to room temperature, 100 ml of ethyl acetate was added, and the mixture was washed with 1N aqueous hydrochloric acid and saturated sodium chloride solution, and dried with magnesium sulfate. The solvent was distilled out, and the precipitated crystals were recrystallized from isopropanol, which afforded 3.4 g (10.2 mmol) of 2-[4-chloro-6-fluoro-3-hydroxy-2-(2-methyl-2-propenyl)]-4-methyl-5-trifluoromethylpyridazin-3-one, m.p. 133.2°C.

The product was dissolved in 30 ml of xylene, to which a catalytic amount of p-toluenesulfonic acid was added, and the mixture was heated under reflux for 1 hour. After cooling to room temperature, 100 ml of ethyl acetate was added, and the mixture was washed with aqueous sodium bicarbonate solution and sodium chloride solution, and dried with magnesium sulfate. The solvent was distilled out, and the residue was purified by silica gel column chromatography, which afforded 3.0 g (9.0 mmol) of compound 4-451.



Production Example 23 (Production of Compound 1-483)

First, 5.0 g (15.5 mmol) of compound 1-391 was dissolved in about 20 ml of DMF, to which 2.4 g (17.1 mmol) of potassium carbonate was added at room temperature. The solution was heated to about 40°C, to which 1.7 g (17.1 mmol) of 2,3-dichloropropene was added, and after 1 hour, the mixture was allowed to stand for cooling and poured into ice-water. The precipitated crystals were collected by filtration, washed with hexane, and recrystallized from isopropanol, which afforded 5.2 g (13.1 mmol) of compound 1-483.

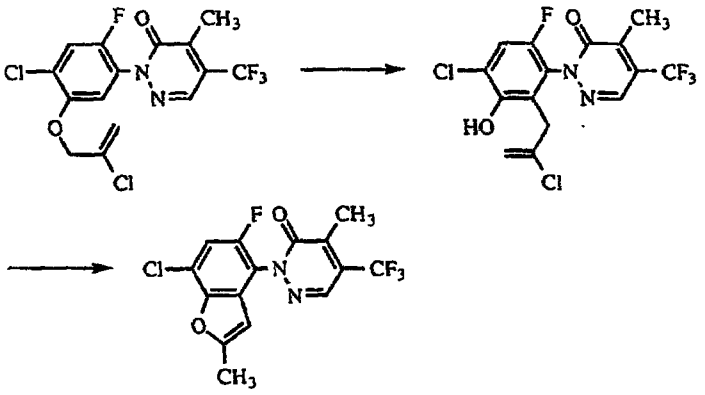


Production Example 24 (Production of Compound 3-139)

First, 3.0 g (7.6 mmol) of compound 1-436 was dissolved in 10 ml of N,N-dimethylaniline, and the solution was heated under reflux for 3 hours. After cooling to room temperature, 50 ml of ethyl acetate was added, and the mixture was washed with 1N aqueous hydrochloric acid and saturated sodium chloride solution, and dried with magnesium sulfate. The solvent was distilled out, and the precipitated crystals were recrystallized from isopropanol, which afforded 2.2 g (5.6 mmol) of 2-[4-chloro-6-fluoro-3-hydroxy-2-(2-chloro-2-propenyl)]-4-methyl-5-trifluoromethylpyridazin-3-one.

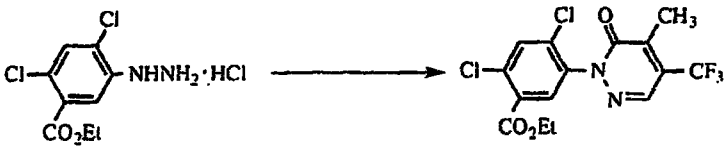
^{1}H-NMR (300 MHz, $CDCl_3$, TMS δ (ppm)) 2.41 (3H, q, J = 1.9 Hz), 3.56 (1H, d, J = 16.3 Hz), 3.72 (1H, d, J = 16.3 Hz), 4.91 (1H, q, J = 1.4 Hz), 5.12 (1H, d, J = 1.5 Hz), 5.72 (1H, s), 7.25 (1H, d, J = 8.7 Hz), 8.00 (1H, s)

The product was dissolved in 10 ml of trifluoromethanesulfonic acid cooled by ice, and the solution was stirred under ice cooling. After 30 minutes, the solution was poured into ice-water, and the precipitated crystals were collected by filtration and subjected to silica gel column chromatography, which afforded 1.9 g (5.4 mmol) of compound 3-139.



Production Example 25 (Production of Compound 1-1744)

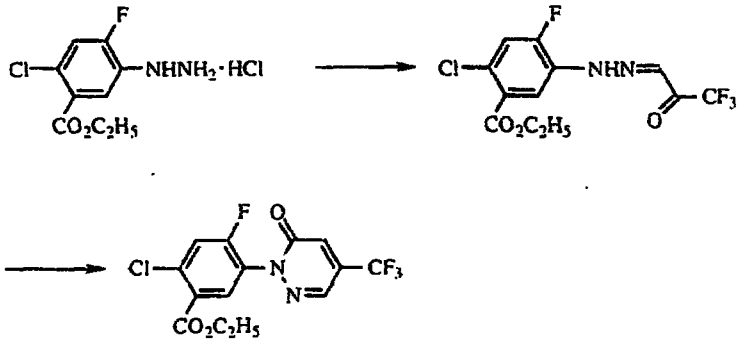
This example followed the procedures of Production Example 20, except that 6.1 g (21.5 mmol) of ethyl 2,4-dichloro-5-hydrazinobenzoate hydrochloride was used in place of ethyl 2-chloro-4-fluoro-5-hydrazinobenzoate hydrochloride, which afforded 4.8 g (12.2 mmol) of compound 1-1744.



The ethyl 2,4-dichloro-5-hydrazinobenzoate hydrochloride used above was produced from 2,4-dichlorobenzoic acid by the same process as shown in Reference Example 2.

Production Example 26 (Production of Compound 1-1279)

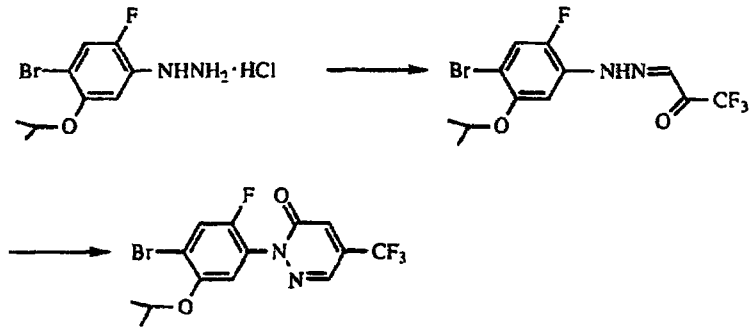
To a mixed aqueous solution of 5.3 g (53.5 mmol) of sodium acetate and about 100 ml of water was added under ice cooling 6.6 g (24.3 mmol) of 1,1-dibromo-3,3,3-trifluoroacetone, and the reaction was allowed to proceed at 70°C for 20 minutes. Then, the reaction mixture was cooled to room temperature. Separately, 5.8 g (21.5 mmol) of ethyl 2-chloro-4-fluoro-5-hydrazinobenzoate hydrochloride was dissolved in 30 ml of water, to which 100 ml of diethyl ether was added, and while cooling, the mixture was neutralized by the addition of saturated sodium hydrogen-carbonate solution, followed by washing with saturated sodium chloride solution, which afforded a solution of ethyl 2-chloro-4-fluoro-5-hydrazinobenzoate in diethyl ether. This solution was added to the above reaction mixture, followed by vigorous stirring at room temperature for 2 hours. The ether layer was separated, washed once with 10 ml of saturated sodium chloride solution, and dried with magnesium sulfate. The diethyl ether was distilled out, and a small amount of hexane was added to give 4.3 g (12.6 mmol) of ethyl 2-chloro-4-fluoro-5-(2-oxo-3,3,3-trifluoropentylidenehydrazino)benzoate. This product was dissolved in 50 ml of THF, to which 5.0 g (14.4 mmol) of carbethoxy-methylenetriphenylphosphorane was added, and the mixture was heated under reflux for 2 hours. The THF was distilled out under reduced pressure, and the residue was subjected to silica gel column chromatography, which afforded 3.6 g (9.7 mmol) of compound 1-1279.



Production Example 27 (Production of Compound 1-1780)

First, 50 g (0.61 mol) of sodium acetate and 41 g (0.14 mol) of 1,1-dibromo-3,3,3-trifluoroacetone were mixed with 500 ml of water, and the mixture was stirred at 80°C for 30 minutes and then cooled to 0°C. Then, 45 g (0.14 mol) of 4-bromo-2-fluoro-5-isopropoxyphenylhydrazine hydrochloride was added at 10°C or lower, and the mixture was stirred at 10°C or lower for 3 hours. The precipitated crystals were collected by filtration and dried, which afforded 35 g (94.3 mmol) of 3,3,3-trifluoro-2-oxopropanal 1-(4-bromo-2-fluoro-5-isopropoxyphenylhydrazone).

Then, 16 g (46.0 mmol) of carbethoxymethylenetriphenylphosphorane and 16 g (43.1 mmol) of 3,3,3-trifluoro-2-oxopropanal 1-(4-bromo-2-fluoro-5-isopropyloxyphenylhydrazone) were stirred in 100 ml of THF at room temperature for 4 hours. After completion of the reaction, the reaction mixture was concentrated, and the residue was subjected to silica gel chromatography, which afforded 9.4 g (23.8 mmol) of compound 1-1780.



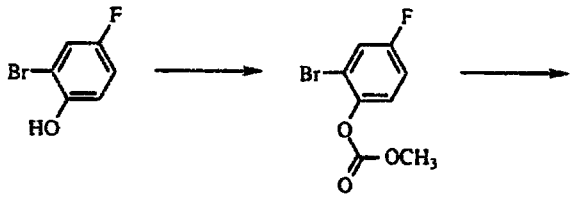
Reference Example 3

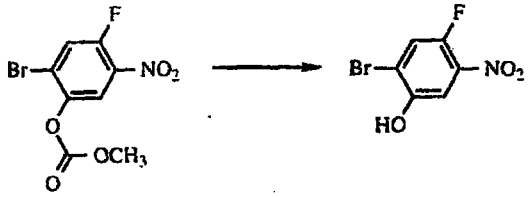
This is a production example for 4-bromo-2-fluoro-5-isopropoxyphenylhydrazine hydrochloride used in Production Example 27.

First, 93 g (0.49 mol) of 2-bromo-4-fluorophenol was suspended in 200 ml of water, into which 55 g (0.59 mol) of methyl chloroformate and a solution of 21.5 g (0.51 mol) of sodium hydroxide in 60 ml of water were poured together at 10°C or lower, and the mixture was stirred at the same temperature for 2 hours. The precipitated crystals were collected by filtration, washed with water, and dried in a vacuum oven, which afforded 111.6 g (0.45 mol) of methyl 2-bromo-4-fluorophenoxyformate.

Then, 110 g (0.44 mol) of methyl 2-bromo-4-fluorophenoxyformate was dissolved in 250 ml of sulfuric acid, to which a mixed acid of 30 g of fuming nitric acid and 30 ml of sulfuric acid was added dropwise at 5°C or lower, and the mixture was stirred for 2 hours. The reaction mixture was poured onto ice, and the precipitated crystals were collected by filtration, washed with water, and dried, which afforded 126 g (0.43 mol) of methyl 2-bromo-4-fluoro-5-nitrophenoxyformate.

Then, 125 g (0.43 mol) of methyl 2-bromo-4-fluoro-5-nitrophenoxyformate was suspended in 200 ml of water, to which 19 g (0.47 mol) of sodium hydroxide was added, and the mixture was stirred at 50° to 60°C for 4 hours. After completion of the reaction, the reaction mixture was cooled to room temperature and washed with chloroform. The aqueous layer was acidified with aqueous hydrochloric acid and extracted with ethyl acetate. The ethyl acetate layer was dried and concentrated, which afforded 104 g (0.43 mol) of 2-bromo-4-fluoro-5-nitrophenol.



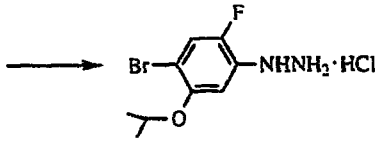


Then, 100 g (0.42 mol) of 2-bromo-4-fluoro-5-nitrophenol was dissolved in 400 ml of dimethylformamide, to which 70 g (0.50 mol) of potassium carbonate was added and after warming to 50°C, 94 g (0.55 mol) of isopropyl iodide was added dropwise, and the mixture was stirred at 45° to 50°C for 1 hour. After completion of the reaction, the reaction mixture was poured into water and extracted with ethyl acetate. The ethyl acetate layer was washed with water and then with diluted hydrochloric acid, dried, and concentrated. The residue was subjected to column chromatography, which afforded 99.8 g (0.36 mol) of 2-bromo-4-fluoro-5-nitrophenyl isopropyl ether.

Then, 60 g (0.22 mol) of 2-bromo-4-fluoro-5-nitrophenyl isopropyl ether was dissolved in 300 ml of ethyl acetate, to which 1.0 g of 10% palladium-carbon was added, and the hydrogenation was effected under an atmosphere of hydrogen. After completion of the reaction, the palladium-carbon was removed by filtration, and the filtrate was concentrated, which afforded 52 g (0.21 mol) of 4-bromo-2-fluoro-5-isopropoxyaniline.

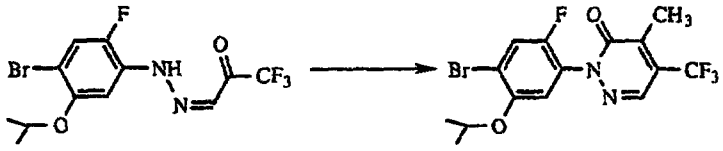
Then, 108 g (0.57 mol) of tin (II) chloride was dissolved in 100 ml of concentrated hydrochloric acid, followed by cooling to –30°C, to which a diazonium solution prepared from 47 g (0.19 mol) of 4-bromo-2-fluoro-5-isopropoxyaniline, 13.5 g (0.20 mol) of sodium nitrite, and 120 ml of hydrochloric acid was added dropwise at 0°C or lower, and the mixture was stirred at room temperature for 2 hours. The precipitated crystals were collected by filtration and dried in a vacuum oven to give 45 g (0.14 mol) of the crude product, 4-bromo-2-fluoro-5-isopropoxyphenylhydrazine hydrochloride.





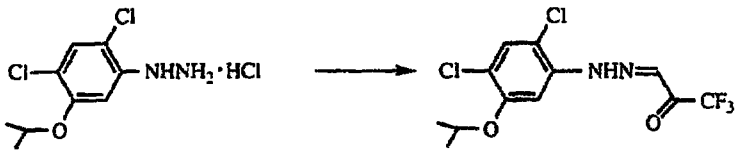
Production Example 28 (Production of Compound 1-1783)

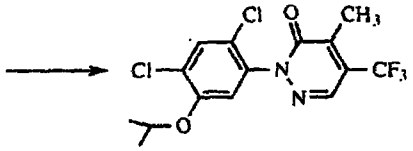
First, 19 g (52.4 mmol) of carbethoxyethylidenetriphenylphosphorane and 19 g (63.2 mmol) of 3,3,3-trifluoro-2-oxopropanal 1-(4-bromo-2-fluoro-5-isopropyloxyphenylhydrazone) were heated under reflux in 100 ml of THF for 5 hours. After completion of the reaction, the reaction mixture was concentrated, and the residue was subjected to silica gel chromatography, which afforded 9.1 g (22.2 mmol) of compound 1-1783.



Production Example 29 (Production of Compound 1-1748)

This example followed the procedures of Production Example 27, except that 41 g (0.41 mol) of 2,4-dichloro-5-isopropoxyphenylhydrazine hydrochloride was used in place of 4-bromo-2-fluoro-5-isopropoxyphenylhydrazine hydrochloride, which afforded 31.3 g (91.3 mmol) of 3,3,3-trifluoro-2-oxopropanal 1-(2,4-dichloro-5-isopropoxyphenylhydrazone). Then, this compound and 40 g (0.11 mol) of carbethoxyethylidenetriphenylphosphorane were heated under reflux in 100 ml of THF for 5 hours. After completion of the reaction, the reaction mixture was concentrated, and the residue was subjected to silica gel column chromatography, which afforded 21 g (54.8 mmol) of compound 1-1748.





The 2,4-dichloro-5-isopropoxyphenylhydrazine hydrochloride used above was produced from 2,4-dichlorophenol by the same process as shown in Reference Example 3.

Production Example 30 (Production of Compound 1-1029)

First, 9 g (22.8 mmol) of 2-(4-bromo-2-fluoro-5-isopropyloxyphenyl)-5-trifluoromethylpyridazin-3-one was added to 50 ml of sulfuric acid, and the mixture was stirred for 1 hour. After completion of the reaction, the reaction mixture was poured onto ice and extracted with ethyl acetate. The ethyl acetate layer was dried and concentrated, and the residue was subjected to column chromatography (eluent, hexane : ethyl acetate = 5 : 1), which afforded 5.9 g (16.7 mmol) of compound 1-1029.



Production Example 31 (Production of Compound 1-392)

First, 9 g (22.0 mmol) of 2-(4-bromo-2-fluoro-5-isopropyloxyphenyl)-4-methyl-5-trifluoromethylpyridazin-3-one was added to 50 ml of sulfuric acid, and the mixture was stirred for 1 hour. After completion of the reaction, the reaction mixture was poured onto ice and extracted with ethyl acetate. The ethyl acetate layer was dried and concentrated, and the residue was subjected to column chromatography (eluent, hexane : ethyl acetate = 5 : 1), which afforded 4.2 g (11.5 mmol) of compound 1-392.

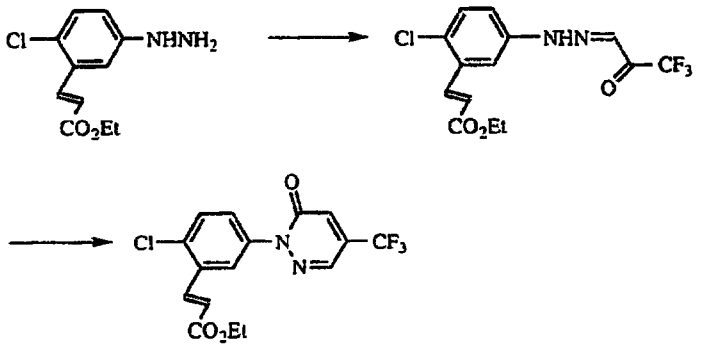


Production Example 32 (Production of Compound 1-1274)

First, 7.4 g (90.2 mmol) of sodium acetate and 8.0 g (28.2 mmol) of 1,1-dibromo-3,3,3-trifluoroacetone were mixed with 70 ml of water, and the mixture was stirred at 80°C for 30 minutes and then cooled, to which 7.0 g of ethyl 2-chloro-5-hydrazinocinnamate was added at 10°C or lower, and the mixture was stirred for 3 hours. The precipitated crystals were collected by filtration and dried, which afforded 9.6 g (27.5 mmol) of ethyl 2-chloro-5-(3,3,3-trifluoro-2-oxopropylidenehydrazino)cinnamate.

^{1}H-NMR (250 MHz, $CDCl_3$, TMS δ (ppm)) 1.36 (3H, t, J = 6.9 Hz), 4.30 (2H, q, J = 6.9 Hz), 6.4-6.6 (1H, m), 7.2-7.5 (3H, m), 7.65 (1H, d, J = 2.5 Hz), 8.0-8.1 (1H, m)

Then, 1.0 g (2.9 mmol) of carbethoxymethylenetriphenylphosphorane and 1.0 g (2.9 mmol) of ethyl 2-chloro-5-(3,3,3-trifluoro-2-oxopropylidenehydrazino)-cinnamate were stirred in 10 ml of THF at room temperature for 1 hour. After completion of the reaction, the reaction mixture was concentrated, and the residue was subjected to column chromatography (eluent, hexane : ethyl acetate = 5 : 1), which afforded 0.43 g (11.5 mmol) of compound 1-1274.

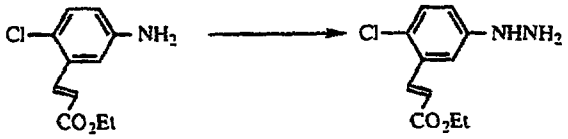


Reference Example 4

The ethyl 2-chloro-5-hydrazinocinnamate used in Production Example 32 was produced by the following process.

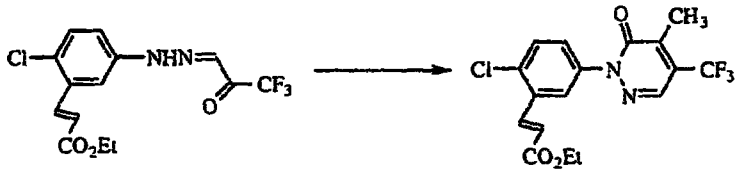
First, 60 g of tin (II) chloride was dissolved in 60 ml of concentrated hydrochloric acid, and the mixture was cooled to −30°C, to which a diazonium solution

prepared from 19 g of ethyl 5-amino-2-chlorocinnamate and 6.3 g of sodium nitrite was added dropwise at 0°C or lower. The reaction mixture was stirred at room temperature for 1 hour, and the precipitated crystals were collected by filtration. These crystals were added to ice-water, neutralized with 2N aqueous sodium hydroxide, and extracted with chloroform. The chloroform layer was dried and concentrated, which afforded 7.0 g of ethyl 2-chloro-5-hydrazinocinnamate.



Production Example 33 (Production of Compound 1-637)

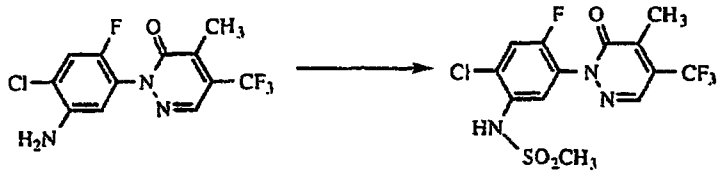
First, 1.1 g (2.9 mmol) of carbethoxyethylidenetriphenylphosphorane and 1.0 g (2.9 mmol) of ethyl 2-chloro-5-(3,3,3-trifluoro-2-oxopropylidenehydrazino)-cinnamate were heated under reflux in 10 ml of THF for 3 hours. After completion of the reaction, the reaction mixture was concentrated, and the residue was subjected to column chromatography (eluent, hexane : ethyl acetate = 5 : 1), which afforded 0.66 g (1.7 mmol) of compound 1-637.



Production Example 34 (Production of Compound 1-367)

First, 0.5 g (1.6 mmol) of compound 1-353 was dissolved in 1.5 ml of pyridine, to which 0.2 g (1.7 mmol) of methanesulfonyl chloride was added dropwise, followed by stirring for 2 hours. The reaction mixture was poured into ice-water and extracted with ethyl acetate. The ethyl acetate layer was washed with diluted hydrochloric acid, dried, and concentrated. The residue was subjected to column chromatography (eluent, hexane : ethyl acetate = 3 : 1), which afforded 0.42 g (1.1 mmol) of compound 1-367.

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Production Example 35 (Production of Compound 1-369)

This example followed the procedures of Production Example 34, except that 0.23 g (1.6 mmol) of chloromethylsulfonyl chloride was used in place of methanesulfonyl chloride, which afforded 0.38 g (0.91 mmol) of compound 1-369.



Production Example 36 (Production of Compound 1-391)

First, 32.3 g of 3-amino-6-chloro-3-fluorophenol was mixed with 150 ml of concentrated hydrochloric acid, and the mixture was stirred at 50°C for 30 minutes, to which a solution of 15 g of sodium nitrite dissolved in 40 ml of water was added dropwise at 0°C over 10 minutes. After stirring at 0°C for 1 hour, the mixture was cooled to −50°C. Then, a solution of 132 g of tin (II) chloride dissolved in 132 g of concentrated sulfuric acid was rapidly added dropwise at −50°C, and the mixture was gradually warmed to room temperature and stirred for 1 hour. The solids formed were collected by filtration and dried at 80°C under reduced pressure to give 75 g of the crude 2-fluoro-4-chloro-5-hydroxyphenylhydrazine hydrochloride crystals.

^{1}H-NMR (DMSO-d_6, TMS δ (ppm)) 3-5 (2H, br), 6.73 (1H, d), 7.22 (1H, d), 8.20 (1H, s), 9-11 (2H, br)

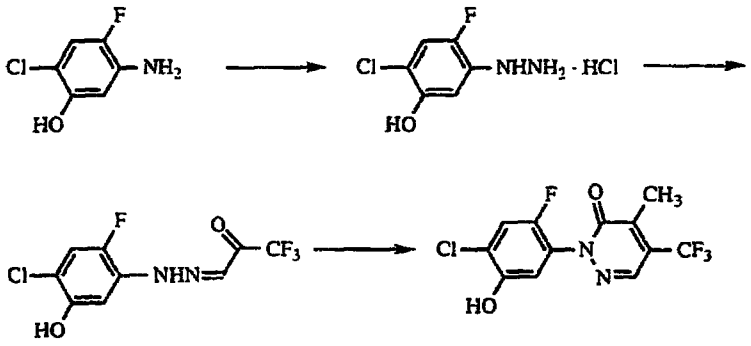
Then, 49.2 g of sodium acetate and 40.5 g of 1,1-dibromo-3,3,3-trifluoroacetone were dissolved in 400 ml of water, and the solution was heated at 80° to 90°C for 40 minutes. The solution was cooled to 0°C, to which 75 g of the crude 2-fluoro-4-chloro-5-hydroxyphenylhydrazine hydrochloride crystals obtained above was added, and

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the mixture was stirred at room temperature for 70 minutes. The precipitated crystals were collected by filtration and dried under reduced pressure, which afforded 35.4 g of 3,3,3-trifluoro-2-oxopropanal 1-(4-chloro-2-fluoro-5-hydroxyphenylhydrazone).

^{1}H-NMR (300 MHz, $CDCl_3$, TMS δ (ppm)) 5.49 (1H, s), 7.15 (1H, d, J = 10.5 Hz), 7.25 (1H, d, J = 7.4 Hz), 7.38 (1H, q, J = 1.8 Hz), 8.75 (1H, s)

Then, 12.9 g of 3,3,3-trifluoro-2-oxopropanal 1-(4-chloro-2-fluoro-5-hydroxyphenylhydrazone) and 22.3 g of carbethoxyethylidenetriphenylphosphorane were dissolved in 110 ml of tetrahydrofuran, and the solution was heated under reflux for 3 hours. The solvent was distilled out under reduced pressure, and the residue was subjected to silica gel chromatography, which afforded 8.8 g of 2-(2-fluoro-4-chloro-5-hydroxyphenyl)-4-methyl-5-trifluoromethylpyridazin-3-one (compound 1-391).



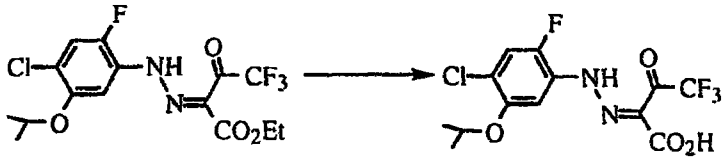
The 5-amino-2-chloro-4-fluorophenol used above can be produced by the method described in the publication of European Patent Application, EP-61741-A.

Production Example 37 (Production of Compound 1-332)

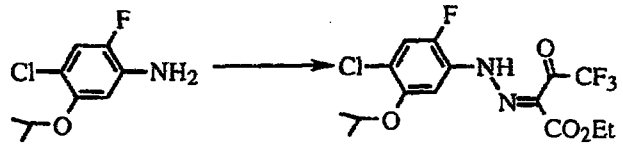
First, 2 g of 3,3,3-trifluoro-2-oxo-1-propanal 1-(4-chlorophenylhydrazone) and 2 g of ethyl diethylphosphonoacetate were mixed with 20 ml of triethylamine, and the reaction was allowed to proceed at 50°C for 24 hours. The solvent was distilled out under reduced pressure, and the residue was subjected to column chromatography, which afforded 1.16 g of 2-(4-chlorophenyl)-5-trifluoromethylpyridazin-3-one (compound 1-332).

Reference Example 5

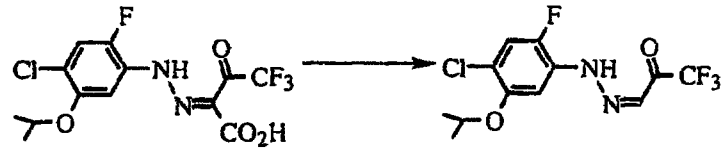
The 3,3,3-trifluoro-2-oxopropanal 1-(4-chloro-2-fluoro-5-isopropoxyphenyl-hydrazone) produced in Production Example 19 can also be produced by the following process.



First, 20.1 g of ethyl 4,4,4-trifluoroacetoacetate and 25 g of sodium acetate were dissolved in 150 ml of water, to which a diazonium solution in hydrochloric acid prepared from 20.3 g of 4-chloro-2-fluoro-5-isopropoxyaniline, 20 ml of concentrated hydrochloric acid, 20 ml of water, and 7.35 g of sodium nitrite was added dropwise at 10°C or lower. After stirring at room temperature for 1 hour, the precipitated crystals were collected by filtration, washed with water, and dried, which afforded 34 g of the desired product as orange crystals (yield, 85%).



Then, 15.9 g of the ester obtained above and 1.7 g of lithium hydroxide monohydrate were added to 30 ml of 1,4-dioxane and 3 ml of water, and the mixture was heated under reflux for 6 hours. The reaction mixture was poured into ice-water, neutralized with diluted hydrochloric acid, and extracted with ethyl acetate. The ethyl acetate layer was dried and concentrated, and the precipitated crystals were washed with hexane, which afforded 11.3 g of the desired product as yellow crystals (yield, 76.3%).

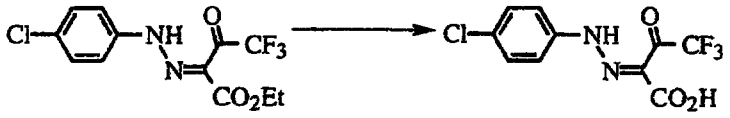


Then, 7.4 g of the carboxylic acid obtained above was dissolved in 42 ml of N,N-dimethylformamide, and the reaction solution was heated to 100°C and kept at the same temperature for 30 minutes. Thereafter, the reaction solution was cooled to room temperature, poured into water, and extracted with ethyl acetate. The ethyl acetate layer was washed with diluted hydrochloric acid, dried with magnesium sulfate, and concentrated, which afforded 5.9 g of the desired product as orange crystals (yield, 90%).

^{1}H-NMR (250 MHz, $CDCl_3$, TMS δ (ppm)) 1.39 (6H, d, J = 6.0 Hz), 4.38-4.52 (1H, m), 7.15 (1H, d, J = 10.5 Hz), 7.22 (1H, d, J = 7.3 Hz), 7.43 (1H, q, J = 1.7 Hz), 9.18 (1H, br)

Reference Example 6

In the same manner as described in Reference Example 2, 3,3,3-trifluoro-2-oxopropanal 4-chlorophenylhydrazone was produced.



First, 5.0 g of the ester as the starting material and 0.67 g of lithium hydroxide monohydrate were added to a mixed solution of 30 ml of 1,4-dioxane and 2 ml of water, and the mixture was heated under reflux for 1.5 hours. The reaction mixture was poured into ice-water, neutralized with diluted hydrochloric acid, and extracted with ethyl acetate. The ethyl acetate layer was dried with magnesium sulfate and concentrated, and the precipitated crystals were washed with a mixed solvent of hexane and diethyl ether (hexane : diethyl ether = 2 : 1), which afforded 3.3 g of the desired compound as yellow crystals (yield, 73%).



Process 1) A solution prepared by dissolving 3.3 g of the carboxylic acid obtained by the above reaction in 10 ml of dimethylsulfoxide was heated to 100°C and

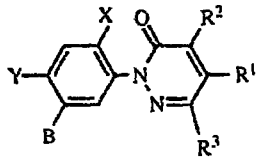
kept at the same temperature for 10 minutes, followed by cooling to room temperature. Thereafter, the reaction mixture was subjected to silica gel chromatography (eluent, hexane : ethyl acetate = 7 : 1), which afforded 2.55 g of the desired product (yield, 91%).

Process 2) A reaction mixture prepared by adding 5.0 g of the carboxylic acid obtained by the above reaction, 0.5 ml of quinoline, and 0.1 g of copper powder to 40 ml of toluene was heated to 100°C and kept at the same temperature for 20 minutes. After completion of the reaction, the reaction mixture was cooled to room temperature and subjected to silica gel chromatography (eluent, hexane : ethyl acetate = 8 : 1), which afforded 3.6 g of the desired product (yield, 86%).

Some of the present compounds are shown with their compound numbers in Tables 1 to 5, where the symbol "n" refers to normal-; "i", iso-; "s", secondary-; and "c", cyclo-.

TABLE 1

Compounds of the formula:



Compound No.	X	Y	R^3	R^1	R^2	B
1 − 1	H	F	H	CF_2Cl	H	H
1 − 2	H	Cl	H	CF_2Cl	H	H
1 − 3	H	Br	H	CF_2Cl	H	H
1 − 4	H	F	H	CF_2Cl	CH_3	H
1 − 5	H	Cl	H	CF_2Cl	CH_3	H
1 − 6	H	Br	H	CF_2Cl	CH_3	H
1 − 7	F	F	H	CF_2Cl	H	H
1 − 8	F	Cl	H	CF_2Cl	H	H
1 − 9	F	Br	H	CF_2Cl	H	H
1 −10	F	F	H	CF_2Cl	CH_3	H
1 −11	F	Cl	H	CF_2Cl	CH_3	H
1 −12	F	Br	H	CF_2Cl	CH_3	H
1 −13	H	F	H	CF_2Cl	CH_3	NO_2

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-14	H	Cl	H	CF_2Cl	CH_3	NO_2
1-15	H	Br	H	CF_2Cl	CH_3	NO_2
1-16	F	F	H	CF_2Cl	CH_3	NO_2
1-17	F	Cl	H	CF_2Cl	CH_3	NO_2
1-18	F	Br	H	CF_2Cl	CH_3	NO_2
1-19	H	F	H	CF_2Cl	CH_3	NH_2
1-20	H	Cl	H	CF_2Cl	CH_3	NH_2
1-21	H	Br	H	CF_2Cl	CH_3	NH_2
1-22	F	F	H	CF_2Cl	CH_3	NH_2
1-23	F	Cl	H	CF_2Cl	CH_3	NH_2
1-24	F	Br	H	CF_2Cl	CH_3	NH_2
1-25	H	F	H	CF_2Cl	CH_3	OH
1-26	H	Cl	H	CF_2Cl	CH_3	OH
1-27	H	Br	H	CF_2Cl	CH_3	OH
1-28	F	F	H	CF_2Cl	CH_3	OH
1-29	F	Cl	H	CF_2Cl	CH_3	OH
1-30	F	Br	H	CF_2Cl	CH_3	OH
1-31	H	Cl	H	CF_2Cl	CH_3	$NHCH_3$
1-32	H	Cl	H	CF_2Cl	CH_3	NHC_2H_5
1-33	H	Cl	H	CF_2Cl	CH_3	$NHCH_2CH=CH_2$
1-34	H	Cl	H	CF_2Cl	CH_3	$NHCH_2C\equiv CH$
1-35	H	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)C\equiv CH$
1-36	H	Cl	H	CF_2Cl	CH_3	$NHSO_2CH_3$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-37	H	Cl	H	CF_2Cl	CH_3	$NHSO_2C_2H_5$
1-38	H	Cl	H	CF_2Cl	CH_3	$NHSO_2CH_2Cl$
1-39	H	Cl	H	CF_2Cl	CH_3	$NHSO_2CF_3$
1-40	H	Cl	H	CF_2Cl	CH_3	$N(CH_3)SO_2CH_3$
1-41	H	Cl	H	CF_2Cl	CH_3	$N(CH_2C\equiv CH)SO_2CH_3$
1-42	H	Cl	H	CF_2Cl	CH_3	$NHCOOCH_3$
1-43	H	Cl	H	CF_2Cl	CH_3	$NHCOOC_2H_5$
1-44	H	Cl	H	CF_2Cl	CH_3	$NHCOO^nC_3H_7$
1-45	H	Cl	H	CF_2Cl	CH_3	$NHCOO^iC_3H_7$
1-46	H	Cl	H	CF_2Cl	CH_3	$NHCOO^nC_4H_9$
1-47	H	Cl	H	CF_2Cl	CH_3	$NHCOO^nC_5H_{11}$
1-48	H	Cl	H	CF_2Cl	CH_3	$NHCH_2COOCH_3$
1-49	H	Cl	H	CF_2Cl	CH_3	$NHCH_2COOC_2H_5$
1-50	H	Cl	H	CF_2Cl	CH_3	$NHCH_2COO^nC_3H_7$
1-51	H	Cl	H	CF_2Cl	CH_3	$NHCH_2COO^nC_4H_9$
1-52	H	Cl	H	CF_2Cl	CH_3	$NHCH_2COO^nC_5H_{11}$
1-53	H	Cl	H	CF_2Cl	CH_3	$NHCH_2COO^iC_3H_7$
1-54	H	Cl	H	CF_2Cl	CH_3	$NHCH_2COO^cC_5H_9$
1-55	H	Cl	H	CF_2Cl	CH_3	$NHCH_2COO^cC_6H_{11}$
1-56	H	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COOCH_3$
1-57	H	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COOC_2H_5$
1-58	H	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COO^nC_3H_7$
1-59	H	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COO^nC_4H_9$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-60	H	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COO^nC_5H_{11}$
1-61	H	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COO^iC_3H_7$
1-62	H	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COO^cC_5H_9$
1-63	H	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COO^cC_6H_{11}$
1-64	F	Cl	H	CF_2Cl	CH_3	$NHCH_3$
1-65	F	Cl	H	CF_2Cl	CH_3	NHC_2H_5
1-66	F	Cl	H	CF_2Cl	CH_3	$NHCH_2CH=CH_2$
1-67	F	Cl	H	CF_2Cl	CH_3	$NHCH_2C\equiv CH$
1-68	F	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)C\equiv CH$
1-69	F	Cl	H	CF_2Cl	CH_3	$NHSO_2CH_3$
1-70	F	Cl	H	CF_2Cl	CH_3	$NHSO_2C_2H_5$
1-71	F	Cl	H	CF_2Cl	CH_3	$NHSO_2CH_2Cl$
1-72	F	Cl	H	CF_2Cl	CH_3	$NHSO_2CF_3$
1-73	F	Cl	H	CF_2Cl	CH_3	$N(CH_3)SO_2CH_3$
1-74	F	Cl	H	CF_2Cl	CH_3	$N(CH_2C\equiv CH)SO_2CH_3$
1-75	F	Cl	H	CF_2Cl	CH_3	$NHCOOCH_3$
1-76	F	Cl	H	CF_2Cl	CH_3	$NHCOOC_2H_5$
1-77	F	Cl	H	CF_2Cl	CH_3	$NHCOO^nC_3H_7$
1-78	F	Cl	H	CF_2Cl	CH_3	$NHCOO^iC_3H_7$
1-79	F	Cl	H	CF_2Cl	CH_3	$NHCOO^nC_4H_9$
1-80	F	Cl	H	CF_2Cl	CH_3	$NHCOO^nC_5H_{11}$
1-81	F	Cl	H	CF_2Cl	CH_3	$NHCH_2COOCH_3$
1-82	F	Cl	H	CF_2Cl	CH_3	$NHCH_2COOC_2H_5$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-83	F	Cl	H	CF_2Cl	CH_3	$NHCH_2COO^nC_3H_7$
1-84	F	Cl	H	CF_2Cl	CH_3	$NHCH_2COO^nC_4H_9$
1-85	F	Cl	H	CF_2Cl	CH_3	$NHCH_2COO^nC_5H_{11}$
1-86	F	Cl	H	CF_2Cl	CH_3	$NHCH_2COO^iC_3H_7$
1-87	F	Cl	H	CF_2Cl	CH_3	$NHCH_2COO^cC_5H_9$
1-88	F	Cl	H	CF_2Cl	CH_3	$NH_2CH_2COO^cC_6H_{11}$
1-89	F	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COOCH_3$
1-90	F	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COOC_2H_5$
1-91	F	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COO^nC_3H_7$
1-92	F	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COO^nC_4H_9$
1-93	F	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COO^nC_5H_{11}$
1-94	F	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COO^iC_3H_7$
1-95	F	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COO^cC_5H_9$
1-96	F	Cl	H	CF_2Cl	CH_3	$NHCH(CH_3)COO^cC_6H_{11}$
1-97	H	Cl	H	CF_2Cl	CH_3	OCH_3
1-98	H	Cl	H	CF_2Cl	CH_3	OC_2H_5
1-99	H	Cl	H	CF_2Cl	CH_3	$O^iC_3H_7$
1-100	H	Cl	H	CF_2Cl	CH_3	$O^nC_3H_7$
1-101	H	Cl	H	CF_2Cl	CH_3	OCH_2CH_2Cl
1-102	H	Cl	H	CF_2Cl	CH_3	OCF_2CF_2H
1-103	H	Cl	H	CF_2Cl	CH_3	$O^cC_5H_9$
1-104	H	Cl	H	CF_2Cl	CH_3	$O^cC_6H_{11}$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-105	H	Cl	H	CF_2Cl	CH_3	$OCH_2CH=CH_2$
1-106	H	Cl	H	CF_2Cl	CH_3	$OCH_2CCl=CH_2$
1-107	H	Cl	H	CF_2Cl	CH_3	$OCH_2CCl=CHCl$
1-108	H	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)CH=CH_2$
1-109	H	Cl	H	CF_2Cl	CH_3	$OCH_2C\equiv CH$
1-110	H	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)C\equiv CH$
1-111	H	Cl	H	CF_2Cl	CH_3	$OCH_2C\equiv CBr$
1-112	H	Cl	H	CF_2Cl	CH_3	$OCH_2C\equiv CCl$
1-113	H	Cl	H	CF_2Cl	CH_3	$OCH_2C\equiv CCH_2Cl$
1-114	H	Cl	H	CF_2Cl	CH_3	OCH_2CN
1-115	H	Cl	H	CF_2Cl	CH_3	OCH_2OCH_3
1-116	H	Cl	H	CF_2Cl	CH_3	$OCH_2OC_2H_5$
1-117	H	Cl	H	CF_2Cl	CH_3	OCH_2SCH_3
1-118	H	Cl	H	CF_2Cl	CH_3	OCH_2COOCH_3
1-119	H	Cl	H	CF_2Cl	CH_3	$OCH_2COOC_2H_5$
1-120	H	Cl	H	CF_2Cl	CH_3	$OCH_2COO^nC_3H_7$
1-121	H	Cl	H	CF_2Cl	CH_3	$OCH_2COO^nC_4H_9$
1-122	H	Cl	H	CF_2Cl	CH_3	$OCH_2COO^nC_5H_{11}$
1-123	H	Cl	H	CF_2Cl	CH_3	$OCH_2COO^iC_3H_7$
1-124	H	Cl	H	CF_2Cl	CH_3	$OCH_2COO^cC_5H_9$
1-125	H	Cl	H	CF_2Cl	CH_3	$OCH_2COO^cC_6H_{11}$
1-126	H	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COOCH_3$
1-127	H	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COOC_2H_5$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-128	H	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COO^nC_3H_7$
1-129	H	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COO^nC_4H_9$
1-130	H	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COO^nC_5H_{11}$
1-131	H	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COO^iC_3H_7$
1-132	H	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COO^cC_5H_9$
1-133	H	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COO^cC_6H_{11}$
1-134	H	Cl	H	CF_2Cl	CH_3	$OCH_2CON(CH_3)_2$
1-135	H	Cl	H	CF_2Cl	CH_3	$OCH_2CON(C_2H_5)_2$
1-136	H	Cl	H	CF_2Cl	CH_3	$OCH_2CON(CH_3)C_2H_5$
1-137	H	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)CON(CH_3)_2$
1-138	H	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)CON(C_2H_5)_2$
1-139	H	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)CON(CH_3)C_2H_5$
1-140	H	Cl	H	CF_2Cl	CH_3	$OCH_2COON(CH_3)_2$
1-141	H	Cl	H	CF_2Cl	CH_3	$OCH_2COON(C_2H_5)_2$
1-142	H	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COON(CH_3)_2$
1-143	H	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COON(C_2H_5)_2$
1-144	F	Cl	H	CF_2Cl	CH_3	OCH_3
1-145	F	Cl	H	CF_2Cl	CH_3	OC_2H_5
1-146	F	Cl	H	CF_2Cl	CH_3	$O^iC_3H_7$
1-147	F	Cl	H	CF_2Cl	CH_3	$O^nC_3H_7$
1-148	F	Cl	H	CF_2Cl	CH_3	OCH_2CH_2Cl
1-149	F	Cl	H	CF_2Cl	CH_3	OCF_2CF_2H
1-150	F	Cl	H	CF_2Cl	CH_3	$O^cC_6H_9$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-151	F	Cl	H	CF_2Cl	CH_3	$O^cC_6H_{11}$
1-152	F	Cl	H	CF_2Cl	CH_3	$OCH_2CH_2=CH_2$
1-153	F	Cl	H	CF_2Cl	CH_3	$OCH_2CCl=CH_2$
1-154	F	Cl	H	CF_2Cl	CH_3	$OCH_2CCl=CHCl$
1-155	F	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)CH=CH_2$
1-156	F	Cl	H	CF_2Cl	CH_3	$OCH_2C\equiv CH$
1-157	F	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)C\equiv CH$
1-158	F	Cl	H	CF_2Cl	CH_3	$OCH_2C\equiv CBr$
1-159	F	Cl	H	CF_2Cl	CH_3	$OCH_2C\equiv CCl$
1-160	F	Cl	H	CF_2Cl	CH_3	$OCH_2C\equiv CCH_2Cl$
1-161	F	Cl	H	CF_2Cl	CH_3	OCH_2CN
1-162	F	Cl	H	CF_2Cl	CH_3	OCH_2OCH_3
1-163	F	Cl	H	CF_2Cl	CH_3	$OCH_2OC_2H_5$
1-164	F	Cl	H	CF_2Cl	CH_3	OCH_2SCH_3
1-165	F	Cl	H	CF_2Cl	CH_3	OCH_2COOCH_3
1-166	F	Cl	H	CF_2Cl	CH_3	$OCH_2COOC_2H_5$
1-167	F	Cl	H	CF_2Cl	CH_3	$OCH_2COO^nC_3H_7$
1-168	F	Cl	H	CF_2Cl	CH_3	$OCH_2COO^nC_4H_9$
1-169	F	Cl	H	CF_2Cl	CH_3	$OCH_2COO^nC_5H_{11}$
1-170	F	Cl	H	CF_2Cl	CH_3	$OCH_2COO^iC_3H_7$
1-171	F	Cl	H	CF_2Cl	CH_3	$OCH_2COO^cC_5H_9$
1-172	F	Cl	H	CF_2Cl	CH_3	$OCH_2COO^cC_6H_{11}$
1-173	F	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COOCH_3$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-174	F	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COOC_2H_5$
1-175	F	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COO^nC_3H_7$
1-176	F	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COO^nC_4H_9$
1-177	F	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COO^nC_5H_{11}$
1-178	F	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COO^iC_3H_7$
1-179	F	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COO^cC_5H_9$
1-180	F	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COO^cC_6H_{11}$
1-181	F	Cl	H	CF_2Cl	CH_3	$OCH_2CON(CH_3)_2$
1-182	F	Cl	H	CF_2Cl	CH_3	$OCH_2CON(C_2H_5)_2$
1-183	F	Cl	H	CF_2Cl	CH_3	$OCH_2CON(CH_3)C_2H_5$
1-184	F	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)CON(CH_3)_2$
1-185	F	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)CON(C_2H_5)_2$
1-186	F	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)CON(CH_3)C_2H_5$
1-187	F	Cl	H	CF_2Cl	CH_3	$OCH_2COON(CH_3)_2$
1-188	F	Cl	H	CF_2Cl	CH_3	$OCH_2COON(C_2H_5)_2$
1-189	F	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COON(CH_3)_2$
1-190	F	Cl	H	CF_2Cl	CH_3	$OCH(CH_3)COON(C_2H_5)_2$
1-191	H	F	H	CF_2Cl	CH_3	SH
1-192	H	Cl	H	CF_2Cl	CH_3	SH
1-193	H	Br	H	CF_2Cl	CH_3	SH
1-194	F	F	H	CF_2Cl	CH_3	SH
1-195	F	Cl	H	CF_2Cl	CH_3	SH
1-196	F	Br	H	CF_2Cl	CH_3	SH

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-197	H	Cl	H	CF_2Cl	CH_3	SCH_3
1-198	H	Cl	H	CF_2Cl	CH_3	SC_2H_5
1-199	H	Cl	H	CF_2Cl	CH_3	$S^iC_3H_7$
1-200	H	Cl	H	CF_2Cl	CH_3	SCH_2CH_2Cl
1-201	H	Cl	H	CF_2Cl	CH_3	$S^cC_5H_9$
1-202	H	Cl	H	CF_2Cl	CH_3	$S^cC_6H_{11}$
1-203	H	Cl	H	CF_2Cl	CH_3	$SCH_2CH=CH_2$
1-204	H	Cl	H	CF_2Cl	CH_3	$SCH_2CCl=CH_2$
1-205	H	Cl	H	CF_2Cl	CH_3	$SCH_2CCl=CHCl$
1-206	H	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)CH=CH_2$
1-207	H	Cl	H	CF_2Cl	CH_3	$SCH_2C\equiv CH$
1-208	H	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)C\equiv CH$
1-209	H	Cl	H	CF_2Cl	CH_3	SCH_2COOCH_3
1-210	H	Cl	H	CF_2Cl	CH_3	$SCH_2COOC_2H_5$
1-211	H	Cl	H	CF_2Cl	CH_3	$SCH_2COO^nC_3H_7$
1-212	H	Cl	H	CF_2Cl	CH_3	$SCH_2COO^nC_4H_9$
1-213	H	Cl	H	CF_2Cl	CH_3	$SCH_2COO^nC_5H_{11}$
1-214	H	Cl	H	CF_2Cl	CH_3	$SCH_2COO^iC_3H_7$
1-215	H	Cl	H	CF_2Cl	CH_3	$SCH_2COO^cC_5H_9$
1-216	H	Cl	H	CF_2Cl	CH_3	$SCH_2COO^cC_6H_{11}$
1-217	H	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COOCH_3$
1-218	H	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COOC_2H_5$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-219	H	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COO^nC_3H_7$
1-220	H	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COO^nC_4H_9$
1-221	H	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COO^nC_5H_{11}$
1-222	H	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COO^iC_3H_7$
1-223	H	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COO^cC_5H_9$
1-224	H	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COO^cC_6H_{11}$
1-225	H	Cl	H	CF_2Cl	CH_3	$SCH_2CON(CH_3)_2$
1-226	H	Cl	H	CF_2Cl	CH_3	$SCH_2CON(C_2H_5)_2$
1-227	H	Cl	H	CF_2Cl	CH_3	SCH_2CON(tetramethylene)
1-228	H	Cl	H	CF_2Cl	CH_3	SCH_2CON(pentamethylene)
1-229	H	Cl	H	CF_2Cl	CH_3	SCH_2CON (ethyleneoxyethylene)
1-230	H	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)CON(CH_3)_2$
1-231	H	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)CON(C_2H_5)_2$
1-232	H	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)CON$ (tetramethylene)
1-233	H	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)CON$ (pentamethylene)
1-234	F	Cl	H	CF_2Cl	CH_3	SCH_3
1-235	F	Cl	H	CF_2Cl	CH_3	SC_2H_5
1-236	F	Cl	H	CF_2Cl	CH_3	$S^iC_3H_7$
1-237	F	Cl	H	CF_2Cl	CH_3	SCH_2CH_2Cl
1-238	F	Cl	H	CF_2Cl	CH_3	$S^cC_5H_9$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-239	F	Cl	H	CF_2Cl	CH_3	$S^cC_6H_{11}$
1-240	F	Cl	H	CF_2Cl	CH_3	$SCH_2CH=CH_2$
1-241	F	Cl	H	CF_2Cl	CH_3	$SCH_2CCl=CH_2$
1-242	F	Cl	H	CF_2Cl	CH_3	$SCH_2CCl=CHCl$
1-243	F	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)CH=CH_2$
1-244	F	Cl	H	CF_2Cl	CH_3	$SCH_2C\equiv CH$
1-245	F	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)C\equiv CH$
1-246	F	Cl	H	CF_2Cl	CH_3	SCH_2COOCH_3
1-247	F	Cl	H	CF_2Cl	CH_3	$SCH_2COOC_2H_5$
1-248	F	Cl	H	CF_2Cl	CH_3	$SCH_2COO^nC_3H_7$
1-249	F	Cl	H	CF_2Cl	CH_3	$SCH_2COO^nC_4H_9$
1-250	F	Cl	H	CF_2Cl	CH_3	$SCH_2COO^nC_5H_{11}$
1-251	F	Cl	H	CF_2Cl	CH_3	$SCH_2COO^iC_3H_7$
1-252	F	Cl	H	CF_2Cl	CH_3	$SCH_2COO^cC_5H_9$
1-253	F	Cl	H	CF_2Cl	CH_3	$SCH_2COO^cC_6H_{11}$
1-254	F	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COOCH_3$
1-255	F	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COOC_2H_5$
1-256	F	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COO^nC_3H_7$
1-257	F	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COO^nC_4H_9$
1-258	F	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COO^nC_5H_{11}$
1-259	F	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COO^iC_3H_7$
1-260	F	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COO^cC_5H_9$
1-261	F	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)COO^cC_6H_{11}$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-262	F	Cl	H	CF_2Cl	CH_3	$SCH_2CON(CH_3)_2$
1-263	F	Cl	H	CF_2Cl	CH_3	$SCH_2CON(C_2H_5)_2$
1-264	F	Cl	H	CF_2Cl	CH_3	SCH_2CON(tetramethylene)
1-265	F	Cl	H	CF_2Cl	CH_3	SCH_2CON(pentamethylene)
1-266	F	Cl	H	CF_2Cl	CH_3	SCH_2CON (ethyleneoxyethylene)
1-267	F	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)CON(CH_3)_2$
1-268	F	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)CON(C_2H_5)_2$
1-269	F	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)CON$ (tetramethylene)
1-270	F	Cl	H	CF_2Cl	CH_3	$SCH(CH_3)CON$ (pentamethylene)
1-271	H	F	H	CF_2Cl	CH_3	SO_2Cl
1-272	H	Cl	H	CF_2Cl	CH_3	SO_2Cl
1-273	H	Br	H	CF_2Cl	CH_3	SO_2Cl
1-274	F	F	H	CF_2Cl	CH_3	SO_2Cl
1-275	F	Cl	H	CF_2Cl	CH_3	SO_2Cl
1-276	F	Br	H	CF_2Cl	CH_3	SO_2Cl
1-277	H	Cl	H	CF_2Cl	CH_3	SO_2OCH_3
1-278	H	Cl	H	CF_2Cl	CH_3	$SO_2OC_2H_5$
1-279	H	Cl	H	CF_2Cl	CH_3	$SO_2O^iC_3H_7$
1-280	H	Cl	H	CF_2Cl	CH_3	$SO_2OCH_2CH=CH_2$
1-281	F	Cl	H	CF_2Cl	CH_3	SO_2OCH_3

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-282	F	Cl	H	CF_2Cl	CH_3	$SO_2OC_2H_5$
1-283	F	Cl	H	CF_2Cl	CH_3	$SO_2O^iC_3H_7$
1-284	F	Cl	H	CF_2Cl	CH_3	$SO_2OCH_2CH=CH_2$
1-285	H	Cl	H	CF_2Cl	CH_3	$SO_2N(CH_3)_2$
1-286	H	Cl	H	CF_2Cl	CH_3	$SO_2N(C_2H_5)_2$
1-287	F	Cl	H	CF_2Cl	CH_3	$SO_2N(CH_3)_2$
1-288	F	Cl	H	CF_2Cl	CH_3	$SO_2N(C_2H_5)_2$
1-289	H	Cl	H	CF_2Cl	CH_3	COOH
1-290	H	Cl	H	CF_2Cl	CH_3	$COOCH_3$
1-291	H	Cl	H	CF_2Cl	CH_3	$COOC_2H_5$
1-292	H	Cl	H	CF_2Cl	CH_3	$COO^nC_3H_7$
1-293	H	Cl	H	CF_2Cl	CH_3	$COO^nC_4H_9$
1-294	H	Cl	H	CF_2Cl	CH_3	$COO^nC_5H_{11}$
1-295	H	Cl	H	CF_2Cl	CH_3	$COO^iC_3H_7$
1-296	H	Cl	H	CF_2Cl	CH_3	$COOCH_2CH_2Cl$
1-297	H	Cl	H	CF_2Cl	CH_3	$COOCH_2CH_2Br$
1-298	H	Cl	H	CF_2Cl	CH_3	$CON(CH_3)_2$
1-299	H	Cl	H	CF_2Cl	CH_3	$CONHCH_3$
1-300	H	Cl	H	CF_2Cl	CH_3	$CON(C_2H_5)_2$
1-301	H	Cl	H	CF_2Cl	CH_3	$CONHC_2H_5$
1-302	H	Cl	H	CF_2Cl	CH_3	$COCH_3$
1-303	H	Cl	H	CF_2Cl	CH_3	COC_2H_5
1-304	H	Cl	H	CF_2Cl	CH_3	$COCH_2Cl$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-305	H	Cl	H	CF_2Cl	CH_3	CHO
1-306	H	Cl	H	CF_2Cl	CH_3	$CH=CHCOOCH_3$
1-307	H	Cl	H	CF_2Cl	CH_3	$CH=CHCOOC_2H_5$
1-308	H	Cl	H	CF_2Cl	CH_3	$CH_2CH_2COOCH_3$
1-309	H	Cl	H	CF_2Cl	CH_3	$CH_2CH_2COOC_2H_5$
1-310	F	Cl	H	CF_2Cl	CH_3	COOH
1-311	F	Cl	H	CF_2Cl	CH_3	$COOCH_3$
1-312	F	Cl	H	CF_2Cl	CH_3	$COOC_2H_5$
1-313	F	Cl	H	CF_2Cl	CH_3	$COO^nC_3H_7$
1-314	F	Cl	H	CF_2Cl	CH_3	$COO^nC_4H_9$
1-315	F	Cl	H	CF_2Cl	CH_3	$COO^nC_5H_{11}$
1-316	F	Cl	H	CF_2Cl	CH_3	$COO^iC_3H_7$
1-317	F	Cl	H	CF_2Cl	CH_3	$COOCH_2CH_2Cl$
1-318	F	Cl	H	CF_2Cl	CH_3	$COOCH_2CH_2Br$
1-319	F	Cl	H	CF_2Cl	CH_3	$CON(CH_3)_2$
1-320	F	Cl	H	CF_2Cl	CH_3	$CONHCH_3$
1-321	F	Cl	H	CF_2Cl	CH_3	$CON(C_2H_5)_2$
1-322	F	Cl	H	CF_2Cl	CH_3	$CONHC_2H_5$
1-323	F	Cl	H	CF_2Cl	CH_3	$COCH_3$
1-324	F	Cl	H	CF_2Cl	CH_3	COC_2H_5
1-325	F	Cl	H	CF_2Cl	CH_3	$COCH_2Cl$
1-326	F	Cl	H	CF_2Cl	CH_3	CHO

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-327	F	Cl	H	CF_2Cl	CH_3	$CH=CHCOOCH_3$
1-328	F	Cl	H	CF_2Cl	CH_3	$CH=CHCOOC_2H_5$
1-329	F	Cl	H	CF_2Cl	CH_3	$CH_2CH_2COOCH_3$
1-330	F	Cl	H	CF_2Cl	CH_3	$CH_2CH_2COOC_2H_5$
1-331	H	F	H	CF_3	H	H
1-332	H	Cl	H	CF_3	H	H
1-333	H	Br	H	CF_3	H	H
1-334	H	F	H	CF_3	CH_3	H
1-335	H	Cl	H	CF_3	CH_3	H
1-336	H	Br	H	CF_3	CH_3	H
1-337	F	F	H	CF_3	H	H
1-338	F	Cl	H	CF_3	H	H
1-339	F	Br	H	CF_3	H	H
1-340	F	F	H	CF_3	CH_3	H
1-341	F	Cl	H	CF_3	CH_3	H
1-342	F	Br	H	CF_3	CH_3	H
1-343	H	F	H	CF_3	CH_3	NO_2
1-344	H	Cl	H	CF_3	CH_3	NO_2
1-345	H	Br	H	CF_3	CH_3	NO_2
1-346	F	F	H	CF_3	CH_3	NO_2
1-347	F	Cl	H	CF_3	CH_3	NO_2
1-348	F	Br	H	CF_3	CH_3	NO_2
1-349	H	F	H	CF_3	CH_3	NH_2

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-350	H	Cl	H	CF_3	CH_3	NH_2
1-351	H	Br	H	CF_3	CH_3	NH_2
1-352	F	F	H	CF_3	CH_3	NH_2
1-353	F	Cl	H	CF_3	CH_3	NH_2
1-354	H	Cl	H	CF_3	CH_3	$NHCH(CH_3)COOCH_3$
1-355	H	Cl	H	CF_3	CH_3	$NHCH(CH_3)COOC_2H_5$
1-356	H	Cl	H	CF_3	CH_3	$NHCH(CH_3)COO^nC_3H_7$
1-357	H	Cl	H	CF_3	CH_3	$NHCH(CH_3)COO^nC_4H_9$
1-358	H	Cl	H	CF_3	CH_3	$NHCH(CH_3)COO^nC_5H_{11}$
1-359	H	Cl	H	CF_3	CH_3	$NHCH(CH_3)COO^iC_3H_7$
1-360	H	Cl	H	CF_3	CH_3	$NHCH(CH_3)COO^cC_5H_9$
1-361	H	Cl	H	CF_3	CH_3	$NHCH(CH_3)COO^cC_6H_{11}$
1-362	F	Cl	H	CF_3	CH_3	$NHCH_3$
1-363	F	Cl	H	CF_3	CH_3	NHC_2H_5
1-364	F	Cl	H	CF_3	CH_3	$NHCH_2CH=CH_2$
1-365	F	Cl	H	CF_3	CH_3	$NHCH_2C\equiv CH$
1-366	F	Cl	H	CF_3	CH_3	$NHCH(CH_3)C\equiv CH$
1-367	F	Cl	H	CF_3	CH_3	$NHSO_2CH_3$
1-368	F	Cl	H	CF_3	CH_3	$NHSO_2C_2H_5$
1-369	F	Cl	H	CF_3	CH_3	$NHSO_2CH_2Cl$
1-370	F	Cl	H	CF_3	CH_3	$NHSO_2CF_3$
1-371	F	Cl	H	CF_3	CH_3	$N(CH_3)SO_2CH_3$
1-372	F	Cl	H	CF_3	CH_3	$N(CH_2C\equiv CH)SO_2CH_3$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-373	F	Cl	H	CF_3	CH_3	$NHCOOCH_3$
1-374	F	Cl	H	CF_3	CH_3	$NHCOOC_2H_5$
1-375	F	Cl	H	CF_3	CH_3	$NHCOO^nC_3H_7$
1-376	F	Cl	H	CF_3	CH_3	$NHCOO^iC_3H_7$
1-377	F	Cl	H	CF_3	CH_3	$NHCOO^nC_4H_9$
1-378	F	Cl	H	CF_3	CH_3	$NHCOO^nC_5H_{11}$
1-379	F	Cl	H	CF_3	CH_3	$NHCH_2COOCH_3$
1-380	F	Cl	H	CF_3	CH_3	$NHCH_2COOC_2H_5$
1-381	F	Cl	H	CF_3	CH_3	$NHCH_2COO^nC_3H_7$
1-382	F	Cl	H	CF_3	CH_3	$NHCH_2COO^nC_4H_9$
1-383	F	Cl	H	CF_3	CH_3	$NHCH_2COO^nC_5H_{11}$
1-384	F	Cl	H	CF_3	CH_3	$NHCH_2COO^iC_3H_7$
1-385	F	Cl	H	CF_3	CH_3	$NHCH_2COO^cC_5H_9$
1-386	F	Br	H	CF_3	CH_3	NH_2
1-387	H	F	H	CF_3	CH_3	OH
1-388	H	Cl	H	CF_3	CH_3	OH
1-389	H	Br	H	CF_3	CH_3	OH
1-390	F	F	H	CF_3	CH_3	OH
1-391	F	Cl	H	CF_3	CH_3	OH
1-392	F	Br	H	CF_3	CH_3	OH
1-393	H	Cl	H	CF_3	CH_3	$NHCH_3$
1-394	H	Cl	H	CF_3	CH_3	NHC_2H_5
1-395	H	Cl	H	CF_3	CH_3	$NHCH_2CH=CH_2$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-396	H	Cl	H	CF_3	CH_3	$NHCH_2C\equiv CH$
1-397	H	Cl	H	CF_3	CH_3	$NHCH(CH_3)C\equiv CH$
1-398	H	Cl	H	CF_3	CH_3	$NHSO_2CH_3$
1-399	H	Cl	H	CF_3	CH_3	$NHSO_2C_2H_5$
1-400	H	Cl	H	CF_3	CH_3	$NHSO_2CH_2Cl$
1-401	H	Cl	H	CF_3	CH_3	$NHSO_2CF_3$
1-402	H	Cl	H	CF_3	CH_3	$N(CH_3)SO_2CH_3$
1-403	H	Cl	H	CF_3	CH_3	$N(CH_2C\equiv CH)SO_2CH_3$
1-404	H	Cl	H	CF_3	CH_3	$NHCOOCH_3$
1-405	H	Cl	H	CF_3	CH_3	$NHCOOC_2H_5$
1-406	H	Cl	H	CF_3	CH_3	$NHCOO^nC_3H_7$
1-407	H	Cl	H	CF_3	CH_3	$NHCOO^iC_3H_7$
1-408	H	Cl	H	CF_3	CH_3	$NHCOO^nC_4H_9$
1-409	H	Cl	H	CF_3	CH_3	$NHCOO^nC_5H_{11}$
1-410	H	Cl	H	CF_3	CH_3	$NHCH_2COOCH_3$
1-411	H	Cl	H	CF_3	CH_3	$NHCH_2COOC_2H_5$
1-412	H	Cl	H	CF_3	CH_3	$NHCH_2COO^nC_3H_7$
1-413	H	Cl	H	CF_3	CH_3	$NHCH_2COO^nC_4H_9$
1-414	H	Cl	H	CF_3	CH_3	$NHCH_2COO^nC_5H_{11}$
1-415	H	Cl	H	CF_3	CH_3	$NHCH_2COO^iC_3H_7$
1-416	H	Cl	H	CF_3	CH_3	$NHCH_2COO^cC_5H_9$
1-417	H	Cl	H	CF_3	CH_3	$NHCH_2COO^cC_6H_{11}$
1-418	F	Cl	H	CF_3	CH_3	$NHCH_2COO^cC_6H_{11}$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-419	F	Cl	H	CF_3	CH_3	$NHCH(CH_3)COOCH_3$
1-420	F	Cl	H	CF_3	CH_3	$NHCH(CH_3)COOC_2H_5$
1-421	F	Cl	H	CF_3	CH_3	$NHCH(CH_3)COO^nC_3H_7$
1-422	F	Cl	H	CF_3	CH_3	$NHCH(CH_3)COO^nC_4H_9$
1-423	F	Cl	H	CF_3	CH_3	$NHCH(CH_3)COO^nC_5H_{11}$
1-424	F	Cl	H	CF_3	CH_3	$NHCH(CH_3)COO^iC_3H_7$
1-425	F	Cl	H	CF_3	CH_3	$NHCH(CH_3)COO^cC_5H_9$
1-426	F	Cl	H	CF_3	CH_3	$NHCH(CH_3)COO^cC_6H_{11}$
1-427	H	Cl	H	CF_3	CH_3	OCH_3
1-428	H	Cl	H	CF_3	CH_3	OC_2H_5
1-429	H	Cl	H	CF_3	CH_3	$O^iC_3H_7$
1-430	H	Cl	H	CF_3	CH_3	$O^nC_3H_7$
1-431	H	Cl	H	CF_3	CH_3	OCH_2CH_2Cl
1-432	H	Cl	H	CF_3	CH_3	OCF_2CF_2H
1-433	H	Cl	H	CF_3	CH_3	$O^cC_5H_9$
1-434	H	Cl	H	CF_3	CH_3	$O^cC_6H_{11}$
1-435	H	Cl	H	CF_3	CH_3	$OCH_2CH=CH_2$
1-436	H	Cl	H	CF_3	CH_3	$OCH_2CCl=CH_2$
1-437	H	Cl	H	CF_3	CH_3	$OCH_2CCl=CHCl$
1-438	H	Cl	H	CF_3	CH_3	$OCH(CH_3)CH=CH_2$
1-439	H	Cl	H	CF_3	CH_3	$OCH_2C\equiv CH$
1-440	H	Cl	H	CF_3	CH_3	$OCH(CH_3)C\equiv CH$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-441	H	Cl	H	CF_3	CH_3	$OCH_2C\equiv CBr$
1-442	H	Cl	H	CF_3	CH_3	$OCH_2C\equiv CCl$
1-443	H	Cl	H	CF_3	CH_3	$OCH_2C\equiv CCH_2Cl$
1-444	H	Cl	H	CF_3	CH_3	OCH_2CN
1-445	H	Cl	H	CF_3	CH_3	OCH_2OCH_3
1-446	H	Cl	H	CF_3	CH_3	$OCH_2OC_2H_5$
1-447	H	Cl	H	CF_3	CH_3	OCH_2SCH_3
1-448	H	Cl	H	CF_3	CH_3	OCH_2COOCH_3
1-449	H	Cl	H	CF_3	CH_3	$OCH_2COOC_2H_5$
1-450	H	Cl	H	CF_3	CH_3	$OCH_2COO^nC_3H_7$
1-451	H	Cl	H	CF_3	CH_3	$OCH_2COO^nC_4H_9$
1-452	H	Cl	H	CF_3	CH_3	$OCH_2COO^nC_5H_{11}$
1-453	H	Cl	H	CF_3	CH_3	$OCH_2COO^iC_3H_7$
1-454	H	Cl	H	CF_3	CH_3	$OCH_2COO^cC_5H_9$
1-455	H	Cl	H	CF_3	CH_3	$OCH_2COO^cC_6H_{11}$
1-456	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH_3$
1-457	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COOC_2H_5$
1-458	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COO^nC_3H_7$
1-459	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COO^nC_4H_9$
1-460	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COO^nC_5H_{11}$
1-461	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COO^iC_3H_7$
1-462	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COO^cC_5H_9$
1-463	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COO^cC_6H_{11}$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-464	H	Cl	H	CF_3	CH_3	$OCH_2CON(CH_3)_2$
1-465	H	Cl	H	CF_3	CH_3	$OCH_2CON(C_2H_5)_2$
1-466	H	Cl	H	CF_3	CH_3	$OCH_2CON(CH_3)C_2H_5$
1-467	H	Cl	H	CF_3	CH_3	$OCH(CH_3)CON(CH_3)_2$
1-468	H	Cl	H	CF_3	CH_3	$OCH(CH_3)CON(C_2H_5)_2$
1-469	H	Cl	H	CF_3	CH_3	$OCH(CH_3)CON(CH_3)C_2H_5$
1-470	H	Cl	H	CF_3	CH_3	$OCH_2COON(CH_3)_2$
1-471	H	Cl	H	CF_3	CH_3	$OCH_2COON(C_2H_5)_2$
1-472	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COON(CH_3)_2$
1-473	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COON(C_2H_5)_2$
1-474	F	Cl	H	CF_3	CH_3	OCH_3
1-475	F	Cl	H	CF_3	CH_3	OC_2H_5
1-476	F	Cl	H	CF_3	CH_3	$O^iC_3H_7$
1-477	F	Cl	H	CF_3	CH_3	$O^nC_3H_7$
1-478	F	Cl	H	CF_3	CH_3	OCH_2CH_2Cl
1-479	F	Cl	H	CF_3	CH_3	OCF_2CF_2H
1-480	F	Cl	H	CF_3	CH_3	$O^cC_5H_9$
1-481	F	Cl	H	CF_3	CH_3	$O^cC_6H_{11}$
1-482	F	Cl	H	CF_3	CH_3	$OCH_2CH=CH_2$
1-483	F	Cl	H	CF_3	CH_3	$OCH_2CCl=CH_2$
1-484	F	Cl	H	CF_3	CH_3	$OCH_2CCl=CHCl$
1-485	F	Cl	H	CF_3	CH_3	$OCH(CH_3)CH=CH_2$
1-486	F	Cl	H	CF_3	CH_3	$OCH_2C\equiv CH$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-487	F	Cl	H	CF_3	CH_3	$OCH(CH_3)C\equiv CH$
1-488	F	Cl	H	CF_3	CH_3	$OCH_2C\equiv CBr$
1-489	F	Cl	H	CF_3	CH_3	$OCH_2C\equiv CCl$
1-490	F	Cl	H	CF_3	CH_3	$OCH_2C\equiv CCH_2Cl$
1-491	F	Cl	H	CF_3	CH_3	OCH_2CN
1-492	F	Cl	H	CF_3	CH_3	OCH_2OCH_3
1-493	F	Cl	H	CF_3	CH_3	$OCH_2OC_2H_5$
1-494	F	Cl	H	CF_3	CH_3	OCH_2SCH_3
1-495	F	Cl	H	CF_3	CH_3	OCH_2COOCH_3
1-496	F	Cl	H	CF_3	CH_3	$OCH_2COOC_2H_5$
1-497	F	Cl	H	CF_3	CH_3	$OCH_2COO^nC_3H_7$
1-498	F	Cl	H	CF_3	CH_3	$OCH_2COO^nC_4H_9$
1-499	F	Cl	H	CF_3	CH_3	$OCH_2COO^nC_5H_{11}$
1-500	F	Cl	H	CF_3	CH_3	$OCH_2COO^iC_3H_7$
1-501	F	Cl	H	CF_3	CH_3	$OCH_2COO^sC_5H_9$
1-502	F	Cl	H	CF_3	CH_3	$OCH_2COO^sC_6H_{11}$
1-503	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH_3$
1-504	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COOC_2H_5$
1-505	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COO^nC_3H_7$
1-506	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COO^nC_4H_9$
1-507	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COO^nC_5H_{11}$
1-508	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COO^iC_3H_7$
1-509	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COO^sC_5H_9$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-510	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COO^cC_6H_{11}$
1-511	F	Cl	H	CF_3	CH_3	$OCH_2CON(CH_3)_2$
1-512	F	Cl	H	CF_3	CH_3	$OCH_2CON(C_2H_5)_2$
1-513	F	Cl	H	CF_3	CH_3	$OCH_2CON(CH_3)C_2H_5$
1-514	F	Cl	H	CF_3	CH_3	$OCH(CH_3)CON(CH_3)_2$
1-515	F	Cl	H	CF_3	CH_3	$OCH(CH_3)CON(C_2H_5)_2$
1-516	F	Cl	H	CF_3	CH_3	$OCH(CH_3)CON(CH_3)C_2H_5$
1-517	F	Cl	H	CF_3	CH_3	$OCH_2COON(CH_3)_2$
1-518	F	Cl	H	CF_3	CH_3	$OCH_2COON(C_2H_5)_2$
1-519	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COON(CH_3)_2$
1-520	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COON(C_2H_5)_2$
1-521	H	F	H	CF_3	CH_3	SH
1-522	H	Cl	H	CF_3	CH_3	SH
1-523	H	Br	H	CF_3	CH_3	SH
1-524	F	F	H	CF_3	CH_3	SH
1-525	F	Cl	H	CF_3	CH_3	SH
1-526	F	Br	H	CF_3	CH_3	SH
1-527	H	Cl	H	CF_3	CH_3	SCH_3
1-528	H	Cl	H	CF_3	CH_3	SC_2H_5
1-529	H	Cl	H	CF_3	CH_3	$S^iC_3H_7$
1-530	H	Cl	H	CF_3	CH_3	SCH_2CH_2Cl
1-531	H	Cl	H	CF_3	CH_3	$S^cC_5H_9$
1-532	H	Cl	H	CF_3	CH_3	$S^cC_6H_{11}$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-533	H	Cl	H	CF_3	CH_3	$SCH_2CH=CH_2$
1-534	H	Cl	H	CF_3	CH_3	$SCH_2CCl=CH_2$
1-535	H	Cl	H	CF_3	CH_3	$SCH_2CCl=CHCl$
1-536	H	Cl	H	CF_3	CH_3	$SCH(CH_3)CH=CH_2$
1-537	H	Cl	H	CF_3	CH_3	$SCH_2C\equiv CH$
1-538	H	Cl	H	CF_3	CH_3	$SCH(CH_3)C\equiv CH$
1-539	H	Cl	H	CF_3	CH_3	SCH_2COOCH_3
1-540	H	Cl	H	CF_3	CH_3	$SCH_2COOC_2H_5$
1-541	H	Cl	H	CF_3	CH_3	$SCH_2COO^nC_3H_7$
1-542	H	Cl	H	CF_3	CH_3	$SCH_2COO^nC_4H_9$
1-543	H	Cl	H	CF_3	CH_3	$SCH_2COO^nC_5H_{11}$
1-544	H	Cl	H	CF_3	CH_3	$SCH_2COO^iC_3H_7$
1-545	H	Cl	H	CF_3	CH_3	$SCH_2COO^cC_5H_9$
1-546	H	Cl	H	CF_3	CH_3	$SCH_2COO^cC_6H_{11}$
1-547	H	Cl	H	CF_3	CH_3	$SCH(CH_3)COOCH_3$
1-548	H	Cl	H	CF_3	CH_3	$SCH(CH_3)COOC_2H_5$
1-549	H	Cl	H	CF_3	CH_3	$SCH(CH_3)COO^nC_3H_7$
1-550	H	Cl	H	CF_3	CH_3	$SCH(CH_3)COO^nC_4H_9$
1-551	H	Cl	H	CF_3	CH_3	$SCH(CH_3)COO^nC_5H_{11}$
1-552	H	Cl	H	CF_3	CH_3	$SCH(CH_3)COO^iC_3H_7$
1-553	H	Cl	H	CF_3	CH_3	$SCH(CH_3)COO^cC_5H_9$
1-554	H	Cl	H	CF_3	CH_3	$SCH(CH_3)COO^cC_6H_{11}$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-555	H	Cl	H	CF_3	CH_3	$SCH_2CON(CH_3)_2$
1-556	H	Cl	H	CF_3	CH_3	$SCH_2CON(C_2H_5)_2$
1-557	H	Cl	H	CF_3	CH_3	SCH_2CON(tetramethylene)
1-558	H	Cl	H	CF_3	CH_3	SCH_2CON(pentamethylene)
1-559	H	Cl	H	CF_3	CH_3	SCH_2CON (ethyleneoxyethylene)
1-560	H	Cl	H	CF_3	CH_3	$SCH(CH_3)CON(CH_3)_2$
1-561	H	Cl	H	CF_3	CH_3	$SCH(CH_3)CON(C_2H_5)_2$
1-562	H	Cl	H	CF_3	CH_3	SCH(CH_3)CON (tetramethylene)
1-563	H	Cl	H	CF_3	CH_3	SCH(CH_3)CON (pentamethylene)
1-564	F	Cl	H	CF_3	CH_3	SCH_3
1-565	F	Cl	H	CF_3	CH_3	SC_2H_5
1-566	F	Cl	H	CF_3	CH_3	$S^iC_3H_7$
1-567	F	Cl	H	CF_3	CH_3	SCH_2CH_2Cl
1-568	F	Cl	H	CF_3	CH_3	$S^cC_5H_9$
1-569	F	Cl	H	CF_3	CH_3	$S^cC_6H_{11}$
1-570	F	Cl	H	CF_3	CH_3	$SCH_2CH=CH_2$
1-571	F	Cl	H	CF_3	CH_3	$SCH_2CCl=CH_2$
1-572	F	Cl	H	CF_3	CH_3	$SCH_2CCl=CHCl$
1-573	F	Cl	H	CF_3	CH_3	$SCH(CH_3)CH=CH_2$
1-574	F	Cl	H	CF_3	CH_3	$SCH_2C\equiv CH$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-575	F	Cl	H	CF_3	CH_3	$SCH(CH_3)C\equiv CH$
1-576	F	Cl	H	CF_3	CH_3	SCH_2COOCH_3
1-577	F	Cl	H	CF_3	CH_3	$SCH_2COOC_2H_5$
1-578	F	Cl	H	CF_3	CH_3	$SCH_2COO^nC_3H_7$
1-579	F	Cl	H	CF_3	CH_3	$SCH_2COO^nC_4H_9$
1-580	F	Cl	H	CF_3	CH_3	$SCH_2COO^nC_5H_{11}$
1-581	F	Cl	H	CF_3	CH_3	$SCH_2COO^iC_3H_7$
1-582	F	Cl	H	CF_3	CH_3	$SCH_2COO^cC_5H_9$
1-583	F	Cl	H	CF_3	CH_3	$SCH_2COO^cC_6H_{11}$
1-584	F	Cl	H	CF_3	CH_3	$SCH(CH_3)COOCH_3$
1-585	F	Cl	H	CF_3	CH_3	$SCH(CH_3)COOC_2H_5$
1-586	F	Cl	H	CF_3	CH_3	$SCH(CH_3)COO^nC_3H_7$
1-587	F	Cl	H	CF_3	CH_3	$SCH(CH_3)COO^nC_4H_9$
1-588	F	Cl	H	CF_3	CH_3	$SCH(CH_3)COO^nC_5H_{11}$
1-589	F	Cl	H	CF_3	CH_3	$SCH(CH_3)COO^iC_3H_7$
1-590	F	Cl	H	CF_3	CH_3	$SCH(CH_3)COO^cC_5H_9$
1-591	F	Cl	H	CF_3	CH_3	$SCH(CH_3)COO^cC_6H_{11}$
1-592	F	Cl	H	CF_3	CH_3	$SCH_2CON(CH_3)_2$
1-593	F	Cl	H	CF_3	CH_3	$SCH_2CON(C_2H_5)_2$
1-594	F	Cl	H	CF_3	CH_3	SCH_2CON(tetramethylene)
1-595	F	Cl	H	CF_3	CH_3	SCH_2CON(pentamethylene)
1-596	F	Cl	H	CF_3	CH_3	SCH_2CON (ethyleneoxyethylene)

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-597	F	Cl	H	CF_3	CH_3	$SCH(CH_3)CON(CH_3)_2$
1-598	F	Cl	H	CF_3	CH_3	$SCH(CH_3)CON(C_2H_5)_2$
1-599	F	Cl	H	CF_3	CH_3	$SCH(CH_3)CON$ (tetramethylene)
1-600	F	Cl	H	CF_3	CH_3	$SCH(CH_3)CON$ (pentamethylene)
1-601	H	F	H	CF_3	CH_3	SO_2Cl
1-602	H	Cl	H	CF_3	CH_3	SO_2Cl
1-603	H	Br	H	CF_3	CH_3	SO_2Cl
1-604	F	F	H	CF_3	CH_3	SO_2Cl
1-605	F	Cl	H	CF_3	CH_3	SO_2Cl
1-606	F	Br	H	CF_3	CH_3	SO_2Cl
1-607	H	Cl	H	CF_3	CH_3	SO_2OCH_3
1-608	H	Cl	H	CF_3	CH_3	$SO_2OC_2H_5$
1-609	H	Cl	H	CF_3	CH_3	$SO_2O^iC_3H_7$
1-610	H	Cl	H	CF_3	CH_3	$SO_2OCH_2CH=CH_2$
1-611	F	Cl	H	CF_3	CH_3	SO_2OCH_3
1-612	F	Cl	H	CF_3	CH_3	$SO_2OC_2H_5$
1-613	F	Cl	H	CF_3	CH_3	$SO_2O^iC_3H_7$
1-614	F	Cl	H	CF_3	CH_3	$SO_2OCH_2CH=CH_2$
1-615	H	Cl	H	CF_3	CH_3	$SO_2N(CH_3)_2$
1-616	H	Cl	H	CF_3	CH_3	$SO_2N(C_2H_5)_2$
1-617	F	Cl	H	CF_3	CH_3	$SO_2N(CH_3)_2$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-618	F	Cl	H	CF_3	CH_3	$SO_2N(C_2H_5)_2$
1-619	H	Cl	H	CF_3	CH_3	COOH
1-620	H	Cl	H	CF_3	CH_3	$COOCH_3$
1-621	H	Cl	H	CF_3	CH_3	$COOC_2H_5$
1-622	H	Cl	H	CF_3	CH_3	$COO^nC_3H_7$
1-623	H	Cl	H	CF_3	CH_3	$COO^nC_4H_9$
1-624	H	Cl	H	CF_3	CH_3	$COO^nC_5H_{11}$
1-625	H	Cl	H	CF_3	CH_3	$COO^iC_3H_7$
1-626	H	Cl	H	CF_3	CH_3	$COOCH_2CH_2Cl$
1-627	H	Cl	H	CF_3	CH_3	$COOCH_2CH_2Br$
1-628	H	Cl	H	CF_3	CH_3	$CON(CH_3)_2$
1-629	H	Cl	H	CF_3	CH_3	$CONHCH_3$
1-630	H	Cl	H	CF_3	CH_3	$CON(C_2H_5)_2$
1-631	H	Cl	H	CF_3	CH_3	$CONHC_2H_5$
1-632	H	Cl	H	CF_3	CH_3	$COCH_3$
1-633	H	Cl	H	CF_3	CH_3	COC_2H_5
1-634	H	Cl	H	CF_3	CH_3	$COCH_2Cl$
1-635	H	Cl	H	CF_3	CH_3	CHO
1-636	H	Cl	H	CF_3	CH_3	$CH=CHCOOCH_3$
1-637	H	Cl	H	CF_3	CH_3	$CH=CHCOOC_2H_5$
1-638	H	Cl	H	CF_3	CH_3	$CH_2CH_2COOCH_3$
1-639	H	Cl	H	CF_3	CH_3	$CH_2CH_2COOC_2H_5$
1-640	F	Cl	H	CF_3	CH_3	COOH

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-641	F	Cl	H	CF_3	CH_3	$COOCH_3$
1-642	F	Cl	H	CF_3	CH_3	$COOC_2H_5$
1-643	F	Cl	H	CF_3	CH_3	$COO^nC_3H_7$
1-644	F	Cl	H	CF_3	CH_3	$COO^nC_4H_9$
1-645	F	Cl	H	CF_3	CH_3	$COO^nC_5H_{11}$
1-646	F	Cl	H	CF_3	CH_3	$COO^iC_3H_7$
1-647	F	Cl	H	CF_3	CH_3	$COOCH_2CH_2Cl$
1-648	F	Cl	H	CF_3	CH_3	$COOCH_2CH_2Br$
1-649	F	Cl	H	CF_3	CH_3	$CON(CH_3)_2$
1-650	F	Cl	H	CF_3	CH_3	$CONHCH_3$
1-651	F	Cl	H	CF_3	CH_3	$CON(C_2H_5)_2$
1-652	F	Cl	H	CF_3	CH_3	$CONHC_2H_5$
1-653	F	Cl	H	CF_3	CH_3	$COCH_3$
1-654	F	Cl	H	CF_3	CH_3	COC_2H_5
1-655	F	Cl	H	CF_3	CH_3	$COCH_2Cl$
1-656	F	Cl	H	CF_3	CH_3	CHO
1-657	F	Cl	H	CF_3	CH_3	$CH=CHCOOCH_3$
1-658	F	Cl	H	CF_3	CH_3	$CH=CHCOOC_2H_5$
1-659	F	Cl	H	CF_3	CH_3	$CH_2CH_2COOCH_3$
1-660	F	Cl	H	CF_2Cl	CH_3	$CH_2CH_2COOC_2H_5$
1-661	Cl	Cl	H	CF_2Cl	H	H
1-662	H	F	H	CF_2Cl	H	NO_2

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-663	H	Cl	H	CF_2Cl	H	NO_2
1-664	H	Br	H	CF_2Cl	H	NO_2
1-665	F	F	H	CF_2Cl	H	NO_2
1-666	F	Cl	H	CF_2Cl	H	NO_2
1-667	F	Br	H	CF_2Cl	H	NO_2
1-668	H	F	H	CF_2Cl	H	NH_2
1-669	H	Cl	H	CF_2Cl	H	NH_2
1-670	H	Br	H	CF_2Cl	H	NH_2
1-671	F	F	H	CF_2Cl	H	NH_2
1-672	F	Cl	H	CF_2Cl	H	NH_2
1-673	F	Br	H	CF_2Cl	H	NH_2
1-674	H	F	H	CF_2Cl	H	OH
1-675	H	Cl	H	CF_2Cl	H	OH
1-676	H	Br	H	CF_2Cl	H	OH
1-677	F	F	H	CF_2Cl	H	OH
1-678	F	Cl	H	CF_2Cl	H	OH
1-679	F	Br	H	CF_2Cl	H	OH
1-680	H	Cl	H	CF_2Cl	H	$NHCH_3$
1-681	H	Cl	H	CF_2Cl	H	NHC_2H_5
1-682	H	Cl	H	CF_2Cl	H	$NHCH_2CH=CH_2$
1-683	H	Cl	H	CF_2Cl	H	$NHCH_2C\equiv CH$
1-684	H	Cl	H	CF_2Cl	H	$NHCH(CH_3)C\equiv CH$
1-685	H	Cl	H	CF_2Cl	H	$NHSO_2CH_3$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-686	H	Cl	H	CF_2Cl	H	$NHSO_2C_2H_5$
1-687	H	Cl	H	CF_2Cl	H	$NHSO_2CH_2Cl$
1-688	H	Cl	H	CF_2Cl	H	$NHSO_2CF_3$
1-689	H	Cl	H	CF_2Cl	H	$N(CH_3)SO_2CH_3$
1-690	H	Cl	H	CF_2Cl	H	$N(CH_2C\equiv CH)SO_2CH_3$
1-691	H	Cl	H	CF_2Cl	H	$NHCOOCH_3$
1-692	H	Cl	H	CF_2Cl	H	$NHCOOC_2H_5$
1-693	H	Cl	H	CF_2Cl	H	$NHCOO^nC_3H_7$
1-694	H	Cl	H	CF_2Cl	H	$NHCOO^iC_3H_7$
1-695	H	Cl	H	CF_2Cl	H	$NHCOO^nC_4H_9$
1-696	H	Cl	H	CF_2Cl	H	$NHCOO^nC_5H_{11}$
1-697	H	Cl	H	CF_2Cl	H	$NHCH_2COOCH_3$
1-698	H	Cl	H	CF_2Cl	H	$NHCH_2COOC_2H_5$
1-699	H	Cl	H	CF_2Cl	H	$NHCH_2COO^nC_3H_7$
1-700	H	Cl	H	CF_2Cl	H	$NHCH_2COO^nC_4H_9$
1-701	H	Cl	H	CF_2Cl	H	$NHCH_2COO^nC_5H_{11}$
1-702	H	Cl	H	CF_2Cl	H	$NHCH_2COO^iC_3H_7$
1-703	H	Cl	H	CF_2Cl	H	$NHCH_2COO^sC_5H_9$
1-704	H	Cl	H	CF_2Cl	H	$NHCH_2COO^cC_6H_{11}$
1-705	H	Cl	H	CF_2Cl	H	$NHCH(CH_3)COOCH_3$
1-706	H	Cl	H	CF_2Cl	H	$NHCH(CH_3)COOC_2H_5$
1-707	H	Cl	H	CF_2Cl	H	$NHCH(CH_3)COO^nC_3H_7$
1-708	H	Cl	H	CF_2Cl	H	$NHCH(CH_3)COO^nC_4H_9$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-709	H	Cl	H	CF_2Cl	H	$NHCH(CH_3)COO^nC_5H_{11}$
1-710	H	Cl	H	CF_2Cl	H	$NHCH(CH_3)COO^iC_3H_7$
1-711	H	Cl	H	CF_2Cl	H	$NHCH(CH_3)COO^cC_5H_9$
1-712	H	Cl	H	CF_2Cl	H	$NHCH(CH_3)COO^cC_6H_{11}$
1-713	F	Cl	H	CF_2Cl	H	$NHCH_3$
1-714	F	Cl	H	CF_2Cl	H	NHC_2H_5
1-715	F	Cl	H	CF_2Cl	H	$NHCH_2CH=CH_2$
1-716	F	Cl	H	CF_2Cl	H	$NHCH_2C\equiv CH$
1-717	F	Cl	H	CF_2Cl	H	$NHCH(CH_3)C\equiv CH$
1-718	F	Cl	H	CF_2Cl	H	$NHSO_2CH_3$
1-719	F	Cl	H	CF_2Cl	H	$NHSO_2C_2H_5$
1-720	F	Cl	H	CF_2Cl	H	$NHSO_2CH_2Cl$
1-721	F	Cl	H	CF_2Cl	H	$NHSO_2CF_3$
1-722	F	Cl	H	CF_2Cl	H	$N(CH_3)SO_2CH_3$
1-723	F	Cl	H	CF_2Cl	H	$N(CH_2C\equiv CH)SO_2CH_3$
1-724	F	Cl	H	CF_2Cl	H	$NHCOOCH_3$
1-725	F	Cl	H	CF_2Cl	H	$NHCOOC_2H_5$
1-726	F	Cl	H	CF_2Cl	H	$NHCOO^nC_3H_7$
1-727	F	Cl	H	CF_2Cl	H	$NHCOO^iC_3H_7$
1-728	F	Cl	H	CF_2Cl	H	$NHCOO^nC_4H_9$
1-729	F	Cl	H	CF_2Cl	H	$NHCOO^nC_5H_{11}$
1-730	F	Cl	H	CF_2Cl	H	$NHCH_2COOCH_3$
1-731	F	Cl	H	CF_2Cl	H	$NHCH_2COOC_2H_5$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-732	F	Cl	H	CF_2Cl	H	$NHCH_2COO^nC_3H_7$
1-733	F	Cl	H	CF_2Cl	H	$NHCH_2COO^nC_4H_9$
1-734	F	Cl	H	CF_2Cl	H	$NHCH_2COO^nC_5H_{11}$
1-735	F	Cl	H	CF_2Cl	H	$NHCH_2COO^iC_3H_7$
1-736	F	Cl	H	CF_2Cl	H	$NHCH_2COO^cC_5H_9$
1-737	F	Cl	H	CF_2Cl	H	$NH_2CH_2COO^cC_6H_{11}$
1-738	F	Cl	H	CF_2Cl	H	$NHCH(CH_3)COOCH_3$
1-739	F	Cl	H	CF_2Cl	H	$NHCH(CH_3)COOC_2H_5$
1-740	F	Cl	H	CF_2Cl	H	$NHCH(CH_3)COO^nC_3H_7$
1-741	F	Cl	H	CF_2Cl	H	$NHCH(CH_3)COO^nC_4H_9$
1-742	F	Cl	H	CF_2Cl	H	$NHCH(CH_3)COO^nC_5H_{11}$
1-743	F	Cl	H	CF_2Cl	H	$NHCH(CH_3)COO^iC_3H_7$
1-744	F	Cl	H	CF_2Cl	H	$NHCH(CH_3)COO^cC_5H_9$
1-745	F	Cl	H	CF_2Cl	H	$NHCH(CH_3)COO^cC_6H_{11}$
1-746	H	Cl	H	CF_2Cl	H	OCH_3
1-747	H	Cl	H	CF_2Cl	H	OC_2H_5
1-748	H	Cl	H	CF_2Cl	H	$O^iC_3H_7$
1-749	H	Cl	H	CF_2Cl	H	$O^nC_3H_7$
1-750	H	Cl	H	CF_2Cl	H	OCH_2CH_2Cl
1-751	H	Cl	H	CF_2Cl	H	OCF_2CF_2H
1-752	H	Cl	H	CF_2Cl	H	$O^cC_5H_9$
1-753	H	Cl	H	CF_2Cl	H	$O^cC_6H_{11}$
1-754	H	Cl	H	CF_2Cl	H	$OCH_2CH=CH_2$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-755	H	Cl	H	CF_2Cl	H	$OCH_2CCl=CH_2$
1-756	H	Cl	H	CF_2Cl	H	$OCH_2CCl=CHCl$
1-757	H	Cl	H	CF_2Cl	H	$OCH(CH_3)CH=CH_2$
1-758	H	Cl	H	CF_2Cl	H	$OCH_2C\equiv CH$
1-759	H	Cl	H	CF_2Cl	H	$OCH(CH_3)C\equiv CH$
1-760	H	Cl	H	CF_2Cl	H	$OCH_2C\equiv CBr$
1-761	H	Cl	H	CF_2Cl	H	$OCH_2C\equiv CCl$
1-762	H	Cl	H	CF_2Cl	H	$OCH_2C\equiv CCH_2Cl$
1-763	H	Cl	H	CF_2Cl	H	OCH_2CN
1-764	H	Cl	H	CF_2Cl	H	OCH_2OCH_3
1-765	H	Cl	H	CF_2Cl	H	$OCH_2OC_2H_5$
1-766	H	Cl	H	CF_2Cl	H	OCH_2SCH_3
1-767	H	Cl	H	CF_2Cl	H	OCH_2COOCH_3
1-768	H	Cl	H	CF_2Cl	H	$OCH_2COOC_2H_5$
1-769	H	Cl	H	CF_2Cl	H	$OCH_2COO^nC_3H_7$
1-770	H	Cl	H	CF_2Cl	H	$OCH_2COO^nC_4H_9$
1-771	H	Cl	H	CF_2Cl	H	$OCH_2COO^nC_5H_{11}$
1-772	H	Cl	H	CF_2Cl	H	$OCH_2COO^iC_3H_7$
1-773	H	Cl	H	CF_2Cl	H	$OCH_2COO^cC_5H_9$
1-774	H	Cl	H	CF_2Cl	H	$OCH_2COO^cC_6H_{11}$
1-775	H	Cl	H	CF_2Cl	H	$OCH(CH_3)COOCH_3$
1-776	H	Cl	H	CF_2Cl	H	$OCH(CH_3)COOC_2H_5$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-777	H	Cl	H	CF_2Cl	H	$OCH(CH_3)COO^nC_3H_7$
1-778	H	Cl	H	CF_2Cl	H	$OCH(CH_3)COO^nC_4H_9$
1-779	H	Cl	H	CF_2Cl	H	$OCH(CH_3)COO^nC_5H_{11}$
1-780	H	Cl	H	CF_2Cl	H	$OCH(CH_3)COO^iC_3H_7$
1-781	H	Cl	H	CF_2Cl	H	$OCH(CH_3)COO^cC_5H_9$
1-782	H	Cl	H	CF_2Cl	H	$OCH(CH_3)COO^cC_6H_{11}$
1-783	H	Cl	H	CF_2Cl	H	$OCH_2CON(CH_3)_2$
1-784	H	Cl	H	CF_2Cl	H	$OCH_2CON(C_2H_5)_2$
1-785	H	Cl	H	CF_2Cl	H	$OCH_2CON(CH_3)C_2H_5$
1-786	H	Cl	H	CF_2Cl	H	$OCH(CH_3)CON(CH_3)_2$
1-787	H	Cl	H	CF_2Cl	H	$OCH(CH_3)CON(C_2H_5)_2$
1-788	H	Cl	H	CF_2Cl	H	$OCH(CH_3)CON(CH_3)C_2H_5$
1-789	H	Cl	H	CF_2Cl	H	$OCH_2COON(CH_3)_2$
1-790	H	Cl	H	CF_2Cl	H	$OCH_2COON(C_2H_5)_2$
1-791	H	Cl	H	CF_2Cl	H	$OCH(CH_3)COON(CH_3)_2$
1-792	H	Cl	H	CF_2Cl	H	$OCH(CH_3)COON(C_2H_5)_2$
1-793	F	Cl	H	CF_2Cl	H	OCH_3
1-794	F	Cl	H	CF_2Cl	H	OC_2H_5
1-795	F	Cl	H	CF_2Cl	H	$O^iC_3H_7$
1-796	F	Cl	H	CF_2Cl	H	$O^nC_3H_7$
1-797	F	Cl	H	CF_2Cl	H	OCH_2CH_2Cl
1-798	F	Cl	H	CF_2Cl	H	OCF_2CF_2H
1-799	F	Cl	H	CF_2Cl	H	$O^cC_5H_9$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-800	F	Cl	H	CF_2Cl	H	$O^cC_6H_{11}$
1-801	F	Cl	H	CF_2Cl	H	$OCH_2CH=CH_2$
1-802	F	Cl	H	CF_2Cl	H	$OCH_2CCl=CH_2$
1-803	F	Cl	H	CF_2Cl	H	$OCH_2CCl=CHCl$
1-804	F	Cl	H	CF_2Cl	H	$OCH(CH_3)CH=CH_2$
1-805	F	Cl	H	CF_2Cl	H	$OCH_2C\equiv CH$
1-806	F	Cl	H	CF_2Cl	H	$OCH(CH_3)C\equiv CH$
1-807	F	Cl	H	CF_2Cl	H	$OCH_2C\equiv CBr$
1-808	F	Cl	H	CF_2Cl	H	$OCH_2C\equiv CCl$
1-809	F	Cl	H	CF_2Cl	H	$OCH_2C\equiv CCH_2Cl$
1-810	F	Cl	H	CF_2Cl	H	OCH_2CN
1-811	F	Cl	H	CF_2Cl	H	OCH_2OCH_3
1-812	F	Cl	H	CF_2Cl	H	$OCH_2OC_2H_5$
1-813	F	Cl	H	CF_2Cl	H	OCH_2SCH_3
1-814	F	Cl	H	CF_2Cl	H	OCH_2COOCH_3
1-815	F	Cl	H	CF_2Cl	H	$OCH_2COOC_2H_5$
1-816	F	Cl	H	CF_2Cl	H	$OCH_2COO^nC_3H_7$
1-817	F	Cl	H	CF_2Cl	H	$OCH_2COO^nC_4H_9$
1-818	F	Cl	H	CF_2Cl	H	$OCH_2COO^nC_5H_{11}$
1-819	F	Cl	H	CF_2Cl	H	$OCH_2COO^iC_3H_7$
1-820	F	Cl	H	CF_2Cl	H	$OCH_2COO^cC_5H_9$
1-821	F	Cl	H	CF_2Cl	H	$OCH_2COO^cC_6H_{11}$
1-822	F	Cl	H	CF_2Cl	H	$OCH(CH_3)COOCH_3$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-823	F	Cl	H	CF_2Cl	H	$OCH(CH_3)COOC_2H_5$
1-824	F	Cl	H	CF_2Cl	H	$OCH(CH_3)COO^nC_3H_7$
1-825	F	Cl	H	CF_2Cl	H	$OCH(CH_3)COO^nC_4H_9$
1-826	F	Cl	H	CF_2Cl	H	$OCH(CH_3)COO^nC_5H_{11}$
1-827	F	Cl	H	CF_2Cl	H	$OCH(CH_3)COO^iC_3H_7$
1-828	F	Cl	H	CF_2Cl	H	$OCH(CH_3)COO^cC_5H_9$
1-829	F	Cl	H	CF_2Cl	H	$OCH(CH_3)COO^cC_6H_{11}$
1-830	F	Cl	H	CF_2Cl	H	$OCH_2CON(CH_3)_2$
1-831	F	Cl	H	CF_2Cl	H	$OCH_2CON(C_2H_5)_2$
1-832	F	Cl	H	CF_2Cl	H	$OCH_2CON(CH_3)C_2H_5$
1-833	F	Cl	H	CF_2Cl	H	$OCH(CH_3)CON(CH_3)_2$
1-834	F	Cl	H	CF_2Cl	H	$OCH(CH_3)CON(C_2H_5)_2$
1-835	F	Cl	H	CF_2Cl	H	$OCH(CH_3)CON(CH_3)C_2H_5$
1-836	F	Cl	H	CF_2Cl	H	$OCH_2COON(CH_3)_2$
1-837	F	Cl	H	CF_2Cl	H	$OCH_2COON(C_2H_5)_2$
1-838	F	Cl	H	CF_2Cl	H	$OCH(CH_3)COON(CH_3)_2$
1-839	F	Cl	H	CF_2Cl	H	$OCH(CH_3)COON(C_2H_5)_2$
1-840	H	F	H	CF_2Cl	H	SH
1-841	H	Cl	H	CF_2Cl	H	SH
1-842	H	Br	H	CF_2Cl	H	SH
1-843	F	F	H	CF_2Cl	H	SH
1-844	F	Cl	H	CF_2Cl	H	SH
1-845	F	Br	H	CF_2Cl	H	SH

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-846	H	Cl	H	CF_2Cl	H	SCH_3
1-847	H	Cl	H	CF_2Cl	H	SC_2H_5
1-848	H	Cl	H	CF_2Cl	H	$S^iC_3H_7$
1-849	H	Cl	H	CF_2Cl	H	SCH_2CH_2Cl
1-850	H	Cl	H	CF_2Cl	H	$S^cC_5H_9$
1-851	H	Cl	H	CF_2Cl	H	$S^cC_6H_{11}$
1-852	H	Cl	H	CF_2Cl	H	$SCH_2CH=CH_2$
1-853	H	Cl	H	CF_2Cl	H	$SCH_2CCl=CH_2$
1-854	H	Cl	H	CF_2Cl	H	$SCH_2CCl=CHCl$
1-855	H	Cl	H	CF_2Cl	H	$SCH(CH_3)CH=CH_2$
1-856	H	Cl	H	CF_2Cl	H	$SCH_2C\equiv CH$
1-857	H	Cl	H	CF_2Cl	H	$SCH(CH_3)C\equiv CH$
1-858	H	Cl	H	CF_2Cl	H	SCH_2COOCH_3
1-859	H	Cl	H	CF_2Cl	H	$SCH_2COOC_2H_5$
1-860	H	Cl	H	CF_2Cl	H	$SCH_2COO^nC_3H_7$
1-861	H	Cl	H	CF_2Cl	H	$SCH_2COO^nC_4H_9$
1-862	H	Cl	H	CF_2Cl	H	$SCH_2COO^nC_5H_{11}$
1-863	H	Cl	H	CF_2Cl	H	$SCH_2COO^iC_3H_7$
1-864	H	Cl	H	CF_2Cl	H	$SCH_2COO^cC_5H_9$
1-865	H	Cl	H	CF_2Cl	H	$SCH_2COO^cC_6H_{11}$
1-866	H	Cl	H	CF_2Cl	H	$SCH(CH_3)COOCH_3$
1-867	H	Cl	H	CF_2Cl	H	$SCH(CH_3)COOC_2H_5$
1-868	H	Cl	H	CF_2Cl	H	$SCH(CH_3)COO^nC_3H_7$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-869	H	Cl	H	CF_2Cl	H	$SCH(CH_3)COO^nC_4H_9$
1-870	H	Cl	H	CF_2Cl	H	$SCH(CH_3)COO^nC_5H_{11}$
1-871	H	Cl	H	CF_2Cl	H	$SCH(CH_3)COO^iC_3H_7$
1-872	H	Cl	H	CF_2Cl	H	$SCH(CH_3)COO^sC_5H_9$
1-873	H	Cl	H	CF_2Cl	H	$SCH(CH_3)COO^sC_6H_{11}$
1-874	H	Cl	H	CF_2Cl	H	$SCH_2CON(CH_3)_2$
1-875	H	Cl	H	CF_2Cl	H	$SCH_2CON(C_2H_5)_2$
1-876	H	Cl	H	CF_2Cl	H	SCH_2CON(tetramethylene)
1-877	H	Cl	H	CF_2Cl	H	SCH_2CON(pentamethylene)
1-878	H	Cl	H	CF_2Cl	H	SCH_2CON (ethyleneoxyethylene)
1-879	H	Cl	H	CF_2Cl	H	$SCH(CH_3)CON(CH_3)_2$
1-880	H	Cl	H	CF_2Cl	H	$SCH(CH_3)CON(C_2H_5)_2$
1-881	H	Cl	H	CF_2Cl	H	$SCH(CH_3)CON$ (tetramethylene)
1-882	H	Cl	H	CF_2Cl	H	$SCH(CH_3)CON$ (pentamethylene)
1-883	F	Cl	H	CF_2Cl	H	SCH_3
1-884	F	Cl	H	CF_2Cl	H	SC_2H_5
1-885	F	Cl	H	CF_2Cl	H	$S^iC_3H_7$
1-886	F	Cl	H	CF_2Cl	H	SCH_2CH_2Cl

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-887	F	Cl	H	CF_2Cl	H	$S^cC_5H_9$
1-888	F	Cl	H	CF_2Cl	H	$S^cC_6H_{11}$
1-889	F	Cl	H	CF_2Cl	H	$SCH_2CH=CH_2$
1-890	F	Cl	H	CF_2Cl	H	$SCH_2CCl=CH_2$
1-891	F	Cl	H	CF_2Cl	H	$SCH_2CCl=CHCl$
1-892	F	Cl	H	CF_2Cl	H	$SCH(CH_3)CH=CH_2$
1-893	F	Cl	H	CF_2Cl	H	$SCH_2C\equiv CH$
1-894	F	Cl	H	CF_2Cl	H	$SCH(CH_3)C\equiv CH$
1-895	F	Cl	H	CF_2Cl	H	SCH_2COOCH_3
1-896	F	Cl	H	CF_2Cl	H	$SCH_2COOC_2H_5$
1-897	F	Cl	H	CF_2Cl	H	$SCH_2COO^nC_3H_7$
1-898	F	Cl	H	CF_2Cl	H	$SCH_2COO^nC_4H_9$
1-899	F	Cl	H	CF_2Cl	H	$SCH_2COO^nC_5H_{11}$
1-900	F	Cl	H	CF_2Cl	H	$SCH_2COO^iC_3H_7$
1-901	F	Cl	H	CF_2Cl	H	$SCH_2COO^cC_5H_9$
1-902	F	Cl	H	CF_2Cl	H	$SCH_2COO^cC_6H_{11}$
1-903	F	Cl	H	CF_2Cl	H	$SCH(CH_3)COOCH_3$
1-904	F	Cl	H	CF_2Cl	H	$SCH(CH_3)COOC_2H_5$
1-905	F	Cl	H	CF_2Cl	H	$SCH(CH_3)COO^nC_3H_7$
1-906	F	Cl	H	CF_2Cl	H	$SCH(CH_3)COO^nC_4H_9$
1-907	F	Cl	H	CF_2Cl	H	$SCH(CH_3)COO^nC_5H_{11}$
1-908	F	Cl	H	CF_2Cl	H	$SCH(CH_3)COO^iC_3H_7$
1-909	F	Cl	H	CF_2Cl	H	$SCH(CH_3)COO^cC_5H_9$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-910	F	Cl	H	CF_2Cl	H	$SCH(CH_3)COO^cC_6H_{11}$
1-911	F	Cl	H	CF_2Cl	H	$SCH_2CON(CH_3)_2$
1-912	F	Cl	H	CF_2Cl	H	$SCH_2CON(C_2H_5)_2$
1-913	F	Cl	H	CF_2Cl	H	SCH_2CON(tetramethylene)
1-914	F	Cl	H	CF_2Cl	H	SCH_2CON(pentamethylene)
1-915	F	Cl	H	CF_2Cl	H	SCH_2CON (ethyleneoxyethylene)
1-916	F	Cl	H	CF_2Cl	H	$SCH(CH_3)CON(CH_3)_2$
1-917	F	Cl	H	CF_2Cl	H	$SCH(CH_3)CON(C_2H_5)_2$
1-918	F	Cl	H	CF_2Cl	H	$SCH(CH_3)CON$ (tetramethylene)
1-919	F	Cl	H	CF_2Cl	H	$SCH(CH_3)CON$ (pentamethylene)
1-920	H	F	H	CF_2Cl	H	SO_2Cl
1-921	H	Cl	H	CF_2Cl	H	SO_2Cl
1-922	H	Br	H	CF_2Cl	H	SO_2Cl
1-923	F	F	H	CF_2Cl	H	SO_2Cl
1-924	F	Cl	H	CF_2Cl	H	SO_2Cl
1-925	F	Br	H	CF_2Cl	H	SO_2Cl
1-926	H	Cl	H	CF_2Cl	H	SO_2OCH_3
1-927	H	Cl	H	CF_2Cl	H	$SO_2OC_2H_5$
1-928	H	Cl	H	CF_2Cl	H	$SO_2O^iC_3H_7$
1-929	H	Cl	H	CF_2Cl	H	$SO_2OCH_2CH=CH_2$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-930	F	Cl	H	CF_2Cl	H	SO_2OCH_3
1-931	F	Cl	H	CF_2Cl	H	$SO_2OC_2H_5$
1-932	F	Cl	H	CF_2Cl	H	$SO_2O^iC_3H_7$
1-933	F	Cl	H	CF_2Cl	H	$SO_2OCH_2CH=CH_2$
1-934	H	Cl	H	CF_2Cl	H	$SO_2N(CH_3)_2$
1-935	H	Cl	H	CF_2Cl	H	$SO_2N(C_2H_5)_2$
1-936	F	Cl	H	CF_2Cl	H	$SO_2N(CH_3)_2$
1-937	F	Cl	H	CF_2Cl	H	$SO_2N(C_2H_5)_2$
1-938	H	Cl	H	CF_2Cl	H	COOH
1-939	H	Cl	H	CF_2Cl	H	$COOCH_3$
1-940	H	Cl	H	CF_2Cl	H	$COOC_2H_5$
1-941	H	Cl	H	CF_2Cl	H	$COO^nC_3H_7$
1-942	H	Cl	H	CF_2Cl	H	$COO^nC_4H_9$
1-943	H	Cl	H	CF_2Cl	H	$COO^nC_5H_{11}$
1-944	H	Cl	H	CF_2Cl	H	$COO^iC_3H_7$
1-945	H	Cl	H	CF_2Cl	H	$COOCH_2CH_2Cl$
1-946	H	Cl	H	CF_2Cl	H	$COOCH_2CH_2Br$
1-947	H	Cl	H	CF_2Cl	H	$CON(CH_3)_2$
1-948	H	Cl	H	CF_2Cl	H	$CONHCH_3$
1-949	H	Cl	H	CF_2Cl	H	$CON(C_2H_5)_2$
1-950	H	Cl	H	CF_2Cl	H	$CONHC_2H_5$
1-951	H	Cl	H	CF_2Cl	H	$COCH_3$
1-952	H	Cl	H	CF_2Cl	H	COC_2H_5

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-953	H	Cl	H	CF_2Cl	H	$COCH_2Cl$
1-954	H	Cl	H	CF_2Cl	H	CHO
1-955	H	Cl	H	CF_2Cl	H	$CH=CHCOOCH_3$
1-956	H	Cl	H	CF_2Cl	H	$CH=CHCOOC_2H_5$
1-957	H	Cl	H	CF_2Cl	H	$CH_2CH_2COOCH_3$
1-958	H	Cl	H	CF_2Cl	H	$CH_2CH_2COOC_2H_5$
1-959	F	Cl	H	CF_2Cl	H	COOH
1-960	F	Cl	H	CF_2Cl	H	$COOCH_3$
1-961	F	Cl	H	CF_2Cl	H	$COOC_2H_5$
1-962	F	Cl	H	CF_2Cl	H	$COO^nC_3H_7$
1-963	F	Cl	H	CF_2Cl	H	$COO^nC_4H_9$
1-964	F	Cl	H	CF_2Cl	H	$COO^nC_5H_{11}$
1-965	F	Cl	H	CF_2Cl	H	$COO^iC_3H_7$
1-966	F	Cl	H	CF_2Cl	H	$COOCH_2CH_2Cl$
1-967	F	Cl	H	CF_2Cl	H	$COOCH_2CH_2Br$
1-968	F	Cl	H	CF_2Cl	H	$CON(CH_3)_2$
1-969	F	Cl	H	CF_2Cl	H	$CONHCH_3$
1-970	F	Cl	H	CF_2Cl	H	$CON(C_2H_5)_2$
1-971	F	Cl	H	CF_2Cl	H	$CONHC_2H_5$
1-972	F	Cl	H	CF_2Cl	H	$COCH_3$
1-973	F	Cl	H	CF_2Cl	H	COC_2H_5
1-974	F	Cl	H	CF_2Cl	H	$COCH_2Cl$
1-975	F	Cl	H	CF_2Cl	H	CHO

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-976	F	Cl	H	CF_2Cl	H	$CH=CHCOOCH_3$
1-977	F	Cl	H	CF_2Cl	H	$CH=CHCOOC_2H_5$
1-978	F	Cl	H	CF_2Cl	H	$CH_2CH_2COOCH_3$
1-979	F	Cl	H	CF_2Cl	H	$CH_2CH_2COOC_2H_5$
1-980	H	F	H	CF_3	H	NO_2
1-981	H	Cl	H	CF_3	H	NO_2
1-982	H	Br	H	CF_3	H	NO_2
1-983	F	F	H	CF_3	H	NO_2
1-984	F	Cl	H	CF_3	H	NO_2
1-985	F	Br	H	CF_3	H	NO_2
1-986	H	F	H	CF_3	H	NH_2
1-987	H	Cl	H	CF_3	H	NH_2
1-988	H	Br	H	CF_3	H	NH_2
1-989	F	F	H	CF_3	H	NH_2
1-990	F	Cl	H	CF_3	H	NH_2
1-991	H	Cl	H	CF_3	H	$NHCH(CH_3)COOCH_3$
1-992	H	Cl	H	CF_3	H	$NHCH(CH_3)COOC_2H_5$
1-993	H	Cl	H	CF_3	H	$NHCH(CH_3)COO^nC_3H_7$
1-994	H	Cl	H	CF_3	H	$NHCH(CH_3)COO^nC_4H_9$
1-995	H	Cl	H	CF_3	H	$NHCH(CH_3)COO^nC_5H_{11}$
1-996	H	Cl	H	CF_3	H	$NHCH(CH_3)COO^iC_3H_7$
1-997	H	Cl	H	CF_3	H	$NHCH(CH_3)COO^cC_5H_9$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-998	H	Cl	H	CF_3	H	$NHCH(CH_3)COO^cC_6H_{11}$
1-999	F	Cl	H	CF_3	H	$NHCH_3$
1-1000	F	Cl	H	CF_3	H	NHC_2H_5
1-1001	F	Cl	H	CF_3	H	$NHCH_2CH=CH_2$
1-1002	F	Cl	H	CF_3	H	$NHCH_2C\equiv CH$
1-1003	F	Cl	H	CF_3	H	$NHCH(CH_3)C\equiv CH$
1-1004	F	Cl	H	CF_3	H	$NHSO_2CH_3$
1-1005	F	Cl	H	CF_3	H	$NHSO_2C_2H_5$
1-1006	F	Cl	H	CF_3	H	$NHSO_2CH_2Cl$
1-1007	F	Cl	H	CF_3	H	$NHSO_2CF_3$
1-1008	F	Cl	H	CF_3	H	$N(CH_3)SO_2CH_3$
1-1009	F	Cl	H	CF_3	H	$N(CH_2C\equiv CH)SO_2CH_3$
1-1010	F	Cl	H	CF_3	H	$NHCOOCH_3$
1-1011	F	Cl	H	CF_3	H	$NHCOOC_2H_5$
1-1012	F	Cl	H	CF_3	H	$NHCOO^nC_3H_7$
1-1013	F	Cl	H	CF_3	H	$NHCOO^iC_3H_7$
1-1014	F	Cl	H	CF_3	H	$NHCOO^nC_4H_9$
1-1015	F	Cl	H	CF_3	H	$NHCOO^nC_5H_{11}$
1-1016	F	Cl	H	CF_3	H	$NHCH_2COOCH_3$
1-1017	F	Cl	H	CF_3	H	$NHCH_2COOC_2H_5$
1-1018	F	Cl	H	CF_3	H	$NHCH_2COO^nC_3H_7$
1-1019	F	Cl	H	CF_3	H	$NHCH_2COO^nC_4H_9$
1-1020	F	Cl	H	CF_3	H	$NHCH_2COO^nC_5H_{11}$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1021	F	Cl	H	CF_3	H	$NHCH_2COO^iC_3H_7$
1-1022	F	Cl	H	CF_3	H	$NHCH_2COO^cC_6H_9$
1-1023	F	Br	H	CF_3	H	NH_2
1-1024	H	F	H	CF_3	H	OH
1-1025	H	Cl	H	CF_3	H	OH
1-1026	H	Br	H	CF_3	H	OH
1-1027	F	F	H	CF_3	H	OH
1-1028	F	Cl	H	CF_3	H	OH
1-1029	F	Br	H	CF_3	H	OH
1-1030	H	Cl	H	CF_3	H	$NHCH_3$
1-1031	H	Cl	H	CF_3	H	NHC_2H_5
1-1032	H	Cl	H	CF_3	H	$NHCH_2CH=CH_2$
1-1033	H	Cl	H	CF_3	H	$NHCH_2C\equiv CH$
1-1034	H	Cl	H	CF_3	H	$NHCH(CH_3)C\equiv CH$
1-1035	H	Cl	H	CF_3	H	$NHSO_2CH_3$
1-1036	H	Cl	H	CF_3	H	$NHSO_2C_2H_5$
1-1037	H	Cl	H	CF_3	H	$NHSO_2CH_2Cl$
1-1038	H	Cl	H	CF_3	H	$NHSO_2CF_3$
1-1039	H	Cl	H	CF_3	H	$N(CH_3)SO_2CH_3$
1-1040	H	Cl	H	CF_3	H	$N(CH_2C\equiv CH)SO_2CH_3$
1-1041	H	Cl	H	CF_3	H	$NHCOOCH_3$
1-1042	H	Cl	H	CF_3	H	$NHCOOC_2H_5$
1-1043	H	Cl	H	CF_3	H	$NHCOO^nC_3H_7$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1044	H	Cl	H	CF_3	H	$NHCOO^iC_3H_7$
1-1045	H	Cl	H	CF_3	H	$NHCOO^nC_4H_9$
1-1046	H	Cl	H	CF_3	H	$NHCOO^nC_5H_{11}$
1-1047	H	Cl	H	CF_3	H	$NHCH_2COOCH_3$
1-1048	H	Cl	H	CF_3	H	$NHCH_2COOC_2H_5$
1-1049	H	Cl	H	CF_3	H	$NHCH_2COO^nC_3H_7$
1-1050	H	Cl	H	CF_3	H	$NHCH_2COO^nC_4H_9$
1-1051	H	Cl	H	CF_3	H	$NHCH_2COO^nC_5H_{11}$
1-1052	H	Cl	H	CF_3	H	$NHCH_2COO^iC_3H_7$
1-1053	H	Cl	H	CF_3	H	$NHCH_2COO^cC_5H_9$
1-1054	H	Cl	H	CF_3	H	$NHCH_2COO^cC_6H_{11}$
1-1055	F	Cl	H	CF_3	H	$NHCH_2COO^cC_6H_{11}$
1-1056	F	Cl	H	CF_3	H	$NHCH(CH_3)COOCH_3$
1-1057	F	Cl	H	CF_3	H	$NHCH(CH_3)COOC_2H_5$
1-1058	F	Cl	H	CF_3	H	$NHCH(CH_3)COO^nC_3H_7$
1-1059	F	Cl	H	CF_3	H	$NHCH(CH_3)COO^nC_4H_9$
1-1060	F	Cl	H	CF_3	H	$NHCH(CH_3)COO^nC_5H_{11}$
1-1061	F	Cl	H	CF_3	H	$NHCH(CH_3)COO^iC_3H_7$
1-1062	F	Cl	H	CF_3	H	$NHCH(CH_3)COO^cC_5H_9$
1-1063	F	Cl	H	CF_3	H	$NHCH(CH_3)COO^cC_6H_{11}$
1-1064	H	Cl	H	CF_3	H	OCH_3
1-1065	H	Cl	H	CF_3	H	OC_2H_5
1-1066	H	Cl	H	CF_3	H	$O^iC_3H_7$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1067	H	Cl	H	CF_3	H	$O^n C_3H_7$
1-1068	H	Cl	H	CF_3	H	OCH_2CH_2Cl
1-1069	H	Cl	H	CF_3	H	OCF_2CF_2H
1-1070	H	Cl	H	CF_3	H	$O^c C_5H_9$
1-1071	H	Cl	H	CF_3	H	$O^c C_6H_{11}$
1-1072	H	Cl	H	CF_3	H	$OCH_2CH=CH_2$
1-1073	H	Cl	H	CF_3	H	$OCH_2CCl=CH_2$
1-1074	H	Cl	H	CF_3	H	$OCH_2CCl=CHCl$
1-1075	H	Cl	H	CF_3	H	$OCH(CH_3)CH=CH_2$
1-1076	H	Cl	H	CF_3	H	$OCH_2C\equiv CH$
1-1077	H	Cl	H	CF_3	H	$OCH(CH_3)C\equiv CH$
1-1078	H	Cl	H	CF_3	H	$OCH_2C\equiv CBr$
1-1079	H	Cl	H	CF_3	H	$OCH_2C\equiv CCl$
1-1080	H	Cl	H	CF_3	H	$OCH_2C\equiv CCH_2Cl$
1-1081	H	Cl	H	CF_3	H	OCH_2CN
1-1082	H	Cl	H	CF_3	H	OCH_2OCH_3
1-1083	H	Cl	H	CF_3	H	$OCH_2OC_2H_5$
1-1084	H	Cl	H	CF_3	H	OCH_2SCH_3
1-1085	H	Cl	H	CF_3	H	OCH_2COOCH_3
1-1086	H	Cl	H	CF_3	H	$OCH_2COOC_2H_5$
1-1087	H	Cl	H	CF_3	H	$OCH_2COO^n C_3H_7$
1-1088	H	Cl	H	CF_3	H	$OCH_2COO^n C_4H_9$
1-1089	H	Cl	H	CF_3	H	$OCH_2COO^n C_5H_{11}$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1090	H	Cl	H	CF_3	H	$OCH_2COO^iC_3H_7$
1-1091	H	Cl	H	CF_3	H	$OCH_2COO^cC_5H_9$
1-1092	H	Cl	H	CF_3	H	$OCH_2COO^cC_6H_{11}$
1-1093	H	Cl	H	CF_3	H	$OCH(CH_3)COOCH_3$
1-1094	H	Cl	H	CF_3	H	$OCH(CH_3)COOC_2H_5$
1-1095	H	Cl	H	CF_3	H	$OCH(CH_3)COO^nC_3H_7$
1-1096	H	Cl	H	CF_3	H	$OCH(CH_3)COO^nC_4H_9$
1-1097	H	Cl	H	CF_3	H	$OCH(CH_3)COO^nC_5H_{11}$
1-1098	H	Cl	H	CF_3	H	$OCH(CH_3)COO^iC_3H_7$
1-1099	H	Cl	H	CF_3	H	$OCH(CH_3)COO^cC_5H_9$
1-1100	H	Cl	H	CF_3	H	$OCH(CH_3)COO^cC_6H_{11}$
1-1101	H	Cl	H	CF_3	H	$OCH_2CON(CH_3)_2$
1-1102	H	Cl	H	CF_3	H	$OCH_2CON(C_2H_5)_2$
1-1103	H	Cl	H	CF_3	H	$OCH_2CON(CH_3)C_2H_5$
1-1104	H	Cl	H	CF_3	H	$OCH(CH_3)CON(CH_3)_2$
1-1105	H	Cl	H	CF_3	H	$OCH(CH_3)CON(C_2H_5)_2$
1-1106	H	Cl	H	CF_3	H	$OCH(CH_3)CON(CH_3)C_2H_5$
1-1107	H	Cl	H	CF_3	H	$OCH_2COON(CH_3)_2$
1-1108	H	Cl	H	CF_3	H	$OCH_2COON(C_2H_5)_2$
1-1109	H	Cl	H	CF_3	H	$OCH(CH_3)COON(CH_3)_2$
1-1110	H	Cl	H	CF_3	H	$OCH(CH_3)COON(C_2H_5)_2$
1-1111	F	Cl	H	CF_3	H	OCH_3

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1112	F	Cl	H	CF_3	H	OC_2H_5
1-1113	F	Cl	H	CF_3	H	$O^iC_3H_7$
1-1114	F	Cl	H	CF_3	H	$O^nC_3H_7$
1-1115	F	Cl	H	CF_3	H	OCH_2CH_2Cl
1-1116	F	Cl	H	CF_3	H	OCF_2CF_2H
1-1117	F	Cl	H	CF_3	H	$O^cC_5H_9$
1-1118	F	Cl	H	CF_3	H	$O^cC_6H_{11}$
1-1119	F	Cl	H	CF_3	H	$OCH_2CH=CH_2$
1-1120	F	Cl	H	CF_3	H	$OCH_2CCl=CH_2$
1-1121	F	Cl	H	CF_3	H	$OCH_2CCl=CHCl$
1-1122	F	Cl	H	CF_3	H	$OCH(CH_3)CH=CH_2$
1-1123	F	Cl	H	CF_3	H	$OCH_2C\equiv CH$
1-1124	F	Cl	H	CF_3	H	$OCH(CH_3)C\equiv CH$
1-1125	F	Cl	H	CF_3	H	$OCH_2C\equiv CBr$
1-1126	F	Cl	H	CF_3	H	$OCH_2C\equiv CCl$
1-1127	F	Cl	H	CF_3	H	$OCH_2C\equiv CCH_2Cl$
1-1128	F	Cl	H	CF_3	H	OCH_2CN
1-1129	F	Cl	H	CF_3	H	OCH_2OCH_3
1-1130	F	Cl	H	CF_3	H	$OCH_2OC_2H_5$
1-1131	F	Cl	H	CF_3	H	OCH_2SCH_3
1-1132	F	Cl	H	CF_3	H	OCH_2COOCH_3
1-1133	F	Cl	H	CF_3	H	$OCH_2COOC_2H_5$
1-1134	F	Cl	H	CF_3	H	$OCH_2COO^nC_3H_7$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1135	F	Cl	H	CF_3	H	$OCH_2COO^nC_4H_9$
1-1136	F	Cl	H	CF_3	H	$OCH_2COO^nC_5H_{11}$
1-1137	F	Cl	H	CF_3	H	$OCH_2COO^iC_3H_7$
1-1138	F	Cl	H	CF_3	H	$OCH_2COO^cC_5H_9$
1-1139	F	Cl	H	CF_3	H	$OCH_2COO^cC_6H_{11}$
1-1140	F	Cl	H	CF_3	H	$OCH(CH_3)COOCH_3$
1-1141	F	Cl	H	CF_3	H	$OCH(CH_3)COOC_2H_5$
1-1142	F	Cl	H	CF_3	H	$OCH(CH_3)COO^nC_3H_7$
1-1143	F	Cl	H	CF_3	H	$OCH(CH_3)COO^nC_4H_9$
1-1144	F	Cl	H	CF_3	H	$OCH(CH_3)COO^nC_5H_{11}$
1-1145	F	Cl	H	CF_3	H	$OCH(CH_3)COO^iC_3H_7$
1-1146	F	Cl	H	CF_3	H	$OCH(CH_3)COO^cC_5H_9$
1-1147	F	Cl	H	CF_3	H	$OCH(CH_3)COO^cC_6H_{11}$
1-1148	F	Cl	H	CF_3	H	$OCH_2CON(CH_3)_2$
1-1149	F	Cl	H	CF_3	H	$OCH_2CON(C_2H_5)_2$
1-1150	F	Cl	H	CF_3	H	$OCH_2CON(CH_3)C_2H_5$
1-1151	F	Cl	H	CF_3	H	$OCH(CH_3)CON(CH_3)_2$
1-1152	F	Cl	H	CF_3	H	$OCH(CH_3)CON(C_2H_5)_2$
1-1153	F	Cl	H	CF_3	H	$OCH(CH_3)CON(CH_3)C_2H_5$
1-1154	F	Cl	H	CF_3	H	$OCH_2COON(CH_3)_2$
1-1155	F	Cl	H	CF_3	H	$OCH_2COON(C_2H_5)_2$
1-1156	F	Cl	H	CF_3	H	$OCH(CH_3)COON(CH_3)_2$
1-1157	F	Cl	H	CF_3	H	$OCH(CH_3)COON(C_2H_5)_2$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1158	H	F	H	CF_3	H	SH
1-1159	H	Cl	H	CF_3	H	SH
1-1160	H	Br	H	CF_3	H	SH
1-1161	F	F	H	CF_3	H	SH
1-1162	F	Cl	H	CF_3	H	SH
1-1163	F	Br	H	CF_3	H	SH
1-1164	H	Cl	H	CF_3	H	SCH_3
1-1165	H	Cl	H	CF_3	H	SC_2H_5
1-1166	H	Cl	H	CF_3	H	$S^iC_3H_7$
1-1167	H	Cl	H	CF_3	H	SCH_2CH_2Cl
1-1168	H	Cl	H	CF_3	H	$S^cC_5H_9$
1-1169	H	Cl	H	CF_3	H	$S^cC_6H_{11}$
1-1170	H	Cl	H	CF_3	H	$SCH_2CH=CH_2$
1-1171	H	Cl	H	CF_3	H	$SCH_2CCl=CH_2$
1-1172	H	Cl	H	CF_3	H	$SCH_2CCl=CHCl$
1-1173	H	Cl	H	CF_3	H	$SCH(CH_3)CH=CH_2$
1-1174	H	Cl	H	CF_3	H	$SCH_2C\equiv CH$
1-1175	H	Cl	H	CF_3	H	$SCH(CH_3)C\equiv CH$
1-1176	H	Cl	H	CF_3	H	SCH_2COOCH_3
1-1177	H	Cl	H	CF_3	H	$SCH_2COOC_2H_5$
1-1178	H	Cl	H	CF_3	H	$SCH_2COO^nC_3H_7$
1-1179	H	Cl	H	CF_3	H	$SCH_2COO^nC_4H_9$
1-1180	H	Cl	H	CF_3	H	$SCH_2COO^nC_5H_{11}$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1181	H	Cl	H	CF_3	H	$SCH_2COO^iC_3H_7$
1-1182	H	Cl	H	CF_3	H	$SCH_2COO^cC_5H_9$
1-1183	H	Cl	H	CF_3	H	$SCH_2COO^cC_6H_{11}$
1-1184	H	Cl	H	CF_3	H	$SCH(CH_3)COOCH_3$
1-1185	H	Cl	H	CF_3	H	$SCH(CH_3)COOC_2H_5$
1-1186	H	Cl	H	CF_3	H	$SCH(CH_3)COO^nC_3H_7$
1-1187	H	Cl	H	CF_3	H	$SCH(CH_3)COO^nC_4H_9$
1-1188	H	Cl	H	CF_3	H	$SCH(CH_3)COO^nC_5H_{11}$
1-1189	H	Cl	H	CF_3	H	$SCH(CH_3)COO^iC_3H_7$
1-1190	H	Cl	H	CF_3	H	$SCH(CH_3)COO^cC_5H_9$
1-1191	H	Cl	H	CF_3	H	$SCH(CH_3)COO^cC_6H_{11}$
1-1192	H	Cl	H	CF_3	H	$SCH_2CON(CH_3)_2$
1-1193	H	Cl	H	CF_3	H	$SCH_2CON(C_2H_5)_2$
1-1194	H	Cl	H	CF_3	H	SCH_2CON(tetramethylene)
1-1195	H	Cl	H	CF_3	H	SCH_2CON(pentamethylene)
1-1196	H	Cl	H	CF_3	H	SCH_2CON (ethyleneoxyethylene)
1-1197	H	Cl	H	CF_3	H	$SCH(CH_3)CON(CH_3)_2$
1-1198	H	Cl	H	CF_3	H	$SCH(CH_3)CON(C_2H_5)_2$
1-1199	H	Cl	H	CF_3	H	$SCH(CH_3)$CON (tetramethylene)
1-1200	H	Cl	H	CF_3	H	$SCH(CH_3)$CON (pentamethylene)

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1201	F	Cl	H	CF_3	H	SCH_3
1-1202	F	Cl	H	CF_3	H	SC_2H_5
1-1203	F	Cl	H	CF_3	H	$S^iC_3H_7$
1-1204	F	Cl	H	CF_3	H	SCH_2CH_2Cl
1-1205	F	Cl	H	CF_3	H	$S^cC_5H_9$
1-1206	F	Cl	H	CF_3	H	$S^cC_6H_{11}$
1-1207	F	Cl	H	CF_3	H	$SCH_2CH=CH_2$
1-1208	F	Cl	H	CF_3	H	$SCH_2CCl=CH_2$
1-1209	F	Cl	H	CF_3	H	$SCH_2CCl=CHCl$
1-1210	F	Cl	H	CF_3	H	$SCH(CH_3)CH=CH_2$
1-1211	F	Cl	H	CF_3	H	$SCH_2C\equiv CH$
1-1212	F	Cl	H	CF_3	H	$SCH(CH_3)C\equiv CH$
1-1213	F	Cl	H	CF_3	H	SCH_2COOCH_3
1-1214	F	Cl	H	CF_3	H	$SCH_2COOC_2H_5$
1-1215	F	Cl	H	CF_3	H	$SCH_2COO^nC_3H_7$
1-1216	F	Cl	H	CF_3	H	$SCH_2COO^nC_4H_9$
1-1217	F	Cl	H	CF_3	H	$SCH_2COO^nC_6H_{11}$
1-1218	F	Cl	H	CF_3	H	$SCH_2COO^iC_3H_7$
1-1219	F	Cl	H	CF_3	H	$SCH_2COO^cC_5H_9$
1-1220	F	Cl	H	CF_3	H	$SCH_2COO^cC_6H_{11}$
1-1221	F	Cl	H	CF_3	H	$SCH(CH_3)COOCH_3$
1-1222	F	Cl	H	CF_3	H	$SCH(CH_3)COOC_2H_5$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1223	F	Cl	H	CF_3	H	$SCH(CH_3)COO^nC_3H_7$
1-1224	F	Cl	H	CF_3	H	$SCH(CH_3)COO^nC_4H_9$
1-1225	F	Cl	H	CF_3	H	$SCH(CH_3)COO^nC_5H_{11}$
1-1226	F	Cl	H	CF_3	H	$SCH(CH_3)COO^iC_3H_7$
1-1227	F	Cl	H	CF_3	H	$SCH(CH_3)COO^cC_5H_9$
1-1228	F	Cl	H	CF_3	H	$SCH(CH_3)COO^cC_6H_{11}$
1-1229	F	Cl	H	CF_3	H	$SCH_2CON(CH_3)_2$
1-1230	F	Cl	H	CF_3	H	$SCH_2CON(C_2H_5)_2$
1-1231	F	Cl	H	CF_3	H	SCH_2CON(tetramethylene)
1-1232	F	Cl	H	CF_3	H	SCH_2CON(pentamethylene)
1-1233	F	Cl	H	CF_3	H	SCH_2CON (ethyleneoxyethylene)
1-1234	F	Cl	H	CF_3	H	$SCH(CH_3)CON(CH_3)_2$
1-1235	F	Cl	H	CF_3	H	$SCH(CH_3)CON(C_2H_5)_2$
1-1236	F	Cl	H	CF_3	H	$SCH(CH_3)CON$ (tetramethylene)
1-1237	F	Cl	H	CF_3	H	$SCH(CH_3)CON$ (pentamethylene)
1-1238	H	F	H	CF_3	H	SO_2Cl
1-1239	H	Cl	H	CF_3	H	SO_2Cl
1-1240	H	Br	H	CF_3	H	SO_2Cl
1-1241	F	F	H	CF_3	H	SO_2Cl
1-1242	F	Cl	H	CF_3	H	SO_2Cl

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1243	F	Br	H	CF_3	H	SO_2Cl
1-1244	H	Cl	H	CF_3	H	SO_2OCH_3
1-1245	H	Cl	H	CF_3	H	$SO_2OC_2H_5$
1-1246	H	Cl	H	CF_3	H	$SO_2O^iC_3H_7$
1-1247	H	Cl	H	CF_3	H	$SO_2OCH_2CH=CH_2$
1-1248	F	Cl	H	CF_3	H	SO_2OCH_3
1-1249	F	Cl	H	CF_3	H	$SO_2OC_2H_5$
1-1250	F	Cl	H	CF_3	H	$SO_2O^iC_3H_7$
1-1251	F	Cl	H	CF_3	H	$SO_2OCH_2CH=CH_2$
1-1252	H	Cl	H	CF_3	H	$SO_2N(CH_3)_2$
1-1253	H	Cl	H	CF_3	H	$SO_2N(C_2H_5)_2$
1-1254	F	Cl	H	CF_3	H	$SO_2N(CH_3)_2$
1-1255	F	Cl	H	CF_3	H	$SO_2N(C_2H_5)_2$
1-1256	H	Cl	H	CF_3	H	COOH
1-1257	H	Cl	H	CF_3	H	$COOCH_3$
1-1258	H	Cl	H	CF_3	H	$COOC_2H_5$
1-1259	H	Cl	H	CF_3	H	$COO^nC_3H_7$
1-1260	H	Cl	H	CF_3	H	$COO^nC_4H_9$
1-1261	H	Cl	H	CF_3	H	$COO^nC_5H_{11}$
1-1262	H	Cl	H	CF_3	H	$COO^iC_3H_7$
1-1263	H	Cl	H	CF_3	H	$COOCH_2CH_2Cl$
1-1264	H	Cl	H	CF_3	H	$COOCH_2CH_2Br$
1-1265	H	Cl	H	CF_3	H	$CON(CH_3)_2$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1266	H	Cl	H	CF_3	H	$CONHCH_3$
1-1267	H	Cl	H	CF_3	H	$CON(C_2H_5)_2$
1-1268	H	Cl	H	CF_3	H	$CONHC_2H_5$
1-1269	H	Cl	H	CF_3	H	$COCH_3$
1-1270	H	Cl	H	CF_3	H	COC_2H_5
1-1271	H	Cl	H	CF_3	H	$COCH_2Cl$
1-1272	H	Cl	H	CF_3	H	CHO
1-1273	H	Cl	H	CF_3	H	$CH=CHCOOCH_3$
1-1274	H	Cl	H	CF_3	H	$CH=CHCOOC_2H_5$
1-1275	H	Cl	H	CF_3	H	$CH_2CH_2COOCH_3$
1-1276	H	Cl	H	CF_3	H	$CH_2CH_2COOC_2H_5$
1-1277	F	Cl	H	CF_3	H	COOH
1-1278	F	Cl	H	CF_3	H	$COOCH_3$
1-1279	F	Cl	H	CF_3	H	$COOC_2H_5$
1-1280	F	Cl	H	CF_3	H	$COO^nC_3H_7$
1-1281	F	Cl	H	CF_3	H	$COO^nC_4H_9$
1-1282	F	Cl	H	CF_3	H	$COO^nC_5H_{11}$
1-1283	F	Cl	H	CF_3	H	$COO^iC_3H_7$
1-1284	F	Cl	H	CF_3	H	$COOCH_2CH_2Cl$
1-1285	F	Cl	H	CF_3	H	$COOCH_2CH_2Br$
1-1286	F	Cl	H	CF_3	H	$CON(CH_3)_2$
1-1287	F	Cl	H	CF_3	H	$CONHCH_3$
1-1288	F	Cl	H	CF_3	H	$CON(C_2H_6)_2$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1289	F	Cl	H	CF_3	H	$CONHC_2H_5$
1-1290	F	Cl	H	CF_3	H	$COCH_3$
1-1291	F	Cl	H	CF_3	H	COC_2H_5
1-1292	F	Cl	H	CF_3	H	$COCH_2Cl$
1-1293	F	Cl	H	CF_3	H	CHO
1-1294	F	Cl	H	CF_3	H	$CH=CHCOOCH_3$
1-1295	F	Cl	H	CF_3	H	$CH=CHCOOC_2H_5$
1-1296	F	Cl	H	CF_3	H	$CH_2CH_2COOCH_3$
1-1297	F	Cl	H	CF_3	H	$CH_2CH_2COOC_2H_5$
1-1298	H	F	CH_3	CF_3	H	NO_2
1-1299	H	Cl	CH_3	CF_3	H	NO_2
1-1300	H	Br	CH_3	CF_3	H	NO_2
1-1301	F	F	CH_3	CF_3	H	NO_2
1-1302	F	Cl	CH_3	CF_3	H	NO_2
1-1303	F	Br	CH_3	CF_3	H	NO_2
1-1304	H	F	CH_3	CF_3	H	NH_2
1-1305	H	Cl	CH_3	CF_3	H	NH_2
1-1306	H	Br	CH_3	CF_3	H	NH_2
1-1307	F	F	CH_3	CF_3	H	NH_2
1-1308	F	Cl	CH_3	CF_3	H	NH_2
1-1309	H	Cl	CH_3	CF_3	H	$NHCH(CH_3)COOCH_3$
1-1310	H	Cl	CH_3	CF_3	H	$NHCH(CH_3)COOC_2H_5$
1-1311	H	Cl	CH_3	CF_3	H	$NHCH(CH_3)COO^nC_3H_7$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1312	H	Cl	CH_3	CF_3	H	$NHCH(CH_3)COO^nC_4H_9$
1-1313	H	Cl	CH_3	CF_3	H	$NHCH(CH_3)COO^nC_5H_{11}$
1-1314	H	Cl	CH_3	CF_3	H	$NHCH(CH_3)COO^iC_3H_7$
1-1315	H	Cl	CH_3	CF_3	H	$NHCH(CH_3)COO^cC_5H_9$
1-1316	H	Cl	CH_3	CF_3	H	$NHCH(CH_3)COO^cC_6H_{11}$
1-1317	F	Cl	CH_3	CF_3	H	$NHCH_3$
1-1318	F	Cl	CH_3	CF_3	H	NHC_2H_5
1-1319	F	Cl	CH_3	CF_3	H	$NHCH_2CH=CH_2$
1-1320	F	Cl	CH_3	CF_3	H	$NHCH_2C\equiv CH$
1-1321	F	Cl	CH_3	CF_3	H	$NHCH(CH_3)C\equiv CH$
1-1322	F	Cl	CH_3	CF_3	H	$NHSO_2CH_3$
1-1323	F	Cl	CH_3	CF_3	H	$NHSO_2C_2H_5$
1-1324	F	Cl	CH_3	CF_3	H	$NHSO_2CH_2Cl$
1-1325	F	Cl	CH_3	CF_3	H	$NHSO_2CF_3$
1-1326	F	Cl	CH_3	CF_3	H	$N(CH_3)SO_2CH_3$
1-1327	F	Cl	CH_3	CF_3	H	$N(CH_2C\equiv CH)SO_2CH_3$
1-1328	F	Cl	CH_3	CF_3	H	$NHCOOCH_3$
1-1329	F	Cl	CH_3	CF_3	H	$NHCOOC_2H_5$
1-1330	F	Cl	CH_3	CF_3	H	$NHCOO^nC_3H_7$
1-1331	F	Cl	CH_3	CF_3	H	$NHCOO^iC_3H_7$
1-1332	F	Cl	CH_3	CF_3	H	$NHCOO^nC_4H_9$
1-1333	F	Cl	CH_3	CF_3	H	$NHCOO^nC_5H_{11}$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1334	F	Cl	CH_3	CF_3	H	$NHCH_2COOCH_3$
1-1335	F	Cl	CH_3	CF_3	H	$NHCH_2COOC_2H_5$
1-1336	F	Cl	CH_3	CF_3	H	$NHCH_2COO^nC_3H_7$
1-1337	F	Cl	CH_3	CF_3	H	$NHCH_2COO^nC_4H_9$
1-1338	F	Cl	CH_3	CF_3	H	$NHCH_2COO^nC_5H_{11}$
1-1339	F	Cl	CH_3	CF_3	H	$NHCH_2COO^iC_3H_7$
1-1340	F	Cl	CH_3	CF_3	H	$NHCH_2COO^cC_5H_9$
1-1341	F	Br	CH_3	CF_3	H	NH_2
1-1342	H	F	CH_3	CF_3	H	OH
1-1343	H	Cl	CH_3	CF_3	H	OH
1-1344	H	Br	CH_3	CF_3	H	OH
1-1345	F	F	CH_3	CF_3	H	OH
1-1346	F	Cl	CH_3	CF_3	H	OH
1-1347	F	Br	CH_3	CF_3	H	OH
1-1348	H	Cl	CH_3	CF_3	H	$NHCH_3$
1-1349	H	Cl	CH_3	CF_3	H	NHC_2H_5
1-1350	H	Cl	CH_3	CF_3	H	$NHCH_2CH=CH_2$
1-1351	H	Cl	CH_3	CF_3	H	$NHCH_2C\equiv CH$
1-1352	H	Cl	CH_3	CF_3	H	$NHCH(CH_3)C\equiv CH$
1-1353	H	Cl	CH_3	CF_3	H	$NHSO_2CH_3$
1-1354	H	Cl	CH_3	CF_3	H	$NHSO_2C_2H_5$
1-1355	H	Cl	CH_3	CF_3	H	$NHSO_2CH_2Cl$
1-1356	H	Cl	CH_3	CF_3	H	$NHSO_2CF_3$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1357	H	Cl	CH_3	CF_3	H	$N(CH_3)SO_2CH_3$
1-1358	H	Cl	CH_3	CF_3	H	$N(CH_2C\equiv CH)SO_2CH_3$
1-1359	H	Cl	CH_3	CF_3	H	$NHCOOCH_3$
1-1360	H	Cl	CH_3	CF_3	H	$NHCOOC_2H_5$
1-1361	H	Cl	CH_3	CF_3	H	$NHCOO^nC_3H_7$
1-1362	H	Cl	CH_3	CF_3	H	$NHCOO^iC_3H_7$
1-1363	H	Cl	CH_3	CF_3	H	$NHCOO^nC_4H_9$
1-1364	H	Cl	CH_3	CF_3	H	$NHCOO^nC_5H_{11}$
1-1365	H	Cl	CH_3	CF_3	H	$NHCH_2COOCH_3$
1-1366	H	Cl	CH_3	CF_3	H	$NHCH_2COOC_2H_5$
1-1367	H	Cl	CH_3	CF_3	H	$NHCH_2COO^nC_3H_7$
1-1368	H	Cl	CH_3	CF_3	H	$NHCH_2COO^nC_4H_9$
1-1369	H	Cl	CH_3	CF_3	H	$NHCH_2COO^nC_5H_{11}$
1-1370	H	Cl	CH_3	CF_3	H	$NHCH_2COO^iC_3H_7$
1-1371	H	Cl	CH_3	CF_3	H	$NHCH_2COO^cC_5H_9$
1-1372	H	Cl	CH_3	CF_3	H	$NHCH_2COO^cC_6H_{11}$
1-1373	F	Cl	CH_3	CF_3	H	$NHCH_2COO^cC_6H_{11}$
1-1374	F	Cl	CH_3	CF_3	H	$NHCH(CH_3)COOCH_3$
1-1375	F	Cl	CH_3	CF_3	H	$NHCH(CH_3)COOC_2H_5$
1-1376	F	Cl	CH_3	CF_3	H	$NHCH(CH_3)COO^nC_3H_7$
1-1377	F	Cl	CH_3	CF_3	H	$NHCH(CH_3)COO^nC_4H_9$
1-1378	F	Cl	CH_3	CF_3	H	$NHCH(CH_3)COO^nC_5H_{11}$
1-1379	F	Cl	CH_3	CF_3	H	$NHCH(CH_3)COO^iC_3H_7$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1380	F	Cl	CH_3	CF_3	H	$NHCH(CH_3)COO^cC_5H_9$
1-1381	F	Cl	CH_3	CF_3	H	$NHCH(CH_3)COO^cC_6H_{11}$
1-1382	H	Cl	CH_3	CF_3	H	OCH_3
1-1383	H	Cl	CH_3	CF_3	H	OC_2H_5
1-1384	H	Cl	CH_3	CF_3	H	$O^iC_3H_7$
1-1385	H	Cl	CH_3	CF_3	H	$O^nC_3H_7$
1-1386	H	Cl	CH_3	CF_3	H	OCH_2CH_2Cl
1-1387	H	Cl	CH_3	CF_3	H	OCF_2CF_2H
1-1388	H	Cl	CH_3	CF_3	H	$O^cC_5H_9$
1-1389	H	Cl	CH_3	CF_3	H	$O^cC_6H_{11}$
1-1390	H	Cl	CH_3	CF_3	H	$OCH_2CH=CH_2$
1-1391	H	Cl	CH_3	CF_3	H	$OCH_2CCl=CH_2$
1-1392	H	Cl	CH_3	CF_3	H	$OCH_2CCl=CHCl$
1-1393	H	Cl	CH_3	CF_3	H	$OCH(CH_3)CH=CH_2$
1-1394	H	Cl	CH_3	CF_3	H	$OCH_2C\equiv CH$
1-1395	H	Cl	CH_3	CF_3	H	$OCH(CH_3)C\equiv CH$
1-1396	H	Cl	CH_3	CF_3	H	$OCH_2C\equiv CBr$
1-1397	H	Cl	CH_3	CF_3	H	$OCH_2C\equiv CCl$
1-1398	H	Cl	CH_3	CF_3	H	$OCH_2C\equiv CCH_2Cl$
1-1399	H	Cl	CH_3	CF_3	H	OCH_2CN
1-1400	H	Cl	CH_3	CF_3	H	OCH_2OCH_3
1-1401	H	Cl	CH_3	CF_3	H	$OCH_2OC_2H_5$
1-1402	H	Cl	CH_3	CF_3	H	OCH_2SCH_3

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1403	H	Cl	CH_3	CF_3	H	OCH_2COOCH_3
1-1404	H	Cl	CH_3	CF_3	H	$OCH_2COOC_2H_5$
1-1405	H	Cl	CH_3	CF_3	H	$OCH_2COO^nC_3H_7$
1-1406	H	Cl	CH_3	CF_3	H	$OCH_2COO^nC_4H_9$
1-1407	H	Cl	CH_3	CF_3	H	$OCH_2COO^nC_5H_{11}$
1-1408	H	Cl	CH_3	CF_3	H	$OCH_2COO^iC_3H_7$
1-1409	H	Cl	CH_3	CF_3	H	$OCH_2COO^cC_5H_9$
1-1410	H	Cl	CH_3	CF_3	H	$OCH_2COO^cC_6H_{11}$
1-1411	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH_3$
1-1412	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COOC_2H_5$
1-1413	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COO^nC_3H_7$
1-1414	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COO^nC_4H_9$
1-1415	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COO^nC_5H_{11}$
1-1416	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COO^iC_3H_7$
1-1417	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COO^cC_5H_9$
1-1418	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COO^cC_6H_{11}$
1-1419	H	Cl	CH_3	CF_3	H	$OCH_2CON(CH_3)_2$
1-1420	H	Cl	CH_3	CF_3	H	$OCH_2CON(C_2H_5)_2$
1-1421	H	Cl	CH_3	CF_3	H	$OCH_2CON(CH_3)C_2H_5$
1-1422	H	Cl	CH_3	CF_3	H	$OCH(CH_3)CON(CH_3)_2$
1-1423	H	Cl	CH_3	CF_3	H	$OCH(CH_3)CON(C_2H_5)_2$
1-1424	H	Cl	CH_3	CF_3	H	$OCH(CH_3)CON(CH_3)C_2H_5$
1-1425	H	Cl	CH_3	CF_3	H	$OCH_2COON(CH_3)_2$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1426	H	Cl	CH_3	CF_3	H	$OCH_2COON(C_2H_5)_2$
1-1427	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COON(CH_3)_2$
1-1428	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COON(C_2H_5)_2$
1-1429	F	Cl	CH_3	CF_3	H	OCH_3
1-1430	F	Cl	CH_3	CF_3	H	OC_2H_5
1-1431	F	Cl	CH_3	CF_3	H	$O^iC_3H_7$
1-1432	F	Cl	CH_3	CF_3	H	$O^nC_3H_7$
1-1433	F	Cl	CH_3	CF_3	H	OCH_2CH_2Cl
1-1434	F	Cl	CH_3	CF_3	H	OCF_2CF_2H
1-1435	F	Cl	CH_3	CF_3	H	$O^cC_5H_9$
1-1436	F	Cl	CH_3	CF_3	H	$O^cC_6H_{11}$
1-1437	F	Cl	CH_3	CF_3	H	$OCH_2CH=CH_2$
1-1438	F	Cl	CH_3	CF_3	H	$OCH_2CCl=CH_2$
1-1439	F	Cl	CH_3	CF_3	H	$OCH_2CCl=CHCl$
1-1440	F	Cl	CH_3	CF_3	H	$OCH(CH_3)CH=CH_2$
1-1441	F	Cl	CH_3	CF_3	H	$OCH_2C\equiv CH$
1-1442	F	Cl	CH_3	CF_3	H	$OCH(CH_3)C\equiv CH$
1-1443	F	Cl	CH_3	CF_3	H	$OCH_2C\equiv CBr$
1-1444	F	Cl	CH_3	CF_3	H	$OCH_2C\equiv CCl$
1-1445	F	Cl	CH_3	CF_3	H	$OCH_2C\equiv CCH_2Cl$
1-1446	F	Cl	CH_3	CF_3	H	OCH_2CN
1-1447	F	Cl	CH_3	CF_3	H	OCH_2OCH_3

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1448	F	Cl	CH_3	CF_3	H	$OCH_2OC_2H_5$
1-1449	F	Cl	CH_3	CF_3	H	OCH_2SCH_3
1-1450	F	Cl	CH_3	CF_3	H	OCH_2COOCH_3
1-1451	F	Cl	CH_3	CF_3	H	$OCH_2COOC_2H_5$
1-1452	F	Cl	CH_3	CF_3	H	$OCH_2COO^nC_3H_7$
1-1453	F	Cl	CH_3	CF_3	H	$OCH_2COO^nC_4H_9$
1-1454	F	Cl	CH_3	CF_3	H	$OCH_2COO^nC_5H_{11}$
1-1455	F	Cl	CH_3	CF_3	H	$OCH_2COO^iC_3H_7$
1-1456	F	Cl	CH_3	CF_3	H	$OCH_2COO^cC_5H_9$
1-1457	F	Cl	CH_3	CF_3	H	$OCH_2COO^cC_6H_{11}$
1-1458	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH_3$
1-1459	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COOC_2H_5$
1-1460	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COO^nC_3H_7$
1-1461	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COO^nC_4H_9$
1-1462	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COO^nC_5H_{11}$
1-1463	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COO^iC_3H_7$
1-1464	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COO^cC_5H_9$
1-1465	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COO^cC_6H_{11}$
1-1466	F	Cl	CH_3	CF_3	H	$OCH_2CON(CH_3)_2$
1-1467	F	Cl	CH_3	CF_3	H	$OCH_2CON(C_2H_5)_2$
1-1468	F	Cl	CH_3	CF_3	H	$OCH_2CON(CH_3)C_2H_5$
1-1469	F	Cl	CH_3	CF_3	H	$OCH(CH_3)CON(CH_3)_2$
1-1470	F	Cl	CH_3	CF_3	H	$OCH(CH_3)CON(C_2H_5)_2$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1471	F	Cl	CH_3	CF_3	H	$OCH(CH_3)CON(CH_3)C_2H_5$
1-1472	F	Cl	CH_3	CF_3	H	$OCH_2COON(CH_3)_2$
1-1473	F	Cl	CH_3	CF_3	H	$OCH_2COON(C_2H_5)_2$
1-1474	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COON(CH_3)_2$
1-1475	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COON(C_2H_5)_2$
1-1476	H	F	CH_3	CF_3	H	SH
1-1477	H	Cl	CH_3	CF_3	H	SH
1-1478	H	Br	CH_3	CF_3	H	SH
1-1479	F	F	CH_3	CF_3	H	SH
1-1480	F	Cl	CH_3	CF_3	H	SH
1-1481	F	Br	CH_3	CF_3	H	SH
1-1482	H	Cl	CH_3	CF_3	H	SCH_3
1-1483	H	Cl	CH_3	CF_3	H	SC_2H_5
1-1484	H	Cl	CH_3	CF_3	H	$S^iC_3H_7$
1-1485	H	Cl	CH_3	CF_3	H	SCH_2CH_2Cl
1-1486	H	Cl	CH_3	CF_3	H	$S^cC_5H_9$
1-1487	H	Cl	CH_3	CF_3	H	$S^cC_6H_{11}$
1-1488	H	Cl	CH_3	CF_3	H	$SCH_2CH=CH_2$
1-1489	H	Cl	CH_3	CF_3	H	$SCH_2CCl=CH_2$
1-1490	H	Cl	CH_3	CF_3	H	$SCH_2CCl=CHCl$
1-1491	H	Cl	CH_3	CF_3	H	$SCH(CH_3)CH=CH_2$
1-1492	H	Cl	CH_3	CF_3	H	$SCH_2C\equiv CH$
1-1493	H	Cl	CH_3	CF_3	H	$SCH(CH_3)C\equiv CH$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1494	H	Cl	CH_3	CF_3	H	SCH_2COOCH_3
1-1495	H	Cl	CH_3	CF_3	H	$SCH_2COOC_2H_5$
1-1496	H	Cl	CH_3	CF_3	H	$SCH_2COO^nC_3H_7$
1-1497	H	Cl	CH_3	CF_3	H	$SCH_2COO^nC_4H_9$
1-1498	H	Cl	CH_3	CF_3	H	$SCH_2COO^nC_5H_{11}$
1-1499	H	Cl	CH_3	CF_3	H	$SCH_2COO^iC_3H_7$
1-1500	H	Cl	CH_3	CF_3	H	$SCH_2COO^cC_5H_9$
1-1501	H	Cl	CH_3	CF_3	H	$SCH_2COO^cC_6H_{11}$
1-1502	H	Cl	CH_3	CF_3	H	$SCH(CH_3)COOCH_3$
1-1503	H	Cl	CH_3	CF_3	H	$SCH(CH_3)COOC_2H_5$
1-1504	H	Cl	CH_3	CF_3	H	$SCH(CH_3)COO^nC_3H_7$
1-1505	H	Cl	CH_3	CF_3	H	$SCH(CH_3)COO^nC_4H_9$
1-1506	H	Cl	CH_3	CF_3	H	$SCH(CH_3)COO^nC_5H_{11}$
1-1507	H	Cl	CH_3	CF_3	H	$SCH(CH_3)COO^iC_3H_7$
1-1508	H	Cl	CH_3	CF_3	H	$SCH(CH_3)COO^cC_5H_9$
1-1509	H	Cl	CH_3	CF_3	H	$SCH(CH_3)COO^cC_6H_{11}$
1-1510	H	Cl	CH_3	CF_3	H	$SCH_2CON(CH_3)_2$
1-1511	H	Cl	CH_3	CF_3	H	$SCH_2CON(C_2H_5)_2$
1-1512	H	Cl	CH_3	CF_3	H	SCH_2CON(tetramethylene)
1-1513	H	Cl	CH_3	CF_3	H	SCH_2CON(pentamethylene)
1-1514	H	Cl	CH_3	CF_3	H	SCH_2CON (ethyleneoxyethylene)
1-1515	H	Cl	CH_3	CF_3	H	$SCH(CH_3)CON(CH_3)_2$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1516	H	Cl	CH_3	CF_3	H	$SCH(CH_3)CON(C_2H_5)_2$
1-1517	H	Cl	CH_3	CF_3	H	$SCH(CH_3)CON$ (tetramethylene)
1-1518	H	Cl	CH_3	CF_3	H	$SCH(CH_3)CON$ (pentamethylene)
1-1519	F	Cl	CH_3	CF_3	H	SCH_3
1-1520	F	Cl	CH_3	CF_3	H	SC_2H_5
1-1521	F	Cl	CH_3	CF_3	H	$S^iC_3H_7$
1-1522	F	Cl	CH_3	CF_3	H	SCH_2CH_2Cl
1-1523	F	Cl	CH_3	CF_3	H	$S^cC_5H_9$
1-1524	F	Cl	CH_3	CF_3	H	$S^cC_6H_{11}$
1-1525	F	Cl	CH_3	CF_3	H	$SCH_2CH=CH_2$
1-1526	F	Cl	CH_3	CF_3	H	$SCH_2CCl=CH_2$
1-1527	F	Cl	CH_3	CF_3	H	$SCH_2CCl=CHCl$
1-1528	F	Cl	CH_3	CF_3	H	$SCH(CH_3)CH=CH_2$
1-1529	F	Cl	CH_3	CF_3	H	$SCH_2C\equiv CH$
1-1530	F	Cl	CH_3	CF_3	H	$SCH(CH_3)C\equiv CH$
1-1531	F	Cl	CH_3	CF_3	H	SCH_2COOCH_3
1-1532	F	Cl	CH_3	CF_3	H	$SCH_2COOC_2H_5$
1-1533	F	Cl	CH_3	CF_3	H	$SCH_2COO^nC_3H_7$
1-1534	F	Cl	CH_3	CF_3	H	$SCH_2COO^nC_4H_9$
1-1535	F	Cl	CH_3	CF_3	H	$SCH_2COO^nC_6H_{11}$
1-1536	F	Cl	CH_3	CF_3	H	$SCH_2COO^iC_3H_7$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1537	F	Cl	CH_3	CF_3	H	$SCH_2COO^cC_5H_9$
1-1538	F	Cl	CH_3	CF_3	H	$SCH_2COO^cC_6H_{11}$
1-1539	F	Cl	CH_3	CF_3	H	$SCH(CH_3)COOCH_3$
1-1540	F	Cl	CH_3	CF_3	H	$SCH(CH_3)COOC_2H_5$
1-1541	F	Cl	CH_3	CF_3	H	$SCH(CH_3)COO^nC_3H_7$
1-1542	F	Cl	CH_3	CF_3	H	$SCH(CH_3)COO^nC_4H_9$
1-1543	F	Cl	CH_3	CF_3	H	$SCH(CH_3)COO^nC_5H_{11}$
1-1544	F	Cl	CH_3	CF_3	H	$SCH(CH_3)COO^iC_3H_7$
1-1545	F	Cl	CH_3	CF_3	H	$SCH(CH_3)COO^cC_5H_9$
1-1546	F	Cl	CH_3	CF_3	H	$SCH(CH_3)COO^cC_6H_{11}$
1-1547	F	Cl	CH_3	CF_3	H	$SCH_2CON(CH_3)_2$
1-1548	F	Cl	CH_3	CF_3	H	$SCH_2CON(C_2H_5)_2$
1-1549	F	Cl	CH_3	CF_3	H	SCH_2CON(tetramethylene)
1-1550	F	Cl	CH_3	CF_3	H	SCH_2CON(pentamethylene)
1-1551	F	Cl	CH_3	CF_3	H	SCH_2CON (ethyleneoxyethylene)
1-1552	F	Cl	CH_3	CF_3	H	$SCH(CH_3)CON(CH_3)_2$
1-1553	F	Cl	CH_3	CF_3	H	$SCH(CH_3)CON(C_2H_5)_2$
1-1554	F	Cl	CH_3	CF_3	H	$SCH(CH_3)CON$ (tetramethylene)
1-1555	F	Cl	CH_3	CF_3	H	$SCH(CH_3)CON$ (pentamethylene)

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1556	H	F	CH_3	CF_3	H	SO_2Cl
1-1557	H	Cl	CH_3	CF_3	H	SO_2Cl
1-1558	H	Br	CH_3	CF_3	H	SO_2Cl
1-1559	F	F	CH_3	CF_3	H	SO_2Cl
1-1560	F	Cl	CH_3	CF_3	H	SO_2Cl
1-1561	F	Br	CH_3	CF_3	H	SO_2Cl
1-1562	H	Cl	CH_3	CF_3	H	SO_2OCH_3
1-1563	H	Cl	CH_3	CF_3	H	$SO_2OC_2H_5$
1-1564	H	Cl	CH_3	CF_3	H	$SO_2O^iC_3H_7$
1-1565	H	Cl	CH_3	CF_3	H	$SO_2OCH_2CH=CH_2$
1-1566	F	Cl	CH_3	CF_3	H	SO_2OCH_3
1-1567	F	Cl	CH_3	CF_3	H	$SO_2OC_2H_5$
1-1568	F	Cl	CH_3	CF_3	H	$SO_2O^nC_3H_7$
1-1569	F	Cl	CH_3	CF_3	H	$SO_2OCH_2CH=CH_2$
1-1570	H	Cl	CH_3	CF_3	H	$SO_2N(CH_3)_2$
1-1571	H	Cl	CH_3	CF_3	H	$SO_2N(C_2H_5)_2$
1-1572	F	Cl	CH_3	CF_3	H	$SO_2N(CH_3)_2$
1-1573	F	Cl	CH_3	CF_3	H	$SO_2N(C_2H_5)_2$
1-1574	H	Cl	CH_3	CF_3	H	COOH
1-1575	H	Cl	CH_3	CF_3	H	$COOCH_3$
1-1576	H	Cl	CH_3	CF_3	H	$COOC_2H_5$
1-1577	H	Cl	CH_3	CF_3	H	$COO^nC_3H_7$
1-1578	H	Cl	CH_3	CF_3	H	$COO^nC_4H_9$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1579	H	Cl	CH_3	CF_3	H	$COO^nC_5H_{11}$
1-1580	H	Cl	CH_3	CF_3	H	$COO^iC_3H_7$
1-1581	H	Cl	CH_3	CF_3	H	$COOCH_2CH_2Cl$
1-1582	H	Cl	CH_3	CF_3	H	$COOCH_2CH_2Br$
1-1583	H	Cl	CH_3	CF_3	H	$CON(CH_3)_2$
1-1584	H	Cl	CH_3	CF_3	H	$CONHCH_3$
1-1585	H	Cl	CH_3	CF_3	H	$CON(C_2H_5)_2$
1-1586	H	Cl	CH_3	CF_3	H	$CONHC_2H_5$
1-1587	H	Cl	CH_3	CF_3	H	$COCH_3$
1-1588	H	Cl	CH_3	CF_3	H	COC_2H_5
1-1589	H	Cl	CH_3	CF_3	H	$COCH_2Cl$
1-1590	H	Cl	CH_3	CF_3	H	CHO
1-1591	H	Cl	CH_3	CF_3	H	$CH=CHCOOCH_3$
1-1592	H	Cl	CH_3	CF_3	H	$CH=CHCOOC_2H_5$
1-1593	H	Cl	CH_3	CF_3	H	$CH_2CH_2COOCH_3$
1-1594	H	Cl	CH_3	CF_3	H	$CH_2CH_2COOC_2H_5$
1-1595	F	Cl	CH_3	CF_3	H	COOH
1-1596	F	Cl	CH_3	CF_3	H	$COOCH_3$
1-1597	F	Cl	CH_3	CF_3	H	$COOC_2H_5$
1-1598	F	Cl	CH_3	CF_3	H	$COO^nC_3H_7$
1-1599	F	Cl	CH_3	CF_3	H	$COO^nC_4H_9$
1-1600	F	Cl	CH_3	CF_3	H	$COO^nC_5H_{11}$
1-1601	F	Cl	CH_3	CF_3	H	$COO^iC_3H_7$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1602	F	Cl	CH_3	CF_3	H	$COOCH_2CH_2Cl$
1-1603	F	Cl	CH_3	CF_3	H	$COOCH_2CH_2Br$
1-1604	F	Cl	CH_3	CF_3	H	$CON(CH_3)_2$
1-1605	F	Cl	CH_3	CF_3	H	$CONHCH_3$
1-1606	F	Cl	CH_3	CF_3	H	$CON(C_2H_5)_2$
1-1607	F	Cl	CH_3	CF_3	H	$CONHC_2H_5$
1-1608	F	Cl	CH_3	CF_3	H	$COCH_3$
1-1609	F	Cl	CH_3	CF_3	H	COC_2H_5
1-1610	F	Cl	CH_3	CF_3	H	$COCH_2Cl$
1-1611	F	Cl	CH_3	CF_3	H	CHO
1-1612	F	Cl	CH_3	CF_3	H	$CH=CHCOOCH_3$
1-1613	F	Cl	CH_3	CF_3	H	$CH=CHCOOC_2H_5$
1-1614	F	Cl	CH_3	CF_3	H	$CH_2CH_2COOCH_3$
1-1615	F	Cl	CH_3	CF_3	H	$CH_2CH_2COOC_2H_5$
1-1616	H	F	CH_3	CF_3	H	H
1-1617	H	Cl	CH_3	CF_3	H	H
1-1618	H	Br	CH_3	CF_3	H	H
1-1619	F	F	CH_3	CF_3	H	H
1-1620	F	Cl	CH_3	CF_3	H	H
1-1621	F	Br	CH_3	CF_3	H	H
1-1622	F	Cl	H	CF_3	CH_3	$CH_2CHClCO_2C_2H_5$
1-1623	F	Cl	H	CF_3	H	$CH_2CHClCO_2C_2H_5$
1-1624	F	Cl	H	CF_3	CH_3	$CH_2CHClCO_2CH_3$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1625	F	Cl	H	CF_3	H	$CH_2CHClCO_2CH_3$
1-1626	F	Cl	H	CF_3	H	OCH_2CO_2H
1-1627	F	Cl	H	CF_3	CH_3	OCH_2CO_2H
1-1628	F	Cl	CH_3	CF_3	H	OCH_2CO_2H
1-1629	F	Cl	H	CF_3	H	$OCH(CH_3)CO_2H$
1-1630	F	Cl	H	CF_3	CH_3	$OCH(CH_3)CO_2H$
1-1631	F	Cl	CH_3	CF_3	H	$OCH(CH_3)CO_2H$
1-1632	H	Cl	H	CF_3	H	OCH_2CO_2H
1-1633	H	Cl	H	CF_3	CH_3	OCH_2CO_2H
1-1634	H	Cl	CH_3	CF_3	H	OCH_2CO_2H
1-1635	H	Cl	H	CF_3	H	$OCH(CH_3)CO_2H$
1-1636	H	Cl	H	CF_3	CH_3	$OCH(CH_3)CO_2H$
1-1637	H	Cl	CH_3	CF_3	H	$OCH(CH_3)CO_2H$
1-1638	F	Cl	H	CF_3	H	SCH_2CO_2H
1-1639	F	Cl	H	CF_3	CH_3	SCH_2CO_2H
1-1640	F	Cl	CH_3	CF_3	H	SCH_2CO_2H
1-1641	F	Cl	H	CF_3	H	$SCH(CH_3)CO_2H$
1-1642	F	Cl	H	CF_3	CH_3	$SCH(CH_3)CO_2H$
1-1643	F	Cl	CH_3	CF_3	H	$SCH(CH_3)CO_2H$
1-1644	H	Cl	H	CF_3	H	SCH_2CO_2H
1-1645	H	Cl	H	CF_3	CH_3	SCH_2CO_2H
1-1646	H	Cl	CH_3	CF_3	H	SCH_2CO_2H
1-1647	H	Cl	H	CF_3	H	$SCH(CH_3)CO_2H$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1648	H	Cl	H	CF_3	CH_3	$SCH(CH_3)CO_2H$
1-1649	H	Cl	CH_3	CF_3	H	$SCH(CH_3)CO_2H$
1-1650	F	Cl	H	CF_3	CH_3	$OCH(C_2H_5)CO_2CH_3$
1-1651	Cl	Cl	H	CF_3	H	$OCH_2CO_2CH_3$
1-1652	Cl	Cl	H	CF_3	H	$OCH_2CO_2C_2H_5$
1-1653	Cl	Cl	H	CF_3	H	$OCH_2CO_2{}^iC_3H_7$
1-1654	Cl	Cl	H	CF_3	CH_3	$OCH_2CO_2CH_3$
1-1655	Cl	Cl	H	CF_3	CH_3	$OCH_2CO_2C_2H_5$
1-1656	Cl	Cl	H	CF_3	CH_3	$OCH_2CO_2{}^iC_3H_7$
1-1657	Cl	Cl	CH_3	CF_3	H	$OCH_2CO_2CH_3$
1-1658	Cl	Cl	CH_3	CF_3	H	$OCH_2CO_2C_2H_5$
1-1659	Cl	Cl	CH_3	CF_3	H	$OCH_2CO_2{}^iC_3H_7$
1-1660	Cl	Cl	H	CF_3	H	$OCH_2C\equiv CH$
1-1661	Cl	Cl	H	CF_3	H	$OCH(CH_3)C\equiv CH$
1-1662	Cl	Cl	H	CF_3	H	$OCH(CH_3)CO_2C_2H_5$
1-1663	Cl	Cl	H	CF_3	CH_3	$OCH_2C\equiv CH$
1-1664	Cl	Cl	H	CF_3	CH_3	$OCH(CH_3)C\equiv CH$
1-1665	Cl	Cl	H	CF_3	CH_3	$OCH(CH_3)CO_2C_2H_5$
1-1666	Cl	Cl	CH_3	CF_3	H	$OCH_2C\equiv CH$
1-1667	Cl	Cl	CH_3	CF_3	H	$OCH(CH_3)C\equiv CH$
1-1668	Cl	Cl	CH_3	CF_3	H	$OCH(CH_3)CO_2C_2H_5$
1-1669	F	Br	H	CF_3	H	$OCH_2CO_2CH_3$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1670	F	Br	H	CF_3	H	$OCH_2CO_2C_2H_5$
1-1671	F	Br	H	CF_3	H	$OCH_2CO_2{}^iC_3H_7$
1-1672	F	Br	H	CF_3	CH_3	$OCH_2CO_2CH_3$
1-1673	F	Br	H	CF_3	CH_3	$OCH_2CO_2C_2H_5$
1-1674	F	Br	H	CF_3	CH_3	$OCH_2CO_2{}^iC_3H_7$
1-1675	F	Br	CH_3	CF_3	H	$OCH_2CO_2CH_3$
1-1676	F	Br	CH_3	CF_3	H	$OCH_2CO_2C_2H_5$
1-1677	F	Br	CH_3	CF_3	H	$OCH_2CO_2{}^iC_3H_7$
1-1678	F	Br	H	CF_3	H	$OCH_2C\equiv CH$
1-1679	F	Br	H	CF_3	H	$OCH(CH_3)C\equiv CH$
1-1680	F	Br	H	CF_3	H	$OCH(CH_3)CO_2C_2H_5$
1-1681	F	Br	H	CF_3	CH_3	$OCH_2C\equiv CH$
1-1682	F	Br	H	CF_3	CH_3	$OCH(CH_3)C\equiv CH$
1-1683	F	Br	H	CF_3	CH_3	$OCH(CH_3)CO_2C_2H_5$
1-1684	F	Br	CH_3	CF_3	H	$OCH_2C\equiv CH$
1-1685	F	Br	CH_3	CF_3	H	$OCH(CH_3)C\equiv CH$
1-1686	F	Br	CH_3	CF_3	H	$OCH(CH_3)CO_2C_2H_5$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1687	Cl	Cl	H	CF_3	H	H
1-1688	Cl	Cl	H	CF_3	H	OH
1-1689	Cl	Cl	H	CF_3	H	NO_2
1-1690	Cl	Cl	H	CF_3	H	NH_2
1-1691	Cl	Cl	H	CF_3	H	$NHSO_2CH_3$
1-1692	Cl	Cl	H	CF_3	H	$NHSO_2CH_2Cl$
1-1693	Cl	Cl	H	CF_3	H	$NHCH_2CO_2CH_3$
1-1694	Cl	Cl	H	CF_3	H	$NHCH_2CO_2C_2H_5$
1-1695	Cl	Cl	H	CF_3	H	$NHCH_2CO_2{}^iC_3H_7$
1-1696	Cl	Cl	H	CF_3	H	$NHCH(CH_3)CO_2CH_3$
1-1697	Cl	Cl	H	CF_3	H	$NHCH(CH_3)CO_2C_2H_5$
1-1698	Cl	Cl	H	CF_3	H	$NHCH(CH_3)CO_2{}^iC_3H_7$
1-1699	Cl	Cl	H	CF_3	H	CO_2H
1-1700	Cl	Cl	H	CF_3	H	CO_2CH_3
1-1701	Cl	Cl	H	CF_3	H	$CO_2C_2H_5$
1-1702	Cl	Cl	H	CF_3	H	$CO_2{}^nC_3H_7$
1-1703	Cl	Cl	H	CF_3	H	$CO_2{}^nC_4H_9$
1-1704	Cl	Cl	H	CF_3	H	$CO_2{}^nC_5H_{11}$
1-1705	Cl	Cl	H	CF_3	H	$CO_2{}^iC_3H_7$
1-1706	Cl	Cl	H	CF_3	H	$CO_2CH_2CH_2Cl$
1-1707	Cl	Cl	H	CF_3	H	$CO_2CH_2CH_2Br$
1-1708	Cl	Cl	H	CF_3	H	$CON(CH_3)_2$
1-1709	Cl	Cl	H	CF_3	H	$CONHCH_3$
1-1710	Cl	Cl	H	CF_3	H	$CON(C_2H_5)_2$
1-1711	Cl	Cl	H	CF_3	H	$CONHC_2H_5$
1-1712	Cl	Cl	H	CF_3	H	$COCH_3$
1-1713	Cl	Cl	H	CF_3	H	COC_2H_5
1-1714	Cl	Cl	H	CF_3	H	$COCH_2Cl$
1-1715	Cl	Cl	H	CF_3	H	CHO
1-1716	Cl	Cl	H	CF_3	H	$CH=CHCO_2CH_3$
1-1717	Cl	Cl	H	CF_3	H	$O^iC_3H_7$
1-1718	Cl	Cl	H	CF_3	CH_3	H
1-1719	Cl	Cl	H	CF_3	CH_3	OH

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1720	Cl	Cl	H	CF_3	CH_3	NO_2
1-1721	Cl	Cl	H	CF_3	CH_3	NH_2
1-1722	Cl	Cl	H	CF_3	CH_3	$NHSO_2CH_3$
1-1723	Cl	Cl	H	CF_3	CH_3	$NHSO_2CH_2Cl$
1-1724	Cl	Cl	H	CF_3	CH_3	$NHCH_2CO_2CH_3$
1-1725	Cl	Cl	H	CF_3	CH_3	$NHCH_2CO_2C_2H_5$
1-1726	Cl	Cl	H	CF_3	CH_3	$NHCH_2CO_2{}^iC_3H_7$
1-1727	Cl	Cl	H	CF_3	CH_3	$NHCH(CH_3)CO_2CH_3$
1-1728	Cl	Cl	H	CF_3	CH_3	$NHCH(CH_3)CO_2C_2H_5$
1-1729	Cl	Cl	H	CF_3	CH_3	$NHCH(CH_3)CO_2{}^iC_3H_7$
1-1730	Cl	Cl	H	CF_3	CH_3	CO_2H
1-1731	Cl	Cl	H	CF_3	CH_3	CO_2CH_3
1-1732	Cl	Cl	H	CF_3	CH_3	$CO_2C_2H_5$
1-1733	Cl	Cl	H	CF_3	CH_3	$CO_2{}^nC_3H_7$
1-1734	Cl	Cl	H	CF_3	CH_3	$CO_2{}^nC_4H_9$
1-1735	Cl	Cl	H	CF_3	CH_3	$CO_2{}^nC_5H_{11}$
1-1736	Cl	Cl	H	CF_3	CH_3	$CO_2{}^iC_3H_7$
1-1737	Cl	Cl	H	CF_3	CH_3	$CO_2CH_2CH_2Cl$
1-1738	Cl	Cl	H	CF_3	CH_3	$CO_2CH_2CH_2Br$
1-1739	Cl	Cl	H	CF_3	CH_3	$CON(CH_3)_2$
1-1740	Cl	Cl	H	CF_3	CH_3	$CONHCH_3$
1-1741	Cl	Cl	H	CF_3	CH_3	$CON(C_2H_5)_2$
1-1742	Cl	Cl	H	CF_3	CH_3	$CONHC_2H_5$
1-1743	Cl	Cl	H	CF_3	CH_3	$COCH_3$
1-1744	Cl	Cl	H	CF_3	CH_3	COC_2H_5
1-1745	Cl	Cl	H	CF_3	CH_3	$COCH_2Cl$
1-1746	Cl	Cl	H	CF_3	CH_3	CHO
1-1747	Cl	Cl	H	CF_3	CH_3	$CH=CHCO_2CH_3$
1-1748	Cl	Cl	H	CF_3	CH_3	$O{}^iC_3H_7$
1-1749	Cl	Cl	CH_3	CF_3	H	H
1-1750	Cl	Cl	CH_3	CF_3	H	OH
1-1751	Cl	Cl	CH_3	CF_3	H	NO_2
1-1752	Cl	Cl	CH_3	CF_3	H	NH_2

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-1753	Cl	Cl	CH_3	CF_3	H	$NHSO_2CH_3$
1-1754	Cl	Cl	CH_3	CF_3	H	$NHSO_2CH_2Cl$
1-1755	Cl	Cl	CH_3	CF_3	H	$NHCH_2CO_2CH_3$
1-1756	Cl	Cl	CH_3	CF_3	H	$NHCH_2CO_2C_2H_5$
1-1757	Cl	Cl	CH_3	CF_3	H	$NHCH_2CO_2{}^iC_3H_7$
1-1758	Cl	Cl	CH_3	CF_3	H	$NHCH(CH_3)CO_2CH_3$
1-1759	Cl	Cl	CH_3	CF_3	H	$NHCH(CH_3)CO_2C_2H_5$
1-1760	Cl	Cl	CH_3	CF_3	H	$NHCH(CH_3)CO_2{}^iC_3H_7$
1-1761	Cl	Cl	CH_3	CF_3	H	CO_2H
1-1762	Cl	Cl	CH_3	CF_3	H	CO_2CH_3
1-1763	Cl	Cl	CH_3	CF_3	H	$CO_2C_2H_5$
1-1764	Cl	Cl	CH_3	CF_3	H	$CO_2{}^nC_3H_7$
1-1765	Cl	Cl	CH_3	CF_3	H	$CO_2{}^nC_4H_9$
1-1766	Cl	Cl	CH_3	CF_3	H	$CO_2{}^nC_5H_{11}$
1-1767	Cl	Cl	CH_3	CF_3	H	$CO_2{}^iC_3H_7$
1-1768	Cl	Cl	CH_3	CF_3	H	$CO_2CH_2CH_2Cl$
1-1769	Cl	Cl	CH_3	CF_3	H	$CO_2CH_2CH_2Br$
1-1770	Cl	Cl	CH_3	CF_3	H	$CON(CH_3)_2$
1-1771	Cl	Cl	CH_3	CF_3	H	$CONHCH_3$
1-1772	Cl	Cl	CH_3	CF_3	H	$CON(C_2H_5)_2$
1-1773	Cl	Cl	CH_3	CF_3	H	$CONHC_2H_5$
1-1774	Cl	Cl	CH_3	CF_3	H	$COCH_3$
1-1775	Cl	Cl	CH_3	CF_3	H	COC_2H_5
1-1776	Cl	Cl	CH_3	CF_3	H	$COCH_2Cl$
1-1777	Cl	Cl	CH_3	CF_3	H	CHO
1-1778	Cl	Cl	CH_3	CF_3	H	$CH=CHCO_2CH_3$
1-1779	Cl	Cl	CH_3	CF_3	H	$O^iC_3H_7$
1-1780	F	Br	H	CF_3	H	$O^iC_3H_7$
1-1781	F	Br	H	CF_3	H	$N(SO_2CH_3)_2$
1-1782	F	Br	H	CF_3	H	$NHSO_2CH_3$
1-1783	F	Br	H	CF_3	CH_3	$O^iC_3H_7$

TABLE 1 (contn'd)

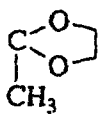
Compound No.	X	Y	R^3	R^1	R^2	B
1-1784	F	Br	H	CF_3	CH_3	$N(SO_2CH_3)_2$
1-1785	F	Br	H	CF_3	CH_3	$NHSO_2CH_3$
1-1786	F	Br	CH_3	CF_3	H	$O^iC_3H_7$
1-1787	F	Br	CH_3	CF_3	H	$N(SO_2CH_3)_2$
1-1788	F	Br	CH_3	CF_3	H	$NHSO_2CH_3$
1-1789	F	Cl	H	CF_3	CH_3	$OCH_2C(CH_3)=CH_2$
1-1790	F	Cl	H	CF_3	CH_3	$OCH_2CO_2C_7H_{15}$
1-1791	F	Cl	H	CF_3	CH_3	$OCH_2CO_2C_8H_{17}$
1-1792	F	Cl	H	CF_3	CH_3	$COOCH_2C_6H_5$
1-1793	F	Cl	H	CF_3	CH_3	$C(CH_3)=NOH$
1-1794	F	Cl	H	CF_3	CH_3	$C(CH_3)=NOCH_3$
1-1795	F	Cl	H	CF_3	CH_3	$C(CH_3)=NOC_2H_5$
1-1796	F	Cl	H	CF_3	CH_3	$C(CH_3)=NO^iC_3H_7$
1-1797	F	Cl	H	CF_3	CH_3	$C(C_2H_5)=NOH$
1-1798	F	Cl	H	CF_3	CH_3	$C(C_2H_5)=NOCH_3$
1-1799	F	Cl	H	CF_3	CH_3	$C(C_2H_5)=NOC_2H_5$
1-1800	F	Cl	H	CF_3	CH_3	$C(C_2H_5)=NO^iC_3H_7$
1-1801	F	Cl	H	CF_3	CH_3	$C(CH_3)=NNH_2$
1-1802	F	Cl	H	CF_3	CH_3	$C(CH_3)=NNHCH_3$
1-1803	F	Cl	H	CF_3	CH_3	$C(CH_3)=NN(CH_3)_2$
1-1804	F	Cl	H	CF_3	CH_3	$C(CH_3)=NNHC_2H_5$
1-1805	F	Cl	H	CF_3	CH_3	$C(CH_3)=NN(C_2H_5)_2$
1-1806	F	Cl	H	CF_3	CH_3	$C(C_2H_5)=NNH_2$
1-1807	F	Cl	H	CF_3	CH_3	$C(C_2H_5)=NNHCH_3$
1-1808	F	Cl	H	CF_3	CH_3	$C(C_2H_5)=NN(CH_3)_2$
1-1809	F	Cl	H	CF_3	CH_3	$C(C_2H_5)=NNHC_2H_5$
1-1810	F	Cl	H	CF_3	CH_3	$C(C_2H_5)=NN(C_2H_5)_2$
1-1811	F	Cl	H	CF_3	CH_3	$C(CH_3)(OCH_3)_2$
1-1812	F	Cl	H	CF_3	CH_3	$C(CH_3)(OC_2H_5)_2$
1-1813	F	Cl	H	CF_3	CH_3	$C(CH_3)(C^iC_3H_7)_2$
1-1814	F	Cl	H	CF_3	CH_3	

TABLE 1 (contn'd)

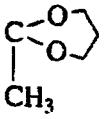
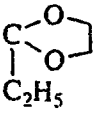
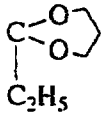
Compound No.	X	Y	R^3	R^1	R^2	B
1-1815	F	Cl	H	CF_3	CH_3	
1-1816	F	Cl	H	CF_3	CH_3	
1-1817	F	Cl	H	CF_3	CH_3	
1-1818	F	Cl	H	CF_3	H	$OCH_2C(CH_3)=CH_2$
1-1819	F	Cl	H	CF_3	H	$OCH_2CO_2C_7H_{15}$
1-1820	F	Cl	H	CF_3	H	$OCH_2CO_2C_8H_{17}$
1-1821	F	Cl	H	CF_3	H	$COOCH_2C_6H_5$
1-1822	F	Cl	H	CF_3	H	$C(CH_3)=NOH$
1-1823	F	Cl	H	CF_3	H	$C(CH_3)=NOCH_3$
1-1824	F	Cl	H	CF_3	H	$C(CH_3)=NOC_2H_5$
1-1825	F	Cl	H	CF_3	H	$C(CH_3)=NO^iC_3H_7$
1-1826	F	Cl	H	CF_3	H	$C(C_2H_5)=NOH$
1-1827	F	Cl	H	CF_3	H	$C(C_2H_5)=NOCH_3$
1-1828	F	Cl	H	CF_3	H	$C(C_2H_5)=NOC_2H_5$
1-1829	F	Cl	H	CF_3	H	$C(C_2H_5)=NO^iC_3H_7$
1-1830	F	Cl	H	CF_3	H	$C(CH_3)=NNH_2$
1-1831	F	Cl	H	CF_3	H	$C(CH_3)=NNHCH_3$
1-1832	F	Cl	H	CF_3	H	$C(CH_3)=NN(CH_3)_2$
1-1833	F	Cl	H	CF_3	H	$C(CH_3)=NNHC_2H_5$
1-1834	F	Cl	H	CF_3	H	$C(CH_3)=NN(C_2H_5)_2$
1-1835	F	Cl	H	CF_3	H	$C(C_2H_5)=NNH_2$
1-1836	F	Cl	H	CF_3	H	$C(C_2H_5)=NNHCH_3$
1-1837	F	Cl	H	CF_3	H	$C(C_2H_5)=NN(CH_3)_2$
1-1838	F	Cl	H	CF_3	H	$C(C_2H_5)=NNHC_2H_5$
1-1839	F	Cl	H	CF_3	H	$C(C_2H_5)=NN(C_2H_5)_2$
1-1840	F	Cl	H	CF_3	H	$C(CH_3)(OCH_3)_2$

TABLE 1 (contn'd)

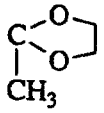
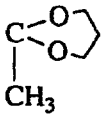
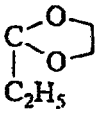
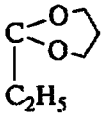
Compound No.	X	Y	R^3	R^1	R^2	B
1-1841	F	Cl	H	CF_3	H	$C(CH_3)(OC_2H_5)_2$
1-1842	F	Cl	H	CF_3	H	$C(CH_3)(C^iC_3H_7)_2$
1-1843	F	Cl	H	CF_3	H	
1-1844	F	Cl	H	CF_3	H	
1-1845	F	Cl	H	CF_3	H	
1-1846	F	Cl	H	CF_3	H	
1-1847	F	Cl	CH_3	CF_3	H	$OCH_2C(CH_3)=CH_2$
1-1848	F	Cl	CH_3	CF_3	H	$OCH_2CO_2C_7H_{15}$
1-1849	F	Cl	CH_3	CF_3	H	$OCH_2CO_2C_8H_{17}$
1-1850	F	Cl	CH_3	CF_3	H	$COOCH_2C_6H_5$
1-1851	F	Cl	CH_3	CF_3	H	$C(CH_3)=NOH$
1-1852	F	Cl	CH_3	CF_3	H	$C(CH_3)=NOCH_3$
1-1853	F	Cl	CH_3	CF_3	H	$C(CH_3)=NOC_2H_5$
1-1854	F	Cl	CH_3	CF_3	H	$C(CH_3)=NO^iC_3H_7$
1-1855	F	Cl	CH_3	CF_3	H	$C(C_2H_5)=NOH$
1-1856	F	Cl	CH_3	CF_3	H	$C(C_2H_5)=NOCH_3$
1-1857	F	Cl	CH_3	CF_3	H	$C(C_2H_5)=NOC_2H_5$
1-1858	F	Cl	CH_3	CF_3	H	$C(C_2H_5)=NO^iC_3H_7$
1-1859	F	Cl	CH_3	CF_3	H	$C(CH_3)=NNH_2$
1-1860	F	Cl	CH_3	CF_3	H	$C(CH_3)=NNHCH_3$
1-1861	F	Cl	CH_3	CF_3	H	$C(CH_3)=NN(CH_3)_2$

TABLE 1 (contn'd)

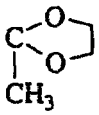
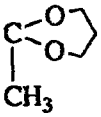
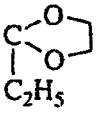
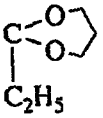
Compound No.	X	Y	R^3	R^1	R^2	B
1-1862	F	Cl	CH_3	CF_3	H	$C(CH_3)=NNHC_2H_5$
1-1863	F	Cl	CH_3	CF_3	H	$C(CH_3)=NN(C_2H_5)_2$
1-1864	F	Cl	CH_3	CF_3	H	$C(C_2H_5)=NNH_2$
1-1865	F	Cl	CH_3	CF_3	H	$C(C_2H_5)=NNHCH_3$
1-1866	F	Cl	CH_3	CF_3	H	$C(C_2H_5)=NN(CH_3)_2$
1-1867	F	Cl	CH_3	CF_3	H	$C(C_2H_5)=NNHC_2H_5$
1-1868	F	Cl	CH_3	CF_3	H	$C(C_2H_5)=NN(C_2H_5)_2$
1-1869	F	Cl	CH_3	CF_3	H	$C(CH_3)(OCH_3)_2$
1-1870	F	Cl	CH_3	CF_3	H	$C(CH_3)(OC_2H_5)_2$
1-1871	F	Cl	CH_3	CF_3	H	$C(CH_3)(C^iC_3H_7)_2$
1-1872	F	Cl	CH_3	CF_3	H	
1-1873	F	Cl	CH_3	CF_3	H	
1-1874	F	Cl	CH_3	CF_3	H	
1-1875	F	Cl	CH_3	CF_3	H	
1-1876	H	Cl	H	CF_3	CH_3	$OCH_2C(CH_3)=CH_2$
1-1877	H	Cl	H	CF_3	CH_3	$OCH_2CO_2C_7H_{15}$
1-1878	H	Cl	H	CF_3	CH_3	$OCH_2CO_2C_8H_{17}$
1-1879	H	Cl	H	CF_3	CH_3	$COOCH_2C_6H_5$
1-1880	H	Cl	H	CF_3	CH_3	$C(CH_3)=NOH$
1-1881	H	Cl	H	CF_3	CH_3	$C(CH_3)=NOCH_3$
1-1882	H	Cl	H	CF_3	CH_3	$C(CH_3)=NOC_2H_5$
1-1883	H	Cl	H	CF_3	CH_3	$C(CH_3)=NO^iC_3H_7$

TABLE 1 (contn'd)

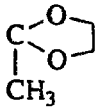
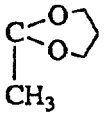
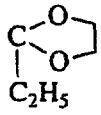
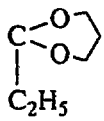
Compound No.	X	Y	R^3	R^1	R^2	B
1-1884	H	Cl	H	CF_3	CH_3	$C(C_2H_5)=NOH$
1-1885	H	Cl	H	CF_3	CH_3	$C(C_2H_5)=NOCH_3$
1-1886	H	Cl	H	CF_3	CH_3	$C(C_2H_5)=NOC_2H_5$
1-1887	H	Cl	H	CF_3	CH_3	$C(C_2H_5)=NO^iC_3H_7$
1-1888	H	Cl	H	CF_3	CH_3	$C(CH_3)=NNH_2$
1-1889	H	Cl	H	CF_3	CH_3	$C(CH_3)=NNHCH_3$
1-1890	H	Cl	H	CF_3	CH_3	$C(CH_3)=NN(CH_3)_2$
1-1891	H	Cl	H	CF_3	CH_3	$C(CH_3)=NNHC_2H_5$
1-1892	H	Cl	H	CF_3	CH_3	$C(CH_3)=NN(C_2H_5)_2$
1-1893	H	Cl	H	CF_3	CH_3	$C(C_2H_5)=NNH_2$
1-1894	H	Cl	H	CF_3	CH_3	$C(C_2H_5)=NNHCH_3$
1-1895	H	Cl	H	CF_3	CH_3	$C(C_2H_5)=NN(CH_3)_2$
1-1896	H	Cl	H	CF_3	CH_3	$C(C_2H_5)=NNHC_2H_5$
1-1897	H	Cl	H	CF_3	CH_3	$C(C_2H_5)=NN(C_2H_5)_2$
1-1898	H	Cl	H	CF_3	CH_3	$C(CH_3)(OCH_3)_2$
1-1899	H	Cl	H	CF_3	CH_3	$C(CH_3)(OC_2H_5)_2$
1-1900	H	Cl	H	CF_3	CH_3	$C(CH_3)(C^iC_3H_7)_2$
1-1901	H	Cl	H	CF_3	CH_3	
1-1902	H	Cl	H	CF_3	CH_3	
1-1903	H	Cl	H	CF_3	CH_3	
1-1904	H	Cl	H	CF_3	CH_3	
1-1905	H	Cl	H	CF_3	H	$OCH_2C(CH_3)=CH_2$

TABLE 1 (contn'd)

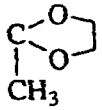
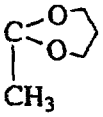
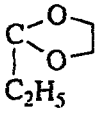
Compound No.	X	Y	R^3	R^1	R^2	B
1-1906	H	Cl	H	CF_3	H	$OCH_2CO_2C_7H_{15}$
1-1907	H	Cl	H	CF_3	H	$OCH_2CO_2C_8H_{17}$
1-1908	H	Cl	H	CF_3	H	$COOCH_2C_6H_5$
1-1909	H	Cl	H	CF_3	H	$C(CH_3)=NOH$
1-1910	H	Cl	H	CF_3	H	$C(CH_3)=NOCH_3$
1-1911	H	Cl	H	CF_3	H	$C(CH_3)=NOC_2H_5$
1-1912	H	Cl	H	CF_3	H	$C(CH_3)=NO^iC_3H_7$
1-1913	H	Cl	H	CF_3	H	$C(C_2H_5)=NOH$
1-1914	H	Cl	H	CF_3	H	$C(C_2H_5)=NOCH_3$
1-1915	H	Cl	H	CF_3	H	$C(C_2H_5)=NOC_2H_5$
1-1916	H	Cl	H	CF_3	H	$C(C_2H_5)=NO^iC_3H_7$
1-1917	H	Cl	H	CF_3	H	$C(CH_3)=NNH_2$
1-1918	H	Cl	H	CF_3	H	$C(CH_3)=NNHCH_3$
1-1919	H	Cl	H	CF_3	H	$C(CH_3)=NN(CH_3)_2$
1-1920	H	Cl	H	CF_3	H	$C(CH_3)=NNHC_2H_5$
1-1921	H	Cl	H	CF_3	H	$C(CH_3)=NN(C_2H_5)_2$
1-1922	H	Cl	H	CF_3	H	$C(C_2H_5)=NNH_2$
1-1923	H	Cl	H	CF_3	H	$C(C_2H_5)=NNHCH_3$
1-1924	H	Cl	H	CF_3	H	$C(C_2H_5)=NN(CH_3)_2$
1-1925	H	Cl	H	CF_3	H	$C(C_2H_5)=NNHC_2H_5$
1-1926	H	Cl	H	CF_3	H	$C(C_2H_5)=NN(C_2H_5)_2$
1-1927	H	Cl	H	CF_3	H	$C(CH_3)(OCH_3)_2$
1-1928	H	Cl	H	CF_3	H	$C(CH_3)(OC_2H_5)_2$
1-1929	H	Cl	H	CF_3	H	$C(CH_3)(C^iC_3H_7)_2$
1-1930	H	Cl	H	CF_3	H	
1-1931	H	Cl	H	CF_3	H	
1-1932	H	Cl	H	CF_3	H	

TABLE 1 (contn'd)

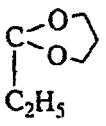
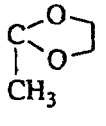
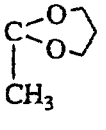
Compound No.	X	Y	R^3	R^1	R^2	B
1-1933	H	Cl	H	CF_3	H	
1-1934	H	Cl	CH_3	CF_3	H	$OCH_2C(CH_3)=CH_2$
1-1935	H	Cl	CH_3	CF_3	H	$OCH_2CO_2C_7H_{15}$
1-1936	H	Cl	CH_3	CF_3	H	$OCH_2CO_2C_8H_{17}$
1-1937	H	Cl	CH_3	CF_3	H	$COOCH_2C_6H_5$
1-1938	H	Cl	CH_3	CF_3	H	$C(CH_3)=NOH$
1-1939	H	Cl	CH_3	CF_3	H	$C(CH_3)=NOCH_3$
1-1940	H	Cl	CH_3	CF_3	H	$C(CH_3)=NOC_2H_5$
1-1941	H	Cl	CH_3	CF_3	H	$C(CH_3)=NO^iC_3H_7$
1-1942	H	Cl	CH_3	CF_3	H	$C(C_2H_5)=NOH$
1-1943	H	Cl	CH_3	CF_3	H	$C(C_2H_5)=NOCH_3$
1-1944	H	Cl	CH_3	CF_3	H	$C(C_2H_5)=NOC_2H_5$
1-1945	H	Cl	CH_3	CF_3	H	$C(C_2H_5)=NO^iC_3H_7$
1-1946	H	Cl	CH_3	CF_3	H	$C(CH_3)=NNH_2$
1-1947	H	Cl	CH_3	CF_3	H	$C(CH_3)=NNHCH_3$
1-1948	H	Cl	CH_3	CF_3	H	$C(CH_3)=NN(CH_3)_2$
1-1949	H	Cl	CH_3	CF_3	H	$C(CH_3)=NNHC_2H_5$
1-1950	H	Cl	CH_3	CF_3	H	$C(CH_3)=NN(C_2H_5)_2$
1-1951	H	Cl	CH_3	CF_3	H	$C(C_2H_5)=NNH_2$
1-1952	H	Cl	CH_3	CF_3	H	$C(C_2H_5)=NNHCH_3$
1-1953	H	Cl	CH_3	CF_3	H	$C(C_2H_5)=NN(CH_3)_2$
1-1954	H	Cl	CH_3	CF_3	H	$C(C_2H_5)=NNHC_2H_5$
1-1955	H	Cl	CH_3	CF_3	H	$C(C_2H_5)=NN(C_2H_5)_2$
1-1956	H	Cl	CH_3	CF_3	H	$C(CH_3)(OCH_3)_2$
1-1957	H	Cl	CH_3	CF_3	H	$C(CH_3)(OC_2H_5)_2$
1-1958	H	Cl	CH_3	CF_3	H	$C(CH_3)(C^iC_3H_7)_2$
1-1959	H	Cl	CH_3	CF_3	H	
1-1960	H	Cl	CH_3	CF_3	H	

TABLE 1 (contn'd)

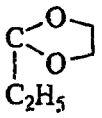
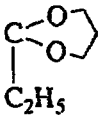
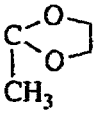
Compound No.	X	Y	R^3	R^1	R^2	B
1-1961	H	Cl	CH_3	CF_3	H	
1-1962	H	Cl	CH_3	CF_3	H	
1-1963	Cl	Cl	H	CF_3	CH_3	$OCH_2C(CH_3)=CH_2$
1-1964	Cl	Cl	H	CF_3	CH_3	$OCH_2CO_2C_7H_{15}$
1-1965	Cl	Cl	H	CF_3	CH_3	$OCH_2CO_2C_8H_{17}$
1-1966	Cl	Cl	H	CF_3	CH_3	$COOCH_2C_6H_5$
1-1967	Cl	Cl	H	CF_3	CH_3	$C(CH_3)=NOH$
1-1968	Cl	Cl	H	CF_3	CH_3	$C(CH_3)=NOCH_3$
1-1969	Cl	Cl	H	CF_3	CH_3	$C(CH_3)=NOC_2H_5$
1-1970	Cl	Cl	H	CF_3	CH_3	$C(CH_3)=NO^iC_3H_7$
1-1971	Cl	Cl	H	CF_3	CH_3	$C(C_2H_5)=NOH$
1-1972	Cl	Cl	H	CF_3	CH_3	$C(C_2H_5)=NOCH_3$
1-1973	Cl	Cl	H	CF_3	CH_3	$C(C_2H_5)=NOC_2H_5$
1-1974	Cl	Cl	H	CF_3	CH_3	$C(C_2H_5)=NO^iC_3H_7$
1-1975	Cl	Cl	H	CF_3	CH_3	$C(CH_3)=NNH_2$
1-1976	Cl	Cl	H	CF_3	CH_3	$C(CH_3)=NNHCH_3$
1-1977	Cl	Cl	H	CF_3	CH_3	$C(CH_3)=NN(CH_3)_2$
1-1978	Cl	Cl	H	CF_3	CH_3	$C(CH_3)=NNHC_2H_5$
1-1979	Cl	Cl	H	CF_3	CH_3	$C(CH_3)=NN(C_2H_5)_2$
1-1980	Cl	Cl	H	CF_3	CH_3	$C(C_2H_5)=NNH_2$
1-1981	Cl	Cl	H	CF_3	CH_3	$C(C_2H_5)=NNHCH_3$
1-1982	Cl	Cl	H	CF_3	CH_3	$C(C_2H_5)=NN(CH_3)_2$
1-1983	Cl	Cl	H	CF_3	CH_3	$C(C_2H_5)=NNHC_2H_5$
1-1984	Cl	Cl	H	CF_3	CH_3	$C(C_2H_5)=NN(C_2H_5)_2$
1-1985	Cl	Cl	H	CF_3	CH_3	$C(CH_3)(OCH_3)_2$
1-1986	Cl	Cl	H	CF_3	CH_3	$C(CH_3)(OC_2H_5)_2$
1-1987	Cl	Cl	H	CF_3	CH_3	$C(CH_3)(C^iC_3H_7)_2$
1-1988	Cl	Cl	H	CF_3	CH_3	

TABLE 1 (contn'd)

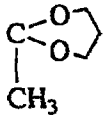
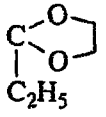
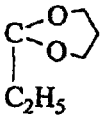
Compound No.	X	Y	R^3	R^1	R^2	B
1-1989	Cl	Cl	H	CF_3	CH_3	
1-1990	Cl	Cl	H	CF_3	CH_3	
1-1991	Cl	Cl	H	CF_3	CH_3	
1-1992	Cl	Cl	H	CF_3	H	$OCH_2C(CH_3)=CH_2$
1-1993	Cl	Cl	H	CF_3	H	$OCH_2CO_2C_7H_{15}$
1-1994	Cl	Cl	H	CF_3	H	$OCH_2CO_2C_8H_{17}$
1-1995	Cl	Cl	H	CF_3	H	$COOCH_2C_6H_5$
1-1996	Cl	Cl	H	CF_3	H	$C(CH_3)=NOH$
1-1997	Cl	Cl	H	CF_3	H	$C(CH_3)=NOCH_3$
1-1998	Cl	Cl	H	CF_3	H	$C(CH_3)=NOC_2H_5$
1-1999	Cl	Cl	H	CF_3	H	$C(CH_3)=NO^iC_3H_7$
1-2000	Cl	Cl	H	CF_3	H	$C(C_2H_5)=NOH$
1-2001	Cl	Cl	H	CF_3	H	$C(C_2H_5)=NOCH_3$
1-2002	Cl	Cl	H	CF_3	H	$C(C_2H_5)=NOC_2H_5$
1-2003	Cl	Cl	H	CF_3	H	$C(C_2H_5)=NO^iC_3H_7$
1-2004	Cl	Cl	H	CF_3	H	$C(CH_3)=NNH_2$
1-2005	Cl	Cl	H	CF_3	H	$C(CH_3)=NNHCH_3$
1-2006	Cl	Cl	H	CF_3	H	$C(CH_3)=NN(CH_3)_2$
1-2007	Cl	Cl	H	CF_3	H	$C(CH_3)=NNHC_2H_5$
1-2008	Cl	Cl	H	CF_3	H	$C(CH_3)=NN(C_2H_5)_2$
1-2009	Cl	Cl	H	CF_3	H	$C(C_2H_5)=NNH_2$
1-2010	Cl	Cl	H	CF_3	H	$C(C_2H_5)=NNHCH_3$
1-2011	Cl	Cl	H	CF_3	H	$C(C_2H_5)=NN(CH_3)_2$
1-2012	Cl	Cl	H	CF_3	H	$C(C_2H_5)=NNHC_2H_5$
1-2013	Cl	Cl	H	CF_3	H	$C(C_2H_5)=NN(C_2H_5)_2$
1-2014	Cl	Cl	H	CF_3	H	$C(CH_3)(OCH_3)_2$

TABLE 1 (contn'd)

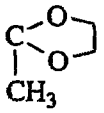
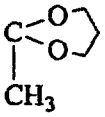
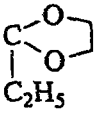
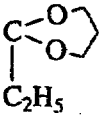
Compound No.	X	Y	R^3	R^1	R^2	B
1-2015	Cl	Cl	H	CF_3	H	$C(CH_3)(OC_2H_5)_2$
1-2016	Cl	Cl	H	CF_3	H	$C(CH_3)(C^iC_3H_7)_2$
1-2017	Cl	Cl	H	CF_3	H	
1-2018	Cl	Cl	H	CF_3	H	
1-2019	Cl	Cl	H	CF_3	H	
1-2020	Cl	Cl	H	CF_3	H	
1-2021	Cl	Cl	CH_3	CF_3	H	$OCH_2C(CH_3)=CH_2$
1-2022	Cl	Cl	CH_3	CF_3	H	$OCH_2CO_2C_7H_{15}$
1-2023	Cl	Cl	CH_3	CF_3	H	$OCH_2CO_2C_8H_{17}$
1-2024	Cl	Cl	CH_3	CF_3	H	$COOCH_2C_6H_5$
1-2025	Cl	Cl	CH_3	CF_3	H	$C(CH_3)=NOH$
1-2026	Cl	Cl	CH_3	CF_3	H	$C(CH_3)=NOCH_3$
1-2027	Cl	Cl	CH_3	CF_3	H	$C(CH_3)=NOC_2H_5$
1-2028	Cl	Cl	CH_3	CF_3	H	$C(CH_3)=NO^iC_3H_7$
1-2029	Cl	Cl	CH_3	CF_3	H	$C(C_2H_5)=NOH$
1-2030	Cl	Cl	CH_3	CF_3	H	$C(C_2H_5)=NOCH_3$
1-2031	Cl	Cl	CH_3	CF_3	H	$C(C_2H_5)=NOC_2H_5$
1-2032	Cl	Cl	CH_3	CF_3	H	$C(C_2H_5)=NO^iC_3H_7$
1-2033	Cl	Cl	CH_3	CF_3	H	$C(CH_3)=NNH_2$
1-2034	Cl	Cl	CH_3	CF_3	H	$C(CH_3)=NNHCH_3$

TABLE 1 (contn'd)

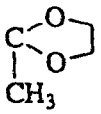
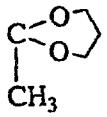
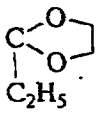
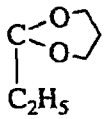
Compound No.	X	Y	R^3	R^1	R^2	B
1-2035	Cl	Cl	CH_3	CF_3	H	$C(CH_3)=NN(CH_3)_2$
1-2036	Cl	Cl	CH_3	CF_3	H	$C(CH_3)=NNHC_2H_5$
1-2037	Cl	Cl	CH_3	CF_3	H	$C(CH_3)=NN(C_2H_5)_2$
1-2038	Cl	Cl	CH_3	CF_3	H	$C(C_2H_5)=NNH_2$
1-2039	Cl	Cl	CH_3	CF_3	H	$C(C_2H_5)=NNHCH_3$
1-2040	Cl	Cl	CH_3	CF_3	H	$C(C_2H_5)=NN(CH_3)_2$
1-2041	Cl	Cl	CH_3	CF_3	H	$C(C_2H_5)=NNHC_2H_5$
1-2042	Cl	Cl	CH_3	CF_3	H	$C(C_2H_5)=NN(C_2H_5)_2$
1-2043	Cl	Cl	CH_3	CF_3	H	$C(CH_3)(OCH_3)_2$
1-2044	Cl	Cl	CH_3	CF_3	H	$C(CH_3)(OC_2H_5)_2$
1-2045	Cl	Cl	CH_3	CF_3	H	$C(CH_3)(C^iC_3H_7)_2$
1-2046	Cl	Cl	CH_3	CF_3	H	
1-2047	Cl	Cl	CH_3	CF_3	H	
1-2048	Cl	Cl	CH_3	CF_3	H	
1-2049	Cl	Cl	CH_3	CF_3	H	
1-2050	F	Cl	H	CF_3	CH_3	$OCH_2COOCH_2COOCH_3$
1-2051	F	Cl	H	CF_3	CH_3	$OCH_2COOCH_2COOC_2H_5$
1-2052	F	Cl	H	CF_3	CH_3	$OCH_2COOCH_2COO^iC_3H_7$
1-2053	F	Cl	H	CF_3	CH_3	$OCH_2COOCH(CH_3)COOCH_3$
1-2054	F	Cl	H	CF_3	CH_3	$OCH_2COOCH(CH_3)COOC_2H_5$
1-2055	F	Cl	H	CF_3	CH_3	$OCH_2COOCH(CH_3)COO^iC_3H_7$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-2056	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH_2COOCH_3$
1-2057	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH_2COOC_2H_5$
1-2058	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH_2COO^iC_3H_7$
1-2059	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH(CH_3)COOCH_3$
1-2060	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH(CH_3)COOC_2H_5$
1-2061	F	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH(CH_3)COO^iC_3H_7$
1-2062	F	Cl	H	CF_3	H	$OCH_2COOCH_2COOCH_3$
1-2063	F	Cl	H	CF_3	H	$OCH_2COOCH_2COOC_2H_5$
1-2064	F	Cl	H	CF_3	H	$OCH_2COOCH_2COO^iC_3H_7$
1-2065	F	Cl	H	CF_3	H	$OCH_2COOCH(CH_3)COOCH_3$
1-2066	F	Cl	H	CF_3	H	$OCH_2COOCH(CH_3)COOC_2H_5$
1-2067	F	Cl	H	CF_3	H	$OCH_2COOCH(CH_3)COO^iC_3H_7$
1-2068	F	Cl	H	CF_3	H	$OCH(CH_3)COOCH_2COOCH_3$
1-2069	F	Cl	H	CF_3	H	$OCH(CH_3)COOCH_2COOC_2H_5$
1-2070	F	Cl	H	CF_3	H	$OCH(CH_3)COOCH_2COO^iC_3H_7$
1-2071	F	Cl	H	CF_3	H	$OCH(CH_3)COOCH(CH_3)COOCH_3$
1-2072	F	Cl	H	CF_3	H	$OCH(CH_3)COOCH(CH_3)COOC_2H_5$
1-2073	F	Cl	H	CF_3	H	$OCH(CH_3)COOCH(CH_3)COO^iC_3H_7$
1-2074	F	Cl	CH_3	CF_3	H	$OCH_2COOCH_2COOCH_3$
1-2075	F	Cl	CH_3	CF_3	H	$OCH_2COOCH_2COOC_2H_5$
1-2076	F	Cl	CH_3	CF_3	H	$OCH_2COOCH_2COO^iC_3H_7$
1-2077	F	Cl	CH_3	CF_3	H	$OCH_2COOCH(CH_3)COOCH_3$
1-2078	F	Cl	CH_3	CF_3	H	$OCH_2COOCH(CH_3)COOC_2H_5$
1-2079	F	Cl	CH_3	CF_3	H	$OCH_2COOCH(CH_3)COO^iC_3H_7$
1-2080	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH_2COOCH_3$
1-2081	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH_2COOC_2H_5$
1-2082	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH_2COO^iC_3H_7$
1-2083	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH(CH_3)COOCH_3$
1-2084	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH(CH_3)COOC_2H_5$
1-2085	F	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH(CH_3)COO^iC_3H_7$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-2086	H	Cl	H	CF_3	CH_3	$OCH_2COOCH_2COOCH_3$
1-2087	H	Cl	H	CF_3	CH_3	$OCH_2COOCH_2COOC_2H_5$
1-2088	H	Cl	H	CF_3	CH_3	$OCH_2COOCH_2COO^iC_3H_7$
1-2089	H	Cl	H	CF_3	CH_3	$OCH_2COOCH(CH_3)COOCH_3$
1-2090	H	Cl	H	CF_3	CH_3	$OCH_2COOCH(CH_3)COOC_2H_5$
1-2091	H	Cl	H	CF_3	CH_3	$OCH_2COOCH(CH_3)COO^iC_3H_7$
1-2092	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH_2COOCH_3$
1-2093	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH_2COOC_2H_5$
1-2094	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH_2COO^iC_3H_7$
1-2095	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH(CH_3)COOCH_3$
1-2096	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH(CH_3)COOC_2H_5$
1-2097	H	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH(CH_3)COO^iC_3H_7$
1-2098	H	Cl	H	CF_3	H	$OCH_2COOCH_2COOCH_3$
1-2099	H	Cl	H	CF_3	H	$OCH_2COOCH_2COOC_2H_5$
1-2100	H	Cl	H	CF_3	H	$OCH_2COOCH_2COO^iC_3H_7$
1-2101	H	Cl	H	CF_3	H	$OCH_2COOCH(CH_3)COOCH_3$
1-2102	H	Cl	H	CF_3	H	$OCH_2COOCH(CH_3)COOC_2H_5$
1-2103	H	Cl	H	CF_3	H	$OCH_2COOCH(CH_3)COO^iC_3H_7$
1-2104	H	Cl	H	CF_3	H	$OCH(CH_3)COOCH_2COOCH_3$
1-2105	H	Cl	H	CF_3	H	$OCH(CH_3)COOCH_2COOC_2H_5$
1-2106	H	Cl	H	CF_3	H	$OCH(CH_3)COOCH_2COO^iC_3H_7$
1-2107	H	Cl	H	CF_3	H	$OCH(CH_3)COOCH(CH_3)COOCH_3$
1-2108	H	Cl	H	CF_3	H	$OCH(CH_3)COOCH(CH_3)COOC_2H_5$
1-2109	H	Cl	H	CF_3	H	$OCH(CH_3)COOCH(CH_3)COO^iC_3H_7$
1-2110	H	Cl	CH_3	CF_3	H	$OCH_2COOCH_2COOCH_3$
1-2111	H	Cl	CH_3	CF_3	H	$OCH_2COOCH_2COOC_2H_5$
1-2112	H	Cl	CH_3	CF_3	H	$OCH_2COOCH_2COO^iC_3H_7$
1-2113	H	Cl	CH_3	CF_3	H	$OCH_2COOCH(CH_3)COOCH_3$
1-2114	H	Cl	CH_3	CF_3	H	$OCH_2COOCH(CH_3)COOC_2H_5$
1-2115	H	Cl	CH_3	CF_3	H	$OCH_2COOCH(CH_3)COO^iC_3H_7$

TABLE 1 (contn'd)

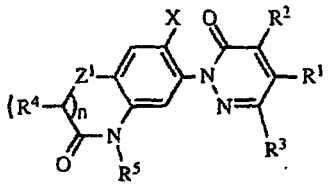
Compound No.	X	Y	R^3	R^1	R^2	B
1-2116	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH_2COOCH_3$
1-2117	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH_2COOC_2H_5$
1-2118	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH_2COO^iC_3H_7$
1-2119	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH(CH_3)COOCH_3$
1-2120	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH(CH_3)COOC_2H_5$
1-2121	H	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH(CH_3)COO^iC_3H_7$
1-2122	Cl	Cl	H	CF_3	CH_3	$OCH_2COOCH_2COOCH_3$
1-2123	Cl	Cl	H	CF_3	CH_3	$OCH_2COOCH_2COOC_2H_5$
1-2124	Cl	Cl	H	CF_3	CH_3	$OCH_2COOCH_2COO^iC_3H_7$
1-2125	Cl	Cl	H	CF_3	CH_3	$OCH_2COOCH(CH_3)COOCH_3$
1-2126	Cl	Cl	H	CF_3	CH_3	$OCH_2COOCH(CH_3)COOC_2H_5$
1-2127	Cl	Cl	H	CF_3	CH_3	$OCH_2COOCH(CH_3)COO^iC_3H_7$
1-2128	Cl	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH_2COOCH_3$
1-2129	Cl	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH_2COOC_2H_5$
1-2130	Cl	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH_2COO^iC_3H_7$
1-2131	Cl	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH(CH_3)COOCH_3$
1-2132	Cl	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH(CH_3)COOC_2H_5$
1-2133	Cl	Cl	H	CF_3	CH_3	$OCH(CH_3)COOCH(CH_3)COO^iC_3H_7$
1-2134	Cl	Cl	H	CF_3	H	$OCH_2COOCH_2COOCH_3$
1-2135	Cl	Cl	H	CF_3	H	$OCH_2COOCH_2COOC_2H_5$
1-2136	Cl	Cl	H	CF_3	H	$OCH_2COOCH_2COO^iC_3H_7$
1-2137	Cl	Cl	H	CF_3	H	$OCH_2COOCH(CH_3)COOCH_3$
1-2138	Cl	Cl	H	CF_3	H	$OCH_2COOCH(CH_3)COOC_2H_5$
1-2139	Cl	Cl	H	CF_3	H	$OCH_2COOCH(CH_3)COO^iC_3H_7$
1-2140	Cl	Cl	H	CF_3	H	$OCH(CH_3)COOCH_2COOCH_3$
1-2141	Cl	Cl	H	CF_3	H	$OCH(CH_3)COOCH_2COOC_2H_5$
1-2142	Cl	Cl	H	CF_3	H	$OCH(CH_3)COOCH_2COO^iC_3H_7$
1-2143	Cl	Cl	H	CF_3	H	$OCH(CH_3)COOCH(CH_3)COOCH_3$
1-2144	Cl	Cl	H	CF_3	H	$OCH(CH_3)COOCH(CH_3)COOC_2H_5$
1-2145	Cl	Cl	H	CF_3	H	$OCH(CH_3)COOCH(CH_3)COO^iC_3H_7$
1-2146	Cl	Cl	CH_3	CF_3	H	$OCH_2COOCH_2COOCH_3$

TABLE 1 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	B
1-2147	Cl	Cl	CH_3	CF_3	H	$OCH_2COOCH_2COOC_2H_5$
1-2148	Cl	Cl	CH_3	CF_3	H	$OCH_2COOCH_2COO^iC_3H_7$
1-2149	Cl	Cl	CH_3	CF_3	H	$OCH_2COOCH(CH_3)COOCH_3$
1-2150	Cl	Cl	CH_3	CF_3	H	$OCH_2COOCH(CH_3)COOC_2H_5$
1-2151	Cl	Cl	CH_3	CF_3	H	$OCH_2COOCH(CH_3)COO^iC_3H_7$
1-2152	Cl	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH_2COOCH_3$
1-2153	Cl	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH_2COOC_2H_5$
1-2154	Cl	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH_2COO^iC_3H_7$
1-2155	Cl	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH(CH_3)COOCH_3$
1-2156	Cl	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH(CH_3)COOC_2H_5$
1-2157	Cl	Cl	CH_3	CF_3	H	$OCH(CH_3)COOCH(CH_3)COO^iC_3H_7$

TABLE 2

Compounds of the formula:



Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2－1	H	O	1	H	CF_2Cl	CH_3	H	H
2－2	H	O	1	H	CF_2Cl	CH_3	H	CH_3
2－3	H	O	1	H	CF_2Cl	CH_3	H	C_2H_5
2－4	H	O	1	H	CF_2Cl	CH_3	H	$^nC_3H_7$
2－5	H	O	1	H	CF_2Cl	CH_3	H	$^iC_3H_7$
2－6	H	O	1	H	CF_2Cl	CH_3	H	$^iC_4H_9$
2－7	H	O	1	H	CF_2Cl	CH_3	H	$^nC_4H_9$
2－8	H	O	1	H	CF_2Cl	CH_3	H	CH_2CH_2Cl
2－9	H	O	1	H	CF_2Cl	CH_3	H	CH_2CH_2Br
2－10	H	O	1	H	CF_2Cl	CH_3	H	$CH_2CH=CH_2$
2－11	H	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)CH=CH_2$
2－12	H	O	1	H	CF_2Cl	CH_3	H	$CH_2CCl=CH_2$
2－13	H	O	1	H	CF_2Cl	CH_3	H	$CH_2C\equiv CH$
2－14	H	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)C\equiv CH$

TABLE 2 (contn'd)

Compound No.	X	Z'	n	R^3	R^1	R^2	R^4	R^5
2-15	H	O	1	H	CF_2Cl	CH_3	H	CH_2CN
2-16	H	O	1	H	CF_2Cl	CH_3	H	CH_2OCH_3
2-17	H	O	1	H	CF_2Cl	CH_3	H	$CH_2OC_2H_5$
2-18	H	O	1	H	CF_2Cl	CH_3	H	CH_2COOH
2-19	H	O	1	H	CF_2Cl	CH_3	H	CH_2COOCH_3
2-20	H	O	1	H	CF_2Cl	CH_3	H	$CH_2COOC_2H_5$
2-21	H	O	1	H	CF_2Cl	CH_3	H	$CH_2COO^nC_3H_7$
2-22	H	O	1	H	CF_2Cl	CH_3	H	$CH_2COO^nC_4H_9$
2-23	H	O	1	H	CF_2Cl	CH_3	H	$CH_2COO^nC_5H_{11}$
2-24	H	O	1	H	CF_2Cl	CH_3	H	$CH_2COO^iC_3H_7$
2-25	H	O	1	H	CF_2Cl	CH_3	H	$CH_2COO^cC_5H_9$
2-26	H	O	1	H	CF_2Cl	CH_3	H	$CH_2COO^cC_6H_{11}$
2-27	H	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COOH$
2-28	H	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COOCH_3$
2-29	H	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COOC_2H_5$
2-30	H	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COO^nC_3H_7$
2-31	H	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COO^nC_4H_9$
2-32	H	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COO^nC_5H_{11}$
2-33	H	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COO^iC_3H_7$
2-34	H	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COO^cC_5H_9$
2-35	H	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COO^cC_6H_{11}$
2-36	H	O	1	H	CF_2Cl	CH_3	CH_3	H
2-37	H	O	1	H	CF_2Cl	CH_3	CH_3	CH_3

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-38	H	O	1	H	CF_2Cl	CH_3	CH_3	C_2H_5
2-39	H	O	1	H	CF_2Cl	CH_3	CH_3	$^nC_3H_7$
2-40	H	O	1	H	CF_2Cl	CH_3	CH_3	$^iC_3H_7$
2-41	H	O	1	H	CF_2Cl	CH_3	CH_3	$^iC_4H_9$
2-42	H	O	1	H	CF_2Cl	CH_3	CH_3	$^nC_4H_9$
2-43	H	O	1	H	CF_2Cl	CH_3	CH_3	$CH_2CH=CH_2$
2-44	H	O	1	H	CF_2Cl	CH_3	CH_3	$CH(CH_3)CH=CH_2$
2-45	H	O	1	H	CF_2Cl	CH_3	CH_3	$CH_2C\equiv CH$
2-46	H	O	1	H	CF_2Cl	CH_3	CH_3	$CH(CH_3)C\equiv CH$
2-47	H	O	1	H	CF_2Cl	CH_3	CH_3	CH_2OCH_3
2-48	H	O	1	H	CF_2Cl	CH_3	CH_3	$CH_2OC_2H_5$
2-49	F	O	1	H	CF_2Cl	CH_3	H	H
2-50	F	O	1	H	CF_2Cl	CH_3	H	CH_3
2-51	F	O	1	H	CF_2Cl	CH_3	H	C_2H_5
2-52	F	O	1	H	CF_2Cl	CH_3	H	$^nC_3H_7$
2-53	F	O	1	H	CF_2Cl	CH_3	H	$^iC_3H_7$
2-54	F	O	1	H	CF_2Cl	CH_3	H	$^iC_4H_9$
2-55	F	O	1	H	CF_2Cl	CH_3	H	$^nC_4H_9$
2-56	F	O	1	H	CF_2Cl	CH_3	H	CH_2CH_2Cl
2-57	F	O	1	H	CF_2Cl	CH_3	H	CH_2CH_2Br
2-58	F	O	1	H	CF_2Cl	CH_3	H	$CH_2CH=CH_2$
2-59	F	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)CH=CH_2$
2-60	F	O	1	H	CF_2Cl	CH_3	H	$CH_2CCl=CH_2$

TABLE 2 (contn'd)

Compound No.	X	Z'	n	R³	R'	R²	R⁴	R⁵
2-61	F	O	1	H	CF_2Cl	CH_3	H	$CH_2C\equiv CH$
2-62	F	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)C\equiv CH$
2-63	F	O	1	H	CF_2Cl	CH_3	H	CH_2CN
2-64	F	O	1	H	CF_2Cl	CH_3	H	CH_2OCH_3
2-65	F	O	1	H	CF_2Cl	CH_3	H	$CH_2OC_2H_5$
2-66	F	O	1	H	CF_2Cl	CH_3	H	CH_2COOH
2-67	F	O	1	H	CF_2Cl	CH_3	H	CH_2COOCH_3
2-68	F	O	1	H	CF_2Cl	CH_3	H	$CH_2COOC_2H_5$
2-69	F	O	1	H	CF_2Cl	CH_3	H	$CH_2COO^nC_3H_7$
2-70	F	O	1	H	CF_2Cl	CH_3	H	$CH_2COO^nC_4H_9$
2-71	F	O	1	H	CF_2Cl	CH_3	H	$CH_2COO^nC_5H_{11}$
2-72	F	O	1	H	CF_2Cl	CH_3	H	$CH_2COO^iC_3H_7$
2-73	F	O	1	H	CF_2Cl	CH_3	H	$CH_2COO^cC_5H_9$
2-74	F	O	1	H	CF_2Cl	CH_3	H	$CH_2COO^cC_6H_{11}$
2-75	F	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COOH$
2-76	F	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COOCH_3$
2-77	F	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COOC_2H_5$
2-78	F	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COO^nC_3H_7$
2-79	F	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COO^nC_4H_9$
2-80	F	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COO^nC_5H_{11}$
2-81	F	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COO^iC_3H_7$
2-82	F	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COO^cC_6H_9$
2-83	F	O	1	H	CF_2Cl	CH_3	H	$CH(CH_3)COO^cC_6H_{11}$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-84	F	O	1	H	CF_2Cl	CH_3	CH_3	H
2-85	F	O	1	H	CF_2Cl	CH_3	CH_3	CH_3
2-86	F	O	1	H	CF_2Cl	CH_3	CH_3	C_2H_5
2-87	F	O	1	H	CF_2Cl	CH_3	CH_3	$^nC_3H_7$
2-88	F	O	1	H	CF_2Cl	CH_3	CH_3	$^iC_3H_7$
2-89	F	O	1	H	CF_2Cl	CH_3	CH_3	$^iC_4H_9$
2-90	F	O	1	H	CF_2Cl	CH_3	CH_3	$^nC_4H_9$
2-91	F	O	1	H	CF_2Cl	CH_3	CH_3	$CH_2CH=CH_2$
2-92	F	O	1	H	CF_2Cl	CH_3	CH_3	$CH(CH_3)CH=CH_2$
2-93	F	O	1	H	CF_2Cl	CH_3	CH_3	$CH_2C\equiv CH$
2-94	F	O	1	H	CF_2Cl	CH_3	CH_3	$CH(CH_3)C\equiv CH$
2-95	F	O	1	H	CF_2Cl	CH_3	CH_3	CH_2OCH_3
2-96	F	O	1	H	CF_2Cl	CH_3	CH_3	$CH_2OC_2H_5$
2-97	H	S	0	H	CF_2Cl	CH_3	—	H
2-98	H	S	0	H	CF_2Cl	CH_3	—	CH_3
2-99	H	S	0	H	CF_2Cl	CH_3	—	C_2H_5
2-100	H	S	0	H	CF_2Cl	CH_3	—	$^nC_3H_7$
2-101	H	S	0	H	CF_2Cl	CH_3	—	$^nC_4H_9$
2-102	H	S	0	H	CF_2Cl	CH_3	—	$^iC_3H_7$
2-103	H	S	0	H	CF_2Cl	CH_3	—	$^iC_4H_9$
2-104	H	S	0	H	CF_2Cl	CH_3	—	CH_2CH_2Cl
2-105	H	S	0	H	CF_2Cl	CH_3	—	CH_2CH_2Br

TABLE 2 (contn'd)

Compound No.	X	Z^1	n	R^3	R^1	R^2	R^4	R^5
2-106	H	S	0	H	CF_2Cl	CH_3	—	$CH_2CH=CH_2$
2-107	H	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)CH=CH_2$
2-108	H	S	0	H	CF_2Cl	CH_3	—	$CH_2CCl=CH_2$
2-109	H	S	0	H	CF_2Cl	CH_3	—	$CH_2C\equiv CH$
2-110	H	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)C\equiv CH$
2-111	H	S	0	H	CF_2Cl	CH_3	—	CH_2CN
2-112	H	S	0	H	CF_2Cl	CH_3	—	CH_2OCH_3
2-113	H	S	0	H	CF_2Cl	CH_3	—	$CH_2OC_2H_5$
2-114	H	S	0	H	CF_2Cl	CH_3	—	CH_2COOH
2-115	H	S	0	H	CF_2Cl	CH_3	—	CH_2COOCH_3
2-116	H	S	0	H	CF_2Cl	CH_3	—	$CH_2COOC_2H_5$
2-117	H	S	0	H	CF_2Cl	CH_3	—	$CH_2COO^nC_3H_7$
2-118	H	S	0	H	CF_2Cl	CH_3	—	$CH_2COO^nC_4H_9$
2-119	H	S	0	H	CF_2Cl	CH_3	—	$CH_2COO^nC_5H_{11}$
2-120	H	S	0	H	CF_2Cl	CH_3	—	$CH_2COO^iC_3H_7$
2-121	H	S	0	H	CF_2Cl	CH_3	—	$CH_2COO^cC_5H_9$
2-122	H	S	0	H	CF_2Cl	CH_3	—	$CH_2COO^cC_6H_{11}$
2-123	H	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COOH$
2-124	H	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COOCH_3$
2-125	H	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COOC_2H_5$
2-126	H	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COO^nC_3H_7$
2-127	H	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COO^nC_4H_9$
2-128	H	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COO^nC_6H_{11}$

TABLE 2 (contn'd)

Compound No.	X	Z'	n	R³	R¹	R²	R⁴	R⁵
2-129	H	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COO^iC_3H_7$
2-130	H	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COO^cC_5H_9$
2-131	H	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COO^cC_6H_{11}$
2-132	F	S	0	H	CF_2Cl	CH_3	—	H
2-133	F	S	0	H	CF_2Cl	CH_3	—	CH_3
2-134	F	S	0	H	CF_2Cl	CH_3	—	C_2H_5
2-135	F	S	0	H	CF_2Cl	CH_3	—	$^nC_3H_7$
2-136	F	S	0	H	CF_2Cl	CH_3	—	$^nC_4H_9$
2-137	F	S	0	H	CF_2Cl	CH_3	—	$^iC_3H_7$
2-138	F	S	0	H	CF_2Cl	CH_3	—	$^iC_4H_9$
2-139	F	S	0	H	CF_2Cl	CH_3	—	CH_2CH_2Cl
2-140	F	S	0	H	CF_2Cl	CH_3	—	CH_2CH_2Br
2-141	F	S	0	H	CF_2Cl	CH_3	—	$CH_2CH=CH_2$
2-142	F	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)CH=CH_2$
2-143	F	S	0	H	CF_2Cl	CH_3	—	$CH_2CCl=CH_2$
2-144	F	S	0	H	CF_2Cl	CH_3	—	$CH_2C\equiv CH$
2-145	F	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)C\equiv CH$
2-146	F	S	0	H	CF_2Cl	CH_3	—	CH_2CN
2-147	F	S	0	H	CF_2Cl	CH_3	—	CH_2OCH_3
2-148	F	S	0	H	CF_2Cl	CH_3	—	$CH_2OC_2H_5$
2-149	F	S	0	H	CF_2Cl	CH_3	—	CH_2COOH
2-150	F	S	0	H	CF_2Cl	CH_3	—	CH_2COOCH_3
2-151	F	S	0	H	CF_2Cl	CH_3	—	$CH_2COOC_2H_5$

TABLE 2 (contn'd)

Compound No.	X	Z^1	n	R^3	R^1	R^2	R^4	R^5
2-152	F	S	0	H	CF_2Cl	CH_3	—	$CH_2COO^nC_3H_7$
2-153	F	S	0	H	CF_2Cl	CH_3	—	$CH_2COO^nC_4H_9$
2-154	F	S	0	H	CF_2Cl	CH_3	—	$CH_2COO^nC_5H_{11}$
2-155	F	S	0	H	CF_2Cl	CH_3	—	$CH_2COO^iC_3H_7$
2-156	F	S	0	H	CF_2Cl	CH_3	—	$CH_2COO^cC_5H_9$
2-157	F	S	0	H	CF_2Cl	CH_3	—	$CH_2COO^cC_6H_{11}$
2-158	F	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COOH$
2-159	F	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COOCH_3$
2-160	F	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COOC_2H_5$
2-161	F	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COO^nC_3H_7$
2-162	F	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COO^nC_4H_9$
2-163	F	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COO^nC_5H_{11}$
2-164	F	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COO^iC_3H_7$
2-165	F	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COO^cC_5H_9$
2-166	F	S	0	H	CF_2Cl	CH_3	—	$CH(CH_3)COO^cC_6H_{11}$
2-167	H	O	0	H	CF_2Cl	CH_3	—	H
2-168	H	O	0	H	CF_2Cl	CH_3	—	CH_3
2-169	H	O	0	H	CF_2Cl	CH_3	—	C_2H_5
2-170	H	O	0	H	CF_2Cl	CH_3	—	$^nC_3H_7$
2-171	H	O	0	H	CF_2Cl	CH_3	—	$^nC_4H_9$
2-172	H	O	0	H	CF_2Cl	CH_3	—	$^iC_3H_7$
2-173	H	O	0	H	CF_2Cl	CH_3	—	$^iC_4H_9$
2-174	H	O	0	H	CF_2Cl	CH_3	—	$CH_2CH=CH_2$

TABLE 2 (contn'd)

Compound No.	X	Z^1	n	R^3	R^1	R^2	R^4	R^5
2-175	H	O	0	H	CF_2Cl	CH_3	—	$CH(CH_3)CH=CH_2$
2-176	H	O	0	H	CF_2Cl	CH_3	—	$CH_2C\equiv CH$
2-177	H	O	0	H	CF_2Cl	CH_3	—	$CH(CH_3)C\equiv CH$
2-178	H	O	0	H	CF_2Cl	CH_3	—	CH_2OCH_3
2-179	H	O	0	H	CF_2Cl	CH_3	—	$CH_2OC_2H_5$
2-180	F	O	0	H	CF_2Cl	CH_3	—	H
2-181	F	O	0	H	CF_2Cl	CH_3	—	CH_3
2-182	F	O	0	H	CF_2Cl	CH_3	—	C_2H_5
2-183	F	O	0	H	CF_2Cl	CH_3	—	$^nC_3H_7$
2-184	F	O	0	H	CF_2Cl	CH_3	—	$^nC_4H_9$
2-185	F	O	0	H	CF_2Cl	CH_3	—	$CH_2CH=CH_2$
2-186	F	O	0	H	CF_2Cl	CH_3	—	$CH(CH_3)CH=CH_2$
2-187	F	O	0	H	CF_2Cl	CH_3	—	$CH_2C\equiv CH$
2-188	F	O	0	H	CF_2Cl	CH_3	—	$CH(CH_3)C\equiv CH$
2-189	F	O	0	H	CF_2Cl	CH_3	—	CH_2OCH_3
2-190	F	O	0	H	CF_2Cl	CH_3	—	$CH_2OC_2H_5$
2-191	H	O	1	H	CF_3	CH_3	—	H
2-192	H	O	1	H	CF_3	CH_3	H	CH_3
2-193	H	O	1	H	CF_3	CH_3	H	C_2H_5
2-194	H	O	1	H	CF_3	CH_3	H	$^nC_3H_7$
2-195	H	O	1	H	CF_3	CH_3	H	$^iC_3H_7$
2-196	H	O	1	H	CF_3	CH_3	H	$^iC_4H_9$
2-197	H	O	1	H	CF_3	CH_3	H	$^nC_4H_9$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-198	H	O	1	H	CF_3	CH_3	H	CH_2CH_2Cl
2-199	H	O	1	H	CF_3	CH_3	H	CH_2CH_2Br
2-200	H	O	1	H	CF_3	CH_3	H	$CH_2CH=CH_2$
2-201	H	O	1	H	CF_3	CH_3	H	$CH(CH_3)CH=CH_2$
2-202	H	O	1	H	CF_3	CH_3	H	$CH_2CCl=CH_2$
2-203	H	O	1	H	CF_3	CH_3	H	$CH_2C\equiv CH$
2-204	H	O	1	H	CF_3	CH_3	H	$CH(CH_3)C\equiv CH$
2-205	H	O	1	H	CF_3	CH_3	H	CH_2CN
2-206	H	O	1	H	CF_3	CH_3	H	CH_2OCH_3
2-207	H	O	1	H	CF_3	CH_3	H	$CH_2OC_2H_5$
2-208	H	O	1	H	CF_3	CH_3	H	CH_2COOH
2-209	H	O	1	H	CF_3	CH_3	H	CH_2COOCH_3
2-210	H	O	1	H	CF_3	CH_3	H	$CH_2COOC_2H_5$
2-211	H	O	1	H	CF_3	CH_3	H	$CH_2COO^nC_3H_7$
2-212	H	O	1	H	CF_3	CH_3	H	$CH_2COO^nC_4H_9$
2-213	H	O	1	H	CF_3	CH_3	H	$CH_2COO^nC_5H_{11}$
2-214	H	O	1	H	CF_3	CH_3	H	$CH_2COO^iC_3H_7$
2-215	H	O	1	H	CF_3	CH_3	H	$CH_2COO^cC_5H_9$
2-216	H	O	1	H	CF_3	CH_3	H	$CH_2COO^cC_6H_{11}$
2-217	H	O	1	H	CF_3	CH_3	H	$CH(CH_3)COOH$
2-218	H	O	1	H	CF_3	CH_3	H	$CH(CH_3)COOCH_3$
2-219	H	O	1	H	CF_3	CH_3	H	$CH(CH_3)COOC_2H_5$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-220	H	O	1	H	CF_3	CH_3	H	$CH(CH_3)COO^nC_3H_7$
2-221	H	O	1	H	CF_3	CH_3	H	$CH(CH_3)COO^nC_4H_9$
2-222	H	O	1	H	CF_3	CH_3	H	$CH(CH_3)COO^nC_5H_{11}$
2-223	H	O	1	H	CF_3	CH_3	H	$CH(CH_3)COO^iC_3H_7$
2-224	H	O	1	H	CF_3	CH_3	H	$CH(CH_3)COO^cC_5H_9$
2-225	H	O	1	H	CF_3	CH_3	H	$CH(CH_3)COO^cC_6H_{11}$
2-226	H	O	1	H	CF_3	CH_3	CH_3	H
2-227	H	O	1	H	CF_3	CH_3	CH_3	CH_3
2-228	H	O	1	H	CF_3	CH_3	CH_3	C_2H_5
2-229	H	O	1	H	CF_3	CH_3	CH_3	$^nC_3H_7$
2-230	H	O	1	H	CF_3	CH_3	CH_3	$^iC_3H_7$
2-231	H	O	1	H	CF_3	CH_3	CH_3	$^iC_4H_9$
2-232	H	O	1	H	CF_3	CH_3	CH_3	$^nC_4H_9$
2-233	H	O	1	H	CF_3	CH_3	CH_3	$CH_2CH=CH_2$
2-234	H	O	1	H	CF_3	CH_3	CH_3	$CH(CH_3)CH=CH_2$
2-235	H	O	1	H	CF_3	CH_3	CH_3	$CH_2C\equiv CH$
2-236	H	O	1	H	CF_3	CH_3	CH_3	$CH(CH_3)C\equiv CH$
2-237	H	O	1	H	CF_3	CH_3	CH_3	CH_2OCH_3
2-238	H	O	1	H	CF_3	CH_3	CH_3	$CH_2OC_2H_5$
2-239	F	O	1	H	CF_3	CH_3	H	H
2-240	F	O	1	H	CF_3	CH_3	H	CH_3
2-241	F	O	1	H	CF_3	CH_3	H	C_2H_5
2-242	F	O	1	H	CF_3	CH_3	H	$^nC_3H_7$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-243	F	O	1	H	CF_3	CH_3	H	$^iC_3H_7$
2-244	F	O	1	H	CF_3	CH_3	H	$^iC_4H_9$
2-245	F	O	1	H	CF_3	CH_3	H	$^nC_4H_9$
2-246	F	O	1	H	CF_3	CH_3	H	CH_2CH_2Cl
2-247	F	O	1	H	CF_3	CH_3	H	CH_2CH_2Br
2-248	F	O	1	H	CF_3	CH_3	H	$CH_2CH=CH_2$
2-249	F	O	1	H	CF_3	CH_3	H	$CH(CH_3)CH=CH_2$
2-250	F	O	1	H	CF_3	CH_3	H	$CH_2CCl=CH_2$
2-251	F	O	1	H	CF_3	CH_3	H	$CH_2C\equiv CH$
2-252	F	O	1	H	CF_3	CH_3	H	$CH(CH_3)C\equiv CH$
2-253	F	O	1	H	CF_3	CH_3	H	CH_2CN
2-254	F	O	1	H	CF_3	CH_3	H	CH_2OCH_3
2-255	F	O	1	H	CF_3	CH_3	H	$CH_2OC_2H_5$
2-256	F	O	1	H	CF_3	CH_3	H	CH_2COOH
2-257	F	O	1	H	CF_3	CH_3	H	CH_2COOCH_3
2-258	F	O	1	H	CF_3	CH_3	H	$CH_2COOC_2H_5$
2-259	F	O	1	H	CF_3	CH_3	H	$CH_2COO^nC_3H_7$
2-260	F	O	1	H	CF_3	CH_3	H	$CH_2COO^nC_4H_9$
2-261	F	O	1	H	CF_3	CH_3	H	$CH_2COO^nC_5H_{11}$
2-262	F	O	1	H	CF_3	CH_3	H	$CH_2COO^iC_3H_7$
2-263	F	O	1	H	CF_3	CH_3	H	$CH_2COO^cC_6H_9$
2-264	F	O	1	H	CF_3	CH_3	H	$CH_2COO^cC_6H_{11}$
2-265	F	O	1	H	CF_3	CH_3	H	$CH(CH_3)COOH$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-266	F	O	1	H	CF_3	CH_3	H	$CH(CH_3)COOCH_3$
2-267	F	O	1	H	CF_3	CH_3	H	$CH(CH_3)COOC_2H_5$
2-268	F	O	1	H	CF_3	CH_3	H	$CH(CH_3)COO^nC_3H_7$
2-269	F	O	1	H	CF_3	CH_3	H	$CH(CH_3)COO^nC_4H_9$
2-270	F	O	1	H	CF_3	CH_3	H	$CH(CH_3)COO^nC_5H_{11}$
2-271	F	O	1	H	CF_3	CH_3	H	$CH(CH_3)COO^iC_3H_7$
2-272	F	O	1	H	CF_3	CH_3	H	$CH(CH_3)COO^cC_5H_9$
2-273	F	O	1	H	CF_3	CH_3	H	$CH(CH_3)COO^cC_6H_{11}$
2-274	F	O	1	H	CF_3	CH_3	CH_3	H
2-275	F	O	1	H	CF_3	CH_3	CH_3	CH_3
2-276	F	O	1	H	CF_3	CH_3	CH_3	C_2H_5
2-277	F	O	1	H	CF_3	CH_3	CH_3	$^nC_3H_7$
2-278	F	O	1	H	CF_3	CH_3	CH_3	$^iC_3H_7$
2-279	F	O	1	H	CF_3	CH_3	CH_3	$^iC_4H_9$
2-280	F	O	1	H	CF_3	CH_3	CH_3	$^nC_4H_9$
2-281	F	O	1	H	CF_3	CH_3	CH_3	$CH_2CH=CH_2$
2-282	F	O	1	H	CF_3	CH_3	CH_3	$CH(CH_3)CH=CH_2$
2-283	F	O	1	H	CF_3	CH_3	CH_3	$CH_2C\equiv CH$
2-284	F	O	1	H	CF_3	CH_3	CH_3	$CH(CH_3)C\equiv CH$
2-285	F	O	1	H	CF_3	CH_3	CH_3	CH_2OCH_3
2-286	F	O	1	H	CF_3	CH_3	CH_3	$CH_2OC_2H_5$
2-287	H	S	0	H	CF_3	CH_3	—	H
2-288	H	S	0	H	CF_3	CH_3	—	CH_3

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-289	H	S	0	H	CF_3	CH_3	—	C_2H_5
2-290	H	S	0	H	CF_3	CH_3	—	$^nC_3H_7$
2-291	H	S	0	H	CF_3	CH_3	—	$^nC_4H_9$
2-292	H	S	0	H	CF_3	CH_3	—	$^iC_3H_7$
2-293	H	S	0	H	CF_3	CH_3	—	$^iC_4H_9$
2-294	H	S	0	H	CF_3	CH_3	—	CH_2CH_2Cl
2-295	H	S	0	H	CF_3	CH_3	—	CH_2CH_2Br
2-296	H	S	0	H	CF_3	CH_3	—	$CH_2CH=CH_2$
2-297	H	S	0	H	CF_3	CH_3	—	$CH(CH_3)CH=CH_2$
2-298	H	S	0	H	CF_3	CH_3	—	$CH_2CCl=CH_2$
2-299	H	S	0	H	CF_3	CH_3	—	$CH_2C\equiv CH$
2-300	H	S	0	H	CF_3	CH_3	—	$CH(CH_3)C\equiv CH$
2-301	H	S	0	H	CF_3	CH_3	—	CH_2CN
2-302	H	S	0	H	CF_3	CH_3	—	CH_2OCH_3
2-303	H	S	0	H	CF_3	CH_3	—	$CH_2OC_2H_5$
2-304	H	S	0	H	CF_3	CH_3	—	CH_2COOH
2-305	H	S	0	H	CF_3	CH_3	—	CH_2COOCH_3
2-306	H	S	0	H	CF_3	CH_3	—	$CH_2COOC_2H_5$
2-307	H	S	0	H	CF_3	CH_3	—	$CH_2COO^nC_3H_7$
2-308	H	S	0	H	CF_3	CH_3	—	$CH_2COO^nC_4H_9$
2-309	H	S	0	H	CF_3	CH_3	—	$CH_2COO^nC_5H_{11}$
2-310	H	S	0	H	CF_3	CH_3	—	$CH_2COO^iC_3H_7$
2-311	H	S	0	H	CF_3	CH_3	—	$CH_2COO^cC_5H_9$

TABLE 2 (contn'd)

Compound No.	X	Z^1	n	R^3	R^1	R^2	R^4	R^5
2-312	H	S	0	H	CF_3	CH_3	—	$CH_2COO^cC_6H_{11}$
2-313	H	S	0	H	CF_3	CH_3	—	$CH(CH_3)COOH$
2-314	H	S	0	H	CF_3	CH_3	—	$CH(CH_3)COOCH_3$
2-315	H	S	0	H	CF_3	CH_3	—	$CH(CH_3)COOC_2H_5$
2-316	H	S	0	H	CF_3	CH_3	—	$CH(CH_3)COO^nC_3H_7$
2-317	H	S	0	H	CF_3	CH_3	—	$CH(CH_3)COO^nC_4H_9$
2-318	H	S	0	H	CF_3	CH_3	—	$CH(CH_3)COO^nC_5H_{11}$
2-319	H	S	0	H	CF_3	CH_3	—	$CH(CH_3)COO^iC_3H_7$
2-320	H	S	0	H	CF_3	CH_3	—	$CH(CH_3)COO^cC_5H_9$
2-321	H	S	0	H	CF_3	CH_3	—	$CH(CH_3)COO^cC_6H_{11}$
2-322	F	S	0	H	CF_3	CH_3	—	H
2-323	F	S	0	H	CF_3	CH_3	—	CH_3
2-324	F	S	0	H	CF_3	CH_3	—	C_2H_5
2-325	F	S	0	H	CF_3	CH_3	—	$^nC_3H_7$
2-326	F	S	0	H	CF_3	CH_3	—	$^nC_4H_9$
2-327	F	S	0	H	CF_3	CH_3	—	$^iC_3H_7$
2-328	F	S	0	H	CF_3	CH_3	—	$^sC_4H_9$
2-329	F	S	0	H	CF_3	CH_3	—	CH_2CH_2Cl
2-330	F	S	0	H	CF_3	CH_3	—	CH_2CH_2Br
2-331	F	S	0	H	CF_3	CH_3	—	$CH_2CH=CH_2$
2-332	F	S	0	H	CF_3	CH_3	—	$CH(CH_3)CH=CH_2$
2-333	F	S	0	H	CF_3	CH_3	—	$CH_2CCl=CH_2$

TABLE 2 (contn'd)

Compound No.	X	Z'	n	R^3	R^1	R^2	R^4	R^5
2-334	F	S	0	H	CF_3	CH_3	—	$CH_2C\equiv CH$
2-335	F	S	0	H	CF_3	CH_3	—	$CH(CH_3)C\equiv CH$
2-336	F	S	0	H	CF_3	CH_3	—	CH_2CN
2-337	F	S	0	H	CF_3	CH_3	—	CH_2OCH_3
2-338	F	S	0	H	CF_3	CH_3	—	$CH_2OC_2H_5$
2-339	F	S	0	H	CF_3	CH_3	—	CH_2COOH
2-340	F	S	0	H	CF_3	CH_3	—	CH_2COOCH_3
2-341	F	S	0	H	CF_3	CH_3	—	$CH_2COOC_2H_5$
2-342	F	S	0	H	CF_3	CH_3	—	$CH_2COO^nC_3H_7$
2-343	F	S	0	H	CF_3	CH_3	—	$CH_2COO^nC_4H_9$
2-344	F	S	0	H	CF_3	CH_3	—	$CH_2COO^nC_5H_{11}$
2-345	F	S	0	H	CF_3	CH_3	—	$CH_2COO^iC_3H_7$
2-346	F	S	0	H	CF_3	CH_3	—	$CH_2COO^cC_5H_9$
2-347	F	S	0	H	CF_3	CH_3	—	$CH_2COO^cC_6H_{11}$
2-348	F	S	0	H	CF_3	CH_3	—	$CH(CH_3)COOH$
2-349	F	S	0	H	CF_3	CH_3	—	$CH(CH_3)COOCH_3$
2-350	F	S	0	H	CF_3	CH_3	—	$CH(CH_3)COOC_2H_5$
2-351	F	S	0	H	CF_3	CH_3	—	$CH(CH_3)COO^nC_3H_7$
2-352	F	S	0	H	CF_3	CH_3	—	$CH(CH_3)COO^nC_4H_9$
2-353	F	S	0	H	CF_3	CH_3	—	$CH(CH_3)COO^nC_5H_{11}$
2-354	F	S	0	H	CF_3	CH_3	—	$CH(CH_3)COO^iC_3H_7$
2-355	F	S	0	H	CF_3	CH_3	—	$CH(CH_3)COO^cC_5H_9$
2-356	F	S	0	H	CF_3	CH_3	—	$CH(CH_3)COO^cC_6H_{11}$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-357	H	O	0	H	CF_3	CH_3	—	H
2-358	H	O	0	H	CF_3	CH_3	—	CH_3
2-359	H	O	0	H	CF_3	CH_3	—	C_2H_5
2-360	H	O	0	H	CF_3	CH_3	—	$^nC_3H_7$
2-361	H	O	0	H	CF_3	CH_3	—	$^nC_4H_9$
2-362	H	O	0	H	CF_3	CH_3	—	$^iC_3H_7$
2-363	H	O	0	H	CF_3	CH_3	—	$^iC_4H_9$
2-364	H	O	0	H	CF_3	CH_3	—	$CH_2CH=CH_2$
2-365	H	O	0	H	CF_3	CH_3	—	$CH(CH_3)CH=CH_2$
2-366	H	O	0	H	CF_3	CH_3	—	$CH_2C\equiv CH$
2-367	H	O	0	H	CF_3	CH_3	—	$CH(CH_3)C\equiv CH$
2-368	H	O	0	H	CF_3	CH_3	—	CH_2OCH_3
2-369	H	O	0	H	CF_3	CH_3	—	$CH_2OC_2H_5$
2-370	F	O	0	H	CF_3	CH_3	—	H
2-371	F	O	0	H	CF_3	CH_3	—	CH_3
2-372	F	O	0	H	CF_3	CH_3	—	C_2H_5
2-373	F	O	0	H	CF_3	CH_3	—	$^nC_3H_7$
2-374	F	O	0	H	CF_3	CH_3	—	$^nC_4H_9$
2-375	F	O	0	H	CF_3	CH_3	—	$CH_2CH=CH_2$
2-376	F	O	0	H	CF_3	CH_3	—	$CH(CH_3)CH=CH_2$
2-377	F	O	0	H	CF_3	CH_3	—	$CH_2C\equiv CH$
2-378	F	O	0	H	CF_3	CH_3	—	$CH(CH_3)C\equiv CH$
2-379	F	O	0	H	CF_3	CH_3	—	CH_2OCH_3

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-380	F	O	0	H	CF_3	CH_3	—	$CH_2OC_2H_5$
2-381	H	O	1	H	CF_2Cl	H	H	H
2-382	H	O	1	H	CF_2Cl	H	H	CH_3
2-383	H	O	1	H	CF_2Cl	H	H	C_2H_5
2-384	H	O	1	H	CF_2Cl	H	H	$^nC_3H_7$
2-385	H	O	1	H	CF_2Cl	H	H	$^iC_3H_7$
2-386	H	O	1	H	CF_2Cl	H	H	$^tC_4H_9$
2-387	H	O	1	H	CF_2Cl	H	H	$^nC_4H_9$
2-388	H	O	1	H	CF_2Cl	H	H	CH_2CH_2Cl
2-389	H	O	1	H	CF_2Cl	H	H	CH_2CH_2Br
2-390	H	O	1	H	CF_2Cl	H	H	$CH_2CH=CH_2$
2-391	H	O	1	H	CF_2Cl	H	H	$CH(CH_3)CH=CH_2$
2-392	H	O	1	H	CF_2Cl	H	H	$CH_2CCl=CH_2$
2-393	H	O	1	H	CF_2Cl	H	H	$CH_2C\equiv CH$
2-394	H	O	1	H	CF_2Cl	H	H	$CH(CH_3)C\equiv CH$
2-395	H	O	1	H	CF_2Cl	H	H	CH_2CN
2-396	H	O	1	H	CF_2Cl	H	H	CH_2OCH_3
2-397	H	O	1	H	CF_2Cl	H	H	$CH_2OC_2H_5$
2-398	H	O	1	H	CF_2Cl	H	H	CH_2COOH
2-399	H	O	1	H	CF_2Cl	H	H	CH_2COOCH_3
2-400	H	O	1	H	CF_2Cl	H	H	$CH_2COOC_2H_5$
2-401	H	O	1	H	CF_2Cl	H	H	$CH_2COO^nC_3H_7$
2-402	H	O	1	H	CF_2Cl	H	H	$CH_2COO^nC_4H_9$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-403	H	O	1	H	CF_2Cl	H	H	$CH_2COO^nC_5H_{11}$
2-404	H	O	1	H	CF_2Cl	H	H	$CH_2COO^iC_3H_7$
2-405	H	O	1	H	CF_2Cl	H	H	$CH_2COO^cC_5H_9$
2-406	H	O	1	H	CF_2Cl	H	H	$CH_2COO^cC_6H_{11}$
2-407	H	O	1	H	CF_2Cl	H	H	$CH(CH_3)COOH$
2-408	H	O	1	H	CF_2Cl	H	H	$CH(CH_3)COOCH_3$
2-409	H	O	1	H	CF_2Cl	H	H	$CH(CH_3)COOC_2H_5$
2-410	H	O	1	H	CF_2Cl	H	H	$CH(CH_3)COO^nC_3H_7$
2-411	H	O	1	H	CF_2Cl	H	H	$CH(CH_3)COO^nC_4H_9$
2-412	H	O	1	H	CF_2Cl	H	H	$CH(CH_3)COO^nC_5H_{11}$
2-413	H	O	1	H	CF_2Cl	H	H	$CH(CH_3)COO^iC_3H_7$
2-414	H	O	1	H	CF_2Cl	H	H	$CH(CH_3)COO^cC_5H_9$
2-415	H	O	1	H	CF_2Cl	H	H	$CH(CH_3)COO^cC_6H_{11}$
2-416	H	O	1	H	CF_2Cl	H	CH_3	H
2-417	H	O	1	H	CF_2Cl	H	CH_3	CH_3
2-418	H	O	1	H	CF_2Cl	H	CH_3	C_2H_5
2-419	H	O	1	H	CF_2Cl	H	CH_3	$^nC_3H_7$
2-420	H	O	1	H	CF_2Cl	H	CH_3	$^iC_3H_7$
2-421	H	O	1	H	CF_2Cl	H	CH_3	$^iC_4H_9$
2-422	H	O	1	H	CF_2Cl	H	CH_3	$^nC_4H_9$
2-423	H	O	1	H	CF_2Cl	H	CH_3	$CH_2CH=CH_2$
2-424	H	O	1	H	CF_2Cl	H	CH_3	$CH(CH_3)CH=CH_2$
2-425	H	O	1	H	CF_2Cl	H	CH_3	$CH_2C\equiv CH$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-426	H	O	1	H	CF_2Cl	H	CH_3	$CH(CH_3)C\equiv CH$
2-427	H	O	1	H	CF_2Cl	H	CH_3	CH_2OCH_3
2-428	H	O	1	H	CF_2Cl	H	CH_3	$CH_2OC_2H_5$
2-429	F	O	1	H	CF_2Cl	H	H	H
2-430	F	O	1	H	CF_2Cl	H	H	CH_3
2-431	F	O	1	H	CF_2Cl	H	H	C_2H_5
2-432	F	O	1	H	CF_2Cl	H	H	$^nC_3H_7$
2-433	F	O	1	H	CF_2Cl	H	H	$^iC_3H_7$
2-434	F	O	1	H	CF_2Cl	H	H	$^iC_4H_9$
2-435	F	O	1	H	CF_2Cl	H	H	$^nC_4H_9$
2-436	F	O	1	H	CF_2Cl	H	H	CH_2CH_2Cl
2-437	F	O	1	H	CF_2Cl	H	H	CH_2CH_2Br
2-438	F	O	1	H	CF_2Cl	H	H	$CH_2CH=CH_2$
2-439	F	O	1	H	CF_2Cl	H	H	$CH(CH_3)CH=CH_2$
2-440	F	O	1	H	CF_2Cl	H	H	$CH_2CCl=CH_2$
2-441	F	O	1	H	CF_2Cl	H	H	$CH_2C\equiv CH$
2-442	F	O	1	H	CF_2Cl	H	H	$CH(CH_3)C\equiv CH$
2-443	F	O	1	H	CF_2Cl	H	H	CH_2CN
2-444	F	O	1	H	CF_2Cl	H	H	CH_2OCH_3
2-445	F	O	1	H	CF_2Cl	H	H	$CH_2OC_2H_5$
2-446	F	O	1	H	CF_2Cl	H	H	CH_2COOH
2-447	F	O	1	H	CF_2Cl	H	H	CH_2COOCH_3

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-448	F	O	1	H	CF_2Cl	H	H	$CH_2COOC_2H_5$
2-449	F	O	1	H	CF_2Cl	H	H	$CH_2COO^nC_3H_7$
2-450	F	O	1	H	CF_2Cl	H	H	$CH_2COO^nC_4H_9$
2-451	F	O	1	H	CF_2Cl	H	H	$CH_2COO^nC_5H_{11}$
2-452	F	O	1	H	CF_2Cl	H	H	$CH_2COO^iC_3H_7$
2-453	F	O	1	H	CF_2Cl	H	H	$CH_2COO^cC_5H_9$
2-454	F	O	1	H	CF_2Cl	H	H	$CH_2COO^cC_6H_{11}$
2-455	F	O	1	H	CF_2Cl	H	H	$CH(CH_3)COOH$
2-456	F	O	1	H	CF_2Cl	H	H	$CH(CH_3)COOCH_3$
2-457	F	O	1	H	CF_2Cl	H	H	$CH(CH_3)COOC_2H_5$
2-458	F	O	1	H	CF_2Cl	H	H	$CH(CH_3)COO^nC_3H_7$
2-459	F	O	1	H	CF_2Cl	H	H	$CH(CH_3)COO^nC_4H_9$
2-460	F	O	1	H	CF_2Cl	H	H	$CH(CH_3)COO^nC_5H_{11}$
2-461	F	O	1	H	CF_2Cl	H	H	$CH(CH_3)COO^iC_3H_7$
2-462	F	O	1	H	CF_2Cl	H	H	$CH(CH_3)COO^cC_5H_9$
2-463	F	O	1	H	CF_2Cl	H	H	$CH(CH_3)COO^cC_6H_{11}$
2-464	F	O	1	H	CF_2Cl	H	CH_3	H
2-465	F	O	1	H	CF_2Cl	H	CH_3	CH_3
2-466	F	O	1	H	CF_2Cl	H	CH_3	C_2H_5
2-467	F	O	1	H	CF_2Cl	H	CH_3	$^nC_3H_7$
2-468	F	O	1	H	CF_2Cl	H	CH_3	$^iC_3H_7$
2-469	F	O	1	H	CF_2Cl	H	CH_3	$^iC_4H_9$
2-470	F	O	1	H	CF_2Cl	H	CH_3	$^nC_4H_9$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-471	F	O	1	H	CF_2Cl	H	CH_3	$CH_2CH=CH_2$
2-472	F	O	1	H	CF_2Cl	H	CH_3	$CH(CH_3)CH=CH_2$
2-473	F	O	1	H	CF_2Cl	H	CH_3	$CH_2C\equiv CH$
2-474	F	O	1	H	CF_2Cl	H	CH_3	$CH(CH_3)C\equiv CH$
2-475	F	O	1	H	CF_2Cl	H	CH_3	CH_2OCH_3
2-476	F	O	1	H	CF_2Cl	H	CH_3	$CH_2OC_2H_5$
2-477	H	S	0	H	CF_2Cl	H	—	H
2-478	H	S	0	H	CF_2Cl	H	—	CH_3
2-479	H	S	0	H	CF_2Cl	H	—	C_2H_5
2-480	H	S	0	H	CF_2Cl	H	—	$^nC_3H_7$
2-481	H	S	0	H	CF_2Cl	H	—	$^nC_4H_9$
2-482	H	S	0	H	CF_2Cl	H	—	$^iC_3H_7$
2-483	H	S	0	H	CF_2Cl	H	—	$^iC_4H_9$
2-484	H	S	0	H	CF_2Cl	H	—	CH_2CH_2Cl
2-485	H	S	0	H	CF_2Cl	H	—	CH_2CH_2Br
2-486	H	S	0	H	CF_2Cl	H	—	$CH_2CH=CH_2$
2-487	H	S	0	H	CF_2Cl	H	—	$CH(CH_3)CH=CH_2$
2-488	H	S	0	H	CF_2Cl	H	—	$CH_2CCl=CH_2$
2-489	H	S	0	H	CF_2Cl	H	—	$CH_2C\equiv CH$
2-490	H	S	0	H	CF_2Cl	H	—	$CH(CH_3)C\equiv CH$
2-491	H	S	0	H	CF_2Cl	H	—	CH_2CN
2-492	H	S	0	H	CF_2Cl	H	—	CH_2OCH_3
2-493	H	S	0	H	CF_2Cl	H	—	$CH_2OC_2H_5$

TABLE 2 (contn'd)

Compound No.	X	Z^1	n	R^3	R^1	R^2	R^4	R^5
2-494	H	S	0	H	CF_2Cl	H	—	CH_2COOH
2-495	H	S	0	H	CF_2Cl	H	—	CH_2COOCH_3
2-496	H	S	0	H	CF_2Cl	H	—	$CH_2COOC_2H_5$
2-497	H	S	0	H	CF_2Cl	H	—	$CH_2COO^nC_3H_7$
2-498	H	S	0	H	CF_2Cl	H	—	$CH_2COO^nC_4H_9$
2-499	H	S	0	H	CF_2Cl	H	—	$CH_2COO^nC_5H_{11}$
2-500	H	S	0	H	CF_2Cl	H	—	$CH_2COO^iC_3H_7$
2-501	H	S	0	H	CF_2Cl	H	—	$CH_2COO^cC_5H_9$
2-502	H	S	0	H	CF_2Cl	H	—	$CH_2COO^cC_6H_{11}$
2-503	H	S	0	H	CF_2Cl	H	—	$CH(CH_3)COOH$
2-504	H	S	0	H	CF_2Cl	H	—	$CH(CH_3)COOCH_3$
2-505	H	S	0	H	CF_2Cl	H	—	$CH(CH_3)COOC_2H_5$
2-506	H	S	0	H	CF_2Cl	H	—	$CH(CH_3)COO^nC_3H_7$
2-507	H	S	0	H	CF_2Cl	H	—	$CH(CH_3)COO^nC_4H_9$
2-508	H	S	0	H	CF_2Cl	H	—	$CH(CH_3)COO^nC_5H_{11}$
2-509	H	S	0	H	CF_2Cl	H	—	$CH(CH_3)COO^iC_3H_7$
2-510	H	S	0	H	CF_2Cl	H	—	$CH(CH_3)COO^cC_5H_9$
2-511	H	S	0	H	CF_2Cl	H	—	$CH(CH_3)COO^cC_6H_{11}$
2-512	F	S	0	H	CF_2Cl	H	—	H
2-513	F	S	0	H	CF_2Cl	H	—	CH_3
2-514	F	S	0	H	CF_2Cl	H	—	C_2H_5
2-515	F	S	0	H	CF_2Cl	H	—	$^nC_3H_7$
2-516	F	S	0	H	CF_2Cl	H	—	$^nC_4H_9$

TABLE 2 (contn'd)

Compound No.	X	Z^1	n	R^3	R^1	R^2	R^4	R^5
2-517	F	S	0	H	CF_2Cl	H	—	$^iC_3H_7$
2-518	F	S	0	H	CF_2Cl	H	—	$^iC_4H_9$
2-519	F	S	0	H	CF_2Cl	H	—	CH_2CH_2Cl
2-520	F	S	0	H	CF_2Cl	H	—	CH_2CH_2Br
2-521	F	S	0	H	CF_2Cl	H	—	$CH_2CH=CH_2$
2-522	F	S	0	H	CF_2Cl	H	—	$CH(CH_3)CH=CH_2$
2-523	F	S	0	H	CF_2Cl	H	—	$CH_2CCl=CH_2$
2-524	F	S	0	H	CF_2Cl	H	—	$CH_2C\equiv CH$
2-525	F	S	0	H	CF_2Cl	H	—	$CH(CH_3)C\equiv CH$
2-526	F	S	0	H	CF_2Cl	H	—	CH_2CN
2-527	F	S	0	H	CF_2Cl	H	—	CH_2OCH_3
2-528	F	S	0	H	CF_2Cl	H	—	$CH_2OC_2H_5$
2-529	F	S	0	H	CF_2Cl	H	—	CH_2COOH
2-530	F	S	0	H	CF_2Cl	H	—	CH_2COOCH_3
2-531	F	S	0	H	CF_2Cl	H	—	$CH_2COOC_2H_5$
2-532	F	S	0	H	CF_2Cl	H	—	$CH_2COO^nC_3H_7$
2-533	F	S	0	H	CF_2Cl	H	—	$CH_2COO^nC_4H_9$
2-534	F	S	0	H	CF_2Cl	H	—	$CH_2COO^nC_5H_{11}$
2-535	F	S	0	H	CF_2Cl	H	—	$CH_2COO^iC_3H_7$
2-536	F	S	0	H	CF_2Cl	H	—	$CH_2COO^cC_5H_9$
2-537	F	S	0	H	CF_2Cl	H	—	$CH_2COO^cC_6H_{11}$
2-538	F	S	0	H	CF_2Cl	H	—	$CH(CH_3)COOH$
2-539	F	S	0	H	CF_2Cl	H	—	$CH(CH_3)COOCH_3$

TABLE 2 (contn'd)

Compound No.	X	Z'	n	R^3	R^1	R^2	R^4	R^5
2-540	F	S	0	H	CF_2Cl	H	—	$CH(CH_3)COOC_2H_5$
2-541	F	S	0	H	CF_2Cl	H	—	$CH(CH_3)COO^nC_3H_7$
2-542	F	S	0	H	CF_2Cl	H	—	$CH(CH_3)COO^nC_4H_9$
2-543	F	S	0	H	CF_2Cl	H	—	$CH(CH_3)COO^nC_5H_{11}$
2-544	F	S	0	H	CF_2Cl	H	—	$CH(CH_3)COO^iC_3H_7$
2-545	F	S	0	H	CF_2Cl	H	—	$CH(CH_3)COO^cC_5H_9$
2-546	F	S	0	H	CF_2Cl	H	—	$CH(CH_3)COO^cC_6H_{11}$
2-547	H	O	0	H	CF_2Cl	H	—	H
2-548	H	O	0	H	CF_2Cl	H	—	CH_3
2-549	H	O	0	H	CF_2Cl	H	—	C_2H_5
2-550	H	O	0	H	CF_2Cl	H	—	$^nC_3H_7$
2-551	H	O	0	H	CF_2Cl	H	—	$^nC_4H_9$
2-552	H	O	0	H	CF_2Cl	H	—	$^iC_3H_7$
2-553	H	O	0	H	CF_2Cl	H	—	$^iC_4H_9$
2-554	H	O	0	H	CF_2Cl	H	—	$CH_2CH=CH_2$
2-555	H	O	0	H	CF_2Cl	H	—	$CH(CH_3)CH=CH_2$
2-556	H	O	0	H	CF_2Cl	H	—	$CH_2C\equiv CH$
2-557	H	O	0	H	CF_2Cl	H	—	$CH(CH_3)C\equiv CH$
2-558	H	O	0	H	CF_2Cl	H	—	CH_2OCH_3
2-559	H	O	0	H	CF_2Cl	H	—	$CH_2OC_2H_5$
2-560	F	O	0	H	CF_2Cl	H	—	H
2-561	F	O	0	H	CF_2Cl	H	—	CH_3

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-562	F	O	0	H	CF_2Cl	H	—	C_2H_5
2-563	F	O	0	H	CF_2Cl	H	—	$^nC_3H_7$
2-564	F	O	0	H	CF_2Cl	H	—	$^nC_4H_9$
2-565	F	O	0	H	CF_2Cl	H	—	$CH_2CH=CH_2$
2-566	F	O	0	H	CF_2Cl	H	—	$CH(CH_3)CH=CH_2$
2-567	F	O	0	H	CF_2Cl	H	—	$CH_2C\equiv CH$
2-568	F	O	0	H	CF_2Cl	H	—	$CH(CH_3)C\equiv CH$
2-569	F	O	0	H	CF_2Cl	H	—	CH_2OCH_3
2-570	F	O	0	H	CF_2Cl	H	—	$CH_2OC_2H_5$
2-571	H	O	1	H	CF_3	H	H	H
2-572	H	O	1	H	CF_3	H	H	CH_3
2-573	H	O	1	H	CF_3	H	H	C_2H_5
2-574	H	O	1	H	CF_3	H	H	$^nC_3H_7$
2-575	H	O	1	H	CF_3	H	H	$^iC_3H_7$
2-576	H	O	1	H	CF_3	H	H	$^iC_4H_9$
2-577	H	O	1	H	CF_3	H	H	$^nC_4H_9$
2-578	H	O	1	H	CF_3	H	H	CH_2CH_2Cl
2-579	H	O	1	H	CF_3	H	H	CH_2CH_2Br
2-580	H	O	1	H	CF_3	H	H	$CH_2CH=CH_2$
2-581	H	O	1	H	CF_3	H	H	$CH(CH_3)CH=CH_2$
2-582	H	O	1	H	CF_3	H	H	$CH_2CCl=CH_2$
2-583	H	O	1	H	CF_3	H	H	$CH_2C\equiv CH$
2-584	H	O	1	H	CF_3	H	H	$CH(CH_3)C\equiv CH$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-585	H	O	1	H	CF_3	H	H	CH_2CN
2-586	H	O	1	H	CF_3	H	H	CH_2OCH_3
2-587	H	O	1	H	CF_3	H	H	$CH_2OC_2H_5$
2-588	H	O	1	H	CF_3	H	H	CH_2COOH
2-589	H	O	1	H	CF_3	H	H	CH_2COOCH_3
2-590	H	O	1	H	CF_3	H	H	$CH_2COOC_2H_5$
2-591	H	O	1	H	CF_3	H	H	$CH_2COO^nC_3H_7$
2-592	H	O	1	H	CF_3	H	H	$CH_2COO^nC_4H_9$
2-593	H	O	1	H	CF_3	H	H	$CH_2COO^nC_5H_{11}$
2-594	H	O	1	H	CF_3	H	H	$CH_2COO^iC_3H_7$
2-595	H	O	1	H	CF_3	H	H	$CH_2COO^cC_5H_9$
2-596	H	O	1	H	CF_3	H	H	$CH_2COO^cC_6H_{11}$
2-597	H	O	1	H	CF_3	H	H	$CH(CH_3)COOH$
2-598	H	O	1	H	CF_3	H	H	$CH(CH_3)COOCH_3$
2-599	H	O	1	H	CF_3	H	H	$CH(CH_3)COOC_2H_5$
2-600	H	O	1	H	CF_3	H	H	$CH(CH_3)COO^nC_3H_7$
2-601	H	O	1	H	CF_3	H	H	$CH(CH_3)COO^nC_4H_9$
2-602	H	O	1	H	CF_3	H	H	$CH(CH_3)COO^nC_5H_{11}$
2-603	H	O	1	H	CF_3	H	H	$CH(CH_3)COO^iC_3H_7$
2-604	H	O	1	H	CF_3	H	H	$CH(CH_3)COO^cC_5H_9$
2-605	H	O	1	H	CF_3	H	H	$CH(CH_3)COO^cC_6H_{11}$
2-606	H	O	1	H	CF_3	H	CH_3	H
2-607	H	O	1	H	CF_3	H	CH_3	CH_3

TABLE 2 (contn'd)

Compound No.	X	Z^1	n	R^3	R^1	R^2	R^4	R^5
2-608	H	O	1	H	CF_3	H	CH_3	C_2H_5
2-609	H	O	1	H	CF_3	H	CH_3	$^nC_3H_7$
2-610	H	O	1	H	CF_3	H	CH_3	$^iC_3H_7$
2-611	H	O	1	H	CF_3	H	CH_3	$^tC_4H_9$
2-612	H	O	1	H	CF_3	H	CH_3	$^nC_4H_9$
2-613	H	O	1	H	CF_3	H	CH_3	$CH_2CH=CH_2$
2-614	H	O	1	H	CF_3	H	CH_3	$CH(CH_3)CH=CH_2$
2-615	H	O	1	H	CF_3	H	CH_3	$CH_2C\equiv CH$
2-616	H	O	1	H	CF_3	H	CH_3	$CH(CH_3)C\equiv CH$
2-617	H	O	1	H	CF_3	H	CH_3	CH_2OCH_3
2-618	H	O	1	H	CF_3	H	CH_3	$CH_2OC_2H_5$
2-619	F	O	1	H	CF_3	H	H	H
2-620	F	O	1	H	CF_3	H	H	CH_3
2-621	F	O	1	H	CF_3	H	H	C_2H_5
2-622	F	O	1	H	CF_3	H	H	$^nC_3H_7$
2-623	F	O	1	H	CF_3	H	H	$^iC_3H_7$
2-624	F	O	1	H	CF_3	H	H	$^tC_4H_9$
2-625	F	O	1	H	CF_3	H	H	$^nC_4H_9$
2-626	F	O	1	H	CF_3	H	H	CH_2CH_2Cl
2-627	F	O	1	H	CF_3	H	H	CH_2CH_2Br
2-628	F	O	1	H	CF_3	H	H	$CH_2CH=CH_2$
2-629	F	O	1	H	CF_3	H	H	$CH(CH_3)CH=CH_2$
2-630	F	O	1	H	CF_3	H	H	$CH_2CCl=CH_2$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-631	F	O	1	H	CF_3	H	H	$CH_2C\equiv CH$
2-632	F	O	1	H	CF_3	H	H	$CH(CH_3)C\equiv CH$
2-633	F	O	1	H	CF_3	H	H	CH_2CN
2-634	F	O	1	H	CF_3	H	H	CH_2OCH_3
2-635	F	O	1	H	CF_3	H	H	$CH_2OC_2H_5$
2-636	F	O	1	H	CF_3	H	H	CH_2COOH
2-637	F	O	1	H	CF_3	H	H	CH_2COOCH_3
2-638	F	O	1	H	CF_3	H	H	$CH_2COOC_2H_5$
2-639	F	O	1	H	CF_3	H	H	$CH_2COO^nC_3H_7$
2-640	F	O	1	H	CF_3	H	H	$CH_2COO^nC_4H_9$
2-641	F	O	1	H	CF_3	H	H	$CH_2COO^nC_5H_{11}$
2-642	F	O	1	H	CF_3	H	H	$CH_2COO^iC_3H_7$
2-643	F	O	1	H	CF_3	H	H	$CH_2COO^cC_5H_9$
2-644	F	O	1	H	CF_3	H	H	$CH_2COO^cC_6H_{11}$
2-645	F	O	1	H	CF_3	H	H	$CH(CH_3)COOH$
2-646	F	O	1	H	CF_3	H	H	$CH(CH_3)COOCH_3$
2-647	F	O	1	H	CF_3	H	H	$CH(CH_3)COOC_2H_5$
2-648	F	O	1	H	CF_3	H	H	$CH(CH_3)COO^nC_3H_7$
2-648	F	O	1	H	CF_3	H	H	$CH(CH_3)COO^nC_4H_9$
2-650	F	O	1	H	CF_3	H	H	$CH(CH_3)COO^nC_5H_{11}$
2-651	F	O	1	H	CF_3	H	H	$CH(CH_3)COO^iC_3H_7$
2-652	F	O	1	H	CF_3	H	H	$CH(CH_3)COO^cC_5H_9$
2-653	F	O	1	H	CF_3	H	H	$CH(CH_3)COO^cC_6H_{11}$

TABLE 2 (contn'd)

Compound No.	X	Z^1	n	R^3	R^1	R^2	R^4	R^5
2-654	F	O	1	H	CF_3	H	CH_3	H
2-655	F	O	1	H	CF_3	H	CH_3	CH_3
2-656	F	O	1	H	CF_3	H	CH_3	C_2H_5
2-657	F	O	1	H	CF_3	H	CH_3	$^nC_3H_7$
2-658	F	O	1	H	CF_3	H	CH_3	$^iC_3H_7$
2-659	F	O	1	H	CF_3	H	CH_3	$^iC_4H_9$
2-660	F	O	1	H	CF_3	H	CH_3	$^nC_4H_9$
2-661	F	O	1	H	CF_3	H	CH_3	$CH_2CH=CH_2$
2-662	F	O	1	H	CF_3	H	CH_3	$CH(CH_3)CH=CH_2$
2-663	F	O	1	H	CF_3	H	CH_3	$CH_2C\equiv CH$
2-664	F	O	1	H	CF_3	H	CH_3	$CH(CH_3)C\equiv CH$
2-665	F	O	1	H	CF_3	H	CH_3	CH_2OCH_3
2-666	F	O	1	H	CF_3	H	CH_3	$CH_2OC_2H_5$
2-667	H	S	0	H	CF_3	H	—	H
2-668	H	S	0	H	CF_3	H	—	CH_3
2-669	H	S	0	H	CF_3	H	—	C_2H_5
2-670	H	S	0	H	CF_3	H	—	$^nC_3H_7$
2-671	H	S	0	H	CF_3	H	—	$^nC_4H_9$
2-672	H	S	0	H	CF_3	H	—	$^iC_3H_7$
2-673	H	S	0	H	CF_3	H	—	$^iC_4H_9$
2-674	H	S	0	H	CF_3	H	—	CH_2CH_2Cl
2-675	H	S	0	H	CF_3	H	—	CH_2CH_2Br

TABLE 2 (contn'd)

Compound No.	X	Z^1	n	R^3	R^1	R^2	R^4	R^5
2-676	H	S	0	H	CF_3	H	—	$CH_2CH=CH_2$
2-677	H	S	0	H	CF_3	H	—	$CH(CH_3)CH=CH_2$
2-678	H	S	0	H	CF_3	H	—	$CH_2CCl=CH_2$
2-679	H	S	0	H	CF_3	H	—	$CH_2C\equiv CH$
2-680	H	S	0	H	CF_3	H	—	$CH(CH_3)C\equiv CH$
2-681	H	S	0	H	CF_3	H	—	CH_2CN
2-682	H	S	0	H	CF_3	H	—	CH_2OCH_3
2-683	H	S	0	H	CF_3	H	—	$CH_2OC_2H_5$
2-684	H	S	0	H	CF_3	H	—	CH_2COOH
2-685	H	S	0	H	CF_3	H	—	CH_2COOCH_3
2-686	H	S	0	H	CF_3	H	—	$CH_2COOC_2H_5$
2-687	H	S	0	H	CF_3	H	—	$CH_2COO^nC_3H_7$
2-688	H	S	0	H	CF_3	H	—	$CH_2COO^nC_4H_9$
2-689	H	S	0	H	CF_3	H	—	$CH_2COO^nC_5H_{11}$
2-690	H	S	0	H	CF_3	H	—	$CH_2COO^iC_3H_7$
2-691	H	S	0	H	CF_3	H	—	$CH_2COO^cC_5H_9$
2-692	H	S	0	H	CF_3	H	—	$CH_2COO^cC_6H_{11}$
2-693	H	S	0	H	CF_3	H	—	$CH(CH_3)COOH$
2-694	H	S	0	H	CF_3	H	—	$CH(CH_3)COOCH_3$
2-695	H	S	0	H	CF_3	H	—	$CH(CH_3)COOC_2H_5$
2-696	H	S	0	H	CF_3	H	—	$CH(CH_3)COO^nC_3H_7$
2-697	H	S	0	H	CF_3	H	—	$CH(CH_3)COO^nC_4H_9$
2-698	H	S	0	H	CF_3	H	—	$CH(CH_3)COO^nC_5H_{11}$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-699	H	S	0	H	CF_3	H	—	$CH(CH_3)COO^iC_3H_7$
2-700	H	S	0	H	CF_3	H	—	$CH(CH_3)COO^cC_5H_9$
2-701	H	S	0	H	CF_3	H	—	$CH(CH_3)COO^cC_6H_{11}$
2-702	F	S	0	H	CF_3	H	—	H
2-703	F	S	0	H	CF_3	H	—	CH_3
2-704	F	S	0	H	CF_3	H	—	C_2H_5
2-705	F	S	0	H	CF_3	H	—	$^nC_3H_7$
2-706	F	S	0	H	CF_3	H	—	$^nC_4H_9$
2-707	F	S	0	H	CF_3	H	—	$^iC_3H_7$
2-708	F	S	0	H	CF_3	H	—	$^sC_4H_9$
2-709	F	S	0	H	CF_3	H	—	CH_2CH_2Cl
2-710	F	S	0	H	CF_3	H	—	CH_2CH_2Br
2-711	F	S	0	H	CF_3	H	—	$CH_2CH=CH_2$
2-712	F	S	0	H	CF_3	H	—	$CH(CH_3)CH=CH_2$
2-713	F	S	0	H	CF_3	H	—	$CH_2CCl=CH_2$
2-714	F	S	0	H	CF_3	H	—	$CH_2C\equiv CH$
2-715	F	S	0	H	CF_3	H	—	$CH(CH_3)C\equiv CH$
2-716	F	S	0	H	CF_3	H	—	CH_2CN
2-717	F	S	0	H	CF_3	H	—	CH_2OCH_3
2-718	F	S	0	H	CF_3	H	—	$CH_2OC_2H_5$
2-719	F	S	0	H	CF_3	H	—	CH_2COOH
2-720	F	S	0	H	CF_3	H	—	CH_2COOCH_3
2-721	F	S	0	H	CF_3	H	—	$CH_2COOC_2H_5$

TABLE 2 (contn'd)

Compound No.	X	Z^1	n	R^3	R^1	R^2	R^4	R^5
2-722	F	S	0	H	CF_3	H	—	$CH_2COO^nC_3H_7$
2-723	F	S	0	H	CF_3	H	—	$CH_2COO^nC_4H_9$
2-724	F	S	0	H	CF_3	H	—	$CH_2COO^nC_5H_{11}$
2-725	F	S	0	H	CF_3	H	—	$CH_2COO^iC_3H_7$
2-726	F	S	0	H	CF_3	H	—	$CH_2COO^cC_5H_9$
2-727	F	S	0	H	CF_3	H	—	$CH_2COO^cC_6H_{11}$
2-728	F	S	0	H	CF_3	H	—	$CH(CH_3)COOH$
2-729	F	S	0	H	CF_3	H	—	$CH(CH_3)COOCH_3$
2-730	F	S	0	H	CF_3	H	—	$CH(CH_3)COOC_2H_5$
2-731	F	S	0	H	CF_3	H	—	$CH(CH_3)COO^nC_3H_7$
2-732	F	S	0	H	CF_3	H	—	$CH(CH_3)COO^nC_4H_9$
2-733	F	S	0	H	CF_3	H	—	$CH(CH_3)COO^nC_5H_{11}$
2-734	F	S	0	H	CF_3	H	—	$CH(CH_3)COO^iC_3H_7$
2-735	F	S	0	H	CF_3	H	—	$CH(CH_3)COO^cC_5H_9$
2-736	F	S	0	H	CF_3	H	—	$CH(CH_3)COO^cC_6H_{11}$
2-737	H	O	0	H	CF_3	H	—	H
2-738	H	O	0	H	CF_3	H	—	CH_3
2-739	H	O	0	H	CF_3	H	—	C_2H_5
2-740	H	O	0	H	CF_3	H	—	$^nC_3H_7$
2-741	H	O	0	H	CF_3	H	—	$^nC_4H_9$
2-742	H	O	0	H	CF_3	H	—	$^iC_3H_7$
2-743	H	O	0	H	CF_3	H	—	$^iC_4H_9$
2-744	H	O	0	H	CF_3	H	—	$CH_2CH=CH_2$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-745	H	O	0	H	CF_3	H	—	$CH(CH_3)CH=CH_2$
2-746	H	O	0	H	CF_3	H	—	$CH_2C\equiv CH$
2-747	H	O	0	H	CF_3	H	—	$CH(CH_3)C\equiv CH$
2-748	H	O	0	H	CF_3	H	—	CH_2OCH_3
2-749	H	O	0	H	CF_3	H	—	$CH_2OC_2H_5$
2-750	F	O	0	H	CF_3	H	—	H
2-751	F	O	0	H	CF_3	H	—	CH_3
2-752	F	O	0	H	CF_3	H	—	C_2H_5
2-753	F	O	0	H	CF_3	H	—	$^nC_3H_7$
2-754	F	O	0	H	CF_3	H	—	$^nC_4H_9$
2-755	F	O	0	H	CF_3	H	—	$CH_2CH=CH_2$
2-756	F	O	0	H	CF_3	H	—	$CH(CH_3)CH=CH_2$
2-757	F	O	0	H	CF_3	H	—	$CH_2C\equiv CH$
2-758	F	O	0	H	CF_3	H	—	$CH(CH_3)C\equiv CH$
2-759	F	O	0	H	CF_3	H	—	CH_2OCH_3
2-760	F	O	0	H	CF_3	H	—	$CH_2OC_2H_5$
2-761	H	O	1	CH_3	CF_3	H	H	H
2-762	H	O	1	CH_3	CF_3	H	H	CH_3
2-763	H	O	1	CH_3	CF_3	H	H	C_2H_5
2-764	H	O	1	CH_3	CF_3	H	H	$^nC_3H_7$
2-765	H	O	1	CH_3	CF_3	H	H	$^iC_3H_7$
2-766	H	O	1	CH_3	CF_3	H	H	$^iC_4H_9$
2-767	H	O	1	CH_3	CF_3	H	H	$^nC_4H_9$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-768	H	O	1	CH_3	CF_3	H	H	CH_2CH_2Cl
2-769	H	O	1	CH_3	CF_3	H	H	CH_2CH_2Br
2-770	H	O	1	CH_3	CF_3	H	H	$CH_2CH=CH_2$
2-771	H	O	1	CH_3	CF_3	H	H	$CH(CH_3)CH=CH_2$
2-772	H	O	1	CH_3	CF_3	H	H	$CH_2CCl=CH_2$
2-773	H	O	1	CH_3	CF_3	H	H	$CH_2C\equiv CH$
2-774	H	O	1	CH_3	CF_3	H	H	$CH(CH_3)C\equiv CH$
2-775	H	O	1	CH_3	CF_3	H	H	CH_2CN
2-776	H	O	1	CH_3	CF_3	H	H	CH_2OCH_3
2-777	H	O	1	CH_3	CF_3	H	H	$CH_2OC_2H_5$
2-778	H	O	1	CH_3	CF_3	H	H	CH_2COOH
2-779	H	O	1	CH_3	CF_3	H	H	CH_2COOCH_3
2-780	H	O	1	CH_3	CF_3	H	H	$CH_2COOC_2H_5$
2-781	H	O	1	CH_3	CF_3	H	H	$CH_2COO^nC_3H_7$
2-782	H	O	1	CH_3	CF_3	H	H	$CH_2COO^nC_4H_9$
2-783	H	O	1	CH_3	CF_3	H	H	$CH_2COO^nC_5H_{11}$
2-784	H	O	1	CH_3	CF_3	H	H	$CH_2COO^iC_3H_7$
2-785	H	O	1	CH_3	CF_3	H	H	$CH_2COO^cC_6H_9$
2-786	H	O	1	CH_3	CF_3	H	H	$CH_2COO^cC_6H_{11}$
2-787	H	O	1	CH_3	CF_3	H	H	$CH(CH_3)COOH$
2-788	H	O	1	CH_3	CF_3	H	H	$CH(CH_3)COOCH_3$
2-789	H	O	1	CH_3	CF_3	H	H	$CH(CH_3)COOC_2H_5$

TABLE 2 (contn'd)

Compound No.	X	Z'	n	R^3	R^1	R^2	R^4	R^5
2-790	H	O	1	CH_3	CF_3	H	H	$CH(CH_3)COO^nC_3H_7$
2-791	H	O	1	CH_3	CF_3	H	H	$CH(CH_3)COO^nC_4H_9$
2-792	H	O	1	CH_3	CF_3	H	H	$CH(CH_3)COO^nC_5H_{11}$
2-793	H	O	1	CH_3	CF_3	H	H	$CH(CH_3)COO^iC_3H_7$
2-794	H	O	1	CH_3	CF_3	H	H	$CH(CH_3)COO^cC_5H_9$
2-795	H	O	1	CH_3	CF_3	H	H	$CH(CH_3)COO^cC_6H_{11}$
2-796	H	O	1	CH_3	CF_3	H	CH_3	H
2-797	H	O	1	CH_3	CF_3	H	CH_3	CH_3
2-798	H	O	1	CH_3	CF_3	H	CH_3	C_2H_5
2-799	H	O	1	CH_3	CF_3	H	CH_3	$^nC_3H_7$
2-800	H	O	1	CH_3	CF_3	H	CH_3	$^iC_3H_7$
2-801	H	O	1	CH_3	CF_3	H	CH_3	$^iC_4H_9$
2-802	H	O	1	CH_3	CF_3	H	CH_3	$^nC_4H_9$
2-803	H	O	1	CH_3	CF_3	H	CH_3	$CH_2CH=CH_2$
2-804	H	O	1	CH_3	CF_3	H	CH_3	$CH(CH_3)CH=CH_2$
2-805	H	O	1	CH_3	CF_3	H	CH_3	$CH_2C\equiv CH$
2-806	H	O	1	CH_3	CF_3	H	CH_3	$CH(CH_3)C\equiv CH$
2-807	H	O	1	CH_3	CF_3	H	CH_3	CH_2OCH_3
2-808	H	O	1	CH_3	CF_3	H	CH_3	$CH_2OC_2H_5$
2-809	F	O	1	CH_3	CF_3	H	H	H
2-810	F	O	1	CH_3	CF_3	H	H	CH_3
2-811	F	O	1	CH_3	CF_3	H	H	C_2H_5
2-812	F	O	1	CH_3	CF_3	H	H	$^nC_3H_7$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-813	F	O	1	CH_3	CF_3	H	H	$^iC_3H_7$
2-814	F	O	1	CH_3	CF_3	H	H	$^iC_4H_9$
2-815	F	O	1	CH_3	CF_3	H	H	$^nC_4H_9$
2-816	F	O	1	CH_3	CF_3	H	H	CH_2CH_2Cl
2-817	F	O	1	CH_3	CF_3	H	H	CH_2CH_2Br
2-818	F	O	1	CH_3	CF_3	H	H	$CH_2CH=CH_2$
2-819	F	O	1	CH_3	CF_3	H	H	$CH(CH_3)CH=CH_2$
2-820	F	O	1	CH_3	CF_3	H	H	$CH_2CCl=CH_2$
2-821	F	O	1	CH_3	CF_3	H	H	$CH_2C\equiv CH$
2-822	F	O	1	CH_3	CF_3	H	H	$CH(CH_3)C\equiv CH$
2-823	F	O	1	CH_3	CF_3	H	H	CH_2CN
2-824	F	O	1	CH_3	CF_3	H	H	CH_2OCH_3
2-825	F	O	1	CH_3	CF_3	H	H	$CH_2OC_2H_5$
2-826	F	O	1	CH_3	CF_3	H	H	CH_2COOH
2-827	F	O	1	CH_3	CF_3	H	H	CH_2COOCH_3
2-828	F	O	1	CH_3	CF_3	H	H	$CH_2COOC_2H_5$
2-829	F	O	1	CH_3	CF_3	H	H	$CH_2COO^nC_3H_7$
2-830	F	O	1	CH_3	CF_3	H	H	$CH_2COO^nC_4H_9$
2-831	F	O	1	CH_3	CF_3	H	H	$CH_2COO^nC_5H_{11}$
2-832	F	O	1	CH_3	CF_3	H	H	$CH_2COO^iC_3H_7$
2-833	F	O	1	CH_3	CF_3	H	H	$CH_2COO^cC_5H_9$
2-834	F	O	1	CH_3	CF_3	H	H	$CH_2COO^cC_6H_{11}$
2-835	F	O	1	CH_3	CF_3	H	H	$CH(CH_3)COOH$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-836	F	O	1	CH_3	CF_3	H	H	$CH(CH_3)COOCH_3$
2-837	F	O	1	CH_3	CF_3	H	H	$CH(CH_3)COOC_2H_5$
2-838	F	O	1	CH_3	CF_3	H	H	$CH(CH_3)COO^nC_3H_7$
2-839	F	O	1	CH_3	CF_3	H	H	$CH(CH_3)COO^nC_4H_9$
2-840	F	O	1	CH_3	CF_3	H	H	$CH(CH_3)COO^nC_5H_{11}$
2-841	F	O	1	CH_3	CF_3	H	H	$CH(CH_3)COO^iC_3H_7$
2-842	F	O	1	CH_3	CF_3	H	H	$CH(CH_3)COO^cC_5H_9$
2-843	F	O	1	CH_3	CF_3	H	H	$CH(CH_3)COO^cC_6H_{11}$
2-843	F	O	1	CH_3	CF_3	H	CH_3	H
2-845	F	O	1	CH_3	CF_3	H	CH_3	CH_3
2-846	F	O	1	CH_3	CF_3	H	CH_3	C_2H_5
2-847	F	O	1	CH_3	CF_3	H	CH_3	$^nC_3H_7$
2-848	F	O	1	CH_3	CF_3	H	CH_3	$^iC_3H_7$
2-849	F	O	1	CH_3	CF_3	H	CH_3	$^tC_4H_9$
2-850	F	O	1	CH_3	CF_3	H	CH_3	$^nC_4H_9$
2-851	F	O	1	CH_3	CF_3	H	CH_3	$CH_2CH=CH_2$
2-852	F	O	1	CH_3	CF_3	H	CH_3	$CH(CH_3)CH=CH_2$
2-853	F	O	1	CH_3	CF_3	H	CH_3	$CH_2C\equiv CH$
2-854	F	O	1	CH_3	CF_3	H	CH_3	$CH(CH_3)C\equiv CH$
2-855	F	O	1	CH_3	CF_3	H	CH_3	CH_2OCH_3
2-856	F	O	1	CH_3	CF_3	H	CH_3	$CH_2OC_2H_5$
2-857	H	S	0	CH_3	CF_3	H	—	H
2-858	H	S	0	CH_3	CF_3	H	—	CH_3

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-859	H	S	0	CH_3	CF_3	H	—	C_2H_5
2-860	H	S	0	CH_3	CF_3	H	—	$^nC_3H_7$
2-861	H	S	0	CH_3	CF_3	H	—	$^nC_4H_9$
2-862	H	S	0	CH_3	CF_3	H	—	$^iC_3H_7$
2-863	H	S	0	CH_3	CF_3	H	—	$^tC_4H_9$
2-864	H	S	0	CH_3	CF_3	H	—	CH_2CH_2Cl
2-865	H	S	0	CH_3	CF_3	H	—	CH_2CH_2Br
2-866	H	S	0	CH_3	CF_3	H	—	$CH_2CH=CH_2$
2-867	H	S	0	CH_3	CF_3	H	—	$CH(CH_3)CH=CH_2$
2-868	H	S	0	CH_3	CF_3	H	—	$CH_2CCl=CH_2$
2-869	H	S	0	CH_3	CF_3	H	—	$CH_2C\equiv CH$
2-870	H	S	0	CH_3	CF_3	H	—	$CH(CH_3)C\equiv CH$
2-871	H	S	0	CH_3	CF_3	H	—	CH_2CN
2-872	H	S	0	CH_3	CF_3	H	—	CH_2OCH_3
2-873	H	S	0	CH_3	CF_3	H	—	$CH_2OC_2H_5$
2-874	H	S	0	CH_3	CF_3	H	—	CH_2COOH
2-875	H	S	0	CH_3	CF_3	H	—	CH_2COOCH_3
2-876	H	S	0	CH_3	CF_3	H	—	$CH_2COOC_2H_5$
2-877	H	S	0	CH_3	CF_3	H	—	$CH_2COO^nC_3H_7$
2-878	H	S	0	CH_3	CF_3	H	—	$CH_2COO^nC_4H_9$
2-879	H	S	0	CH_3	CF_3	H	—	$CH_2COO^nC_6H_{11}$
2-880	H	S	0	CH_3	CF_3	H	—	$CH_2COO^iC_3H_7$
2-881	H	S	0	CH_3	CF_3	H	—	$CH_2COO^cC_5H_9$

TABLE 2 (contn'd)

Compound No.	X	Z^1	n	R^3	R^1	R^2	R^4	R^5
2-882	H	S	0	CH_3	CF_3	H	—	$CH_2COO^cC_6H_{11}$
2-883	H	S	0	CH_3	CF_3	H	—	$CH(CH_3)COOH$
2-884	H	S	0	CH_3	CF_3	H	—	$CH(CH_3)COOCH_3$
2-885	H	S	0	CH_3	CF_3	H	—	$CH(CH_3)COOC_2H_5$
2-886	H	S	0	CH_3	CF_3	H	—	$CH(CH_3)COO^nC_3H_7$
2-887	H	S	0	CH_3	CF_3	H	—	$CH(CH_3)COO^nC_4H_9$
2-888	H	S	0	CH_3	CF_3	H	—	$CH(CH_3)COO^nC_5H_{11}$
2-889	H	S	0	CH_3	CF_3	H	—	$CH(CH_3)COO^iC_3H_7$
2-890	H	S	0	CH_3	CF_3	H	—	$CH(CH_3)COO^cC_5H_9$
2-891	H	S	0	CH_3	CF_3	H	—	$CH(CH_3)COO^cC_6H_{11}$
2-892	F	S	0	CH_3	CF_3	H	—	H
2-893	F	S	0	CH_3	CF_3	H	—	CH_3
2-894	F	S	0	CH_3	CF_3	H	—	C_2H_5
2-895	F	S	0	CH_3	CF_3	H	—	$^nC_3H_7$
2-896	F	S	0	CH_3	CF_3	H	—	$^nC_4H_9$
2-897	F	S	0	CH_3	CF_3	H	—	$^iC_3H_7$
2-898	F	S	0	CH_3	CF_3	H	—	$^sC_4H_9$
2-899	F	S	0	CH_3	CF_3	H	—	CH_2CH_2Cl
2-900	F	S	0	CH_3	CF_3	H	—	CH_2CH_2Br
2-901	F	S	0	CH_3	CF_3	H	—	$CH_2CH=CH_2$
2-902	F	S	0	CH_3	CF_3	H	—	$CH(CH_3)CH=CH_2$
2-903	F	S	0	CH_3	CF_3	H	—	$CH_2CCl=CH_2$

TABLE 2 (contn'd)

Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-904	F	S	0	CH_3	CF_3	H	—	$CH_2C\equiv CH$
2-905	F	S	0	CH_3	CF_3	H	—	$CH(CH_3)C\equiv CH$
2-906	F	S	0	CH_3	CF_3	H	—	$CH_2.CN$
2-907	F	S	0	CH_3	CF_3	H	—	CH_2OCH_3
2-908	F	S	0	CH_3	CF_3	H	—	$CH_2OC_2H_5$
2-909	F	S	0	CH_3	CF_3	H	—	CH_2COOH
2-910	F	S	0	CH_3	CF_3	H	—	CH_2COOCH_3
2-911	F	S	0	CH_3	CF_3	H	—	$CH_2COOC_2H_5$
2-912	F	S	0	CH_3	CF_3	H	—	$CH_2COO^nC_3H_7$
2-913	F	S	0	CH_3	CF_3	H	—	$CH_2COO^nC_4H_9$
2-914	F	S	0	CH_3	CF_3	H	—	$CH_2COO^nC_5H_{11}$
2-915	F	S	0	CH_3	CF_3	H	—	$CH_2COO^iC_3H_7$
2-916	F	S	0	CH_3	CF_3	H	—	$CH_2COO^cC_5H_9$
2-917	F	S	0	CH_3	CF_3	H	—	$CH_2COO^cC_6H_{11}$
2-918	F	S	0	CH_3	CF_3	H	—	$CH(CH_3)COOH$
2-919	F	S	0	CH_3	CF_3	H	—	$CH(CH_3)COOCH_3$
2-920	F	S	0	CH_3	CF_3	H	—	$CH(CH_3)COOC_2H_5$
2-921	F	S	0	CH_3	CF_3	H	—	$CH(CH_3)COO^nC_3H_7$
2-922	F	S	0	CH_3	CF_3	H	—	$CH(CH_3)COO^nC_4H_9$
2-923	F	S	0	CH_3	CF_3	H	—	$CH(CH_3)COO^nC_5H_{11}$
2-924	F	S	0	CH_3	CF_3	H	—	$CH(CH_3)COO^iC_3H_7$
2-925	F	S	0	CH_3	CF_3	H	—	$CH(CH_3)COO^cC_6H_9$
2-926	F	S	0	CH_3	CF_3	H	—	$CH(CH_3)COO^cC_6H_{11}$

TABLE 2 (contn'd)

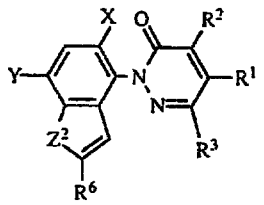
Compound No.	X	Z¹	n	R³	R¹	R²	R⁴	R⁵
2-927	H	O	0	CH_3	CF_3	H	—	H
2-928	H	O	0	CH_3	CF_3	H	—	CH_3
2-929	H	O	0	CH_3	CF_3	H	—	C_2H_5
2-930	H	O	0	CH_3	CF_3	H	—	$^nC_3H_7$
2-931	H	O	0	CH_3	CF_3	H	—	$^nC_4H_9$
2-932	H	O	0	CH_3	CF_3	H	—	$^iC_3H_7$
2-933	H	O	0	CH_3	CF_3	H	—	$^iC_4H_9$
2-934	H	O	0	CH_3	CF_3	H	—	$CH_2CH=CH_2$
2-935	H	O	0	CH_3	CF_3	H	—	$CH(CH_3)CH=CH_2$
2-936	H	O	0	CH_3	CF_3	H	—	$CH_2C\equiv CH$
2-937	H	O	0	CH_3	CF_3	H	—	$CH(CH_3)C\equiv CH$
2-938	H	O	0	CH_3	CF_3	H	—	CH_2OCH_3
2-939	H	O	0	CH_3	CF_3	H	—	$CH_2OC_2H_5$
2-940	F	O	0	CH_3	CF_3	H	—	H
2-941	F	O	0	CH_3	CF_3	H	—	CH_3
2-942	F	O	0	CH_3	CF_3	H	—	C_2H_5
2-943	F	O	0	CH_3	CF_3	H	—	$^nC_3H_7$
2-944	F	O	0	CH_3	CF_3	H	—	$^nC_4H_9$
2-945	F	O	0	CH_3	CF_3	H	—	$CH_2CH=CH_2$
2-946	F	O	0	CH_3	CF_3	H	—	$CH(CH_3)CH=CH_2$
2-947	F	O	0	CH_3	CF_3	H	—	$CH_2C\equiv CH$
2-948	F	O	0	CH_3	CF_3	H	—	$CH(CH_3)C\equiv CH$
2-949	F	O	0	CH_3	CF_3	H	—	CH_2OCH_3

TABLE 2 (contn'd)

Compound No.	X	Z^1	n	R^3	R^1	R^2	R^4	R^5
2-950	F	O	0	CH_3	CF_3	H	-	$CH_2OC_2H_5$

TABLE 3

Compounds of the formula:



Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3 − 1	H	F	O	H	CF_2Cl	H	CH_3
3 − 2	H	Cl	O	H	CF_2Cl	H	CH_3
3 − 3	H	Br	O	H	CF_2Cl	H	CH_3
3 − 4	F	F	O	H	CF_2Cl	H	CH_3
3 − 5	F	Cl	O	H	CF_2Cl	H	CH_3
3 − 6	F	Br	O	H	CF_2Cl	H	CH_3
3 − 7	H	F	O	H	CF_2Cl	CH_3	CH_3
3 − 8	H	Cl	O	H	CF_2Cl	CH_3	CH_3
3 − 9	H	Br	O	H	CF_2Cl	CH_3	CH_3
3 −10	F	F	O	H	CF_2Cl	CH_3	CH_3
3 −11	F	Cl	O	H	CF_2Cl	CH_3	CH_3
3 −12	F	Br	O	H	CF_2Cl	CH_3	CH_3
3 −13	H	F	O	H	CF_2Cl	H	C_2H_5
3 −14	H	Cl	O	H	CF_2Cl	H	C_2H_5

TABLE 3 (contn'd)

Compound No.	X	Y	Z²	R³	R¹	R²	R⁶
3-15	H	Br	O	H	CF_2Cl	H	C_2H_5
3-16	F	F	O	H	CF_2Cl	H	C_2H_5
3-17	F	Cl	O	H	CF_2Cl	H	C_2H_5
3-18	F	Br	O	H	CF_2Cl	H	C_2H_5
3-19	H	F	O	H	CF_2Cl	CH_3	C_2H_5
3-20	H	Cl	O	H	CF_2Cl	CH_3	C_2H_5
3-21	H	Br	O	H	CF_2Cl	CH_3	C_2H_5
3-22	F	F	O	H	CF_2Cl	CH_3	C_2H_5
3-23	F	Cl	O	H	CF_2Cl	CH_3	C_2H_5
3-24	F	Br	O	H	CF_2Cl	CH_3	C_2H_5
3-25	H	F	O	H	CF_2Cl	CH_3	CH_2Br
3-26	H	F	O	H	CF_2Cl	CH_3	$CHBr_2$
3-27	H	F	O	H	CF_2Cl	CH_3	CBr_3
3-28	H	F	O	H	CF_2Cl	CH_3	CHO
3-29	H	F	O	H	CF_2Cl	CH_3	CN
3-30	H	F	O	H	CF_2Cl	CH_3	COOH
3-31	H	F	O	H	CF_2Cl	CH_3	CH_2OH
3-32	H	F	O	H	CF_2Cl	CH_3	CH_2OCH_3
3-33	H	F	O	H	CF_2Cl	CH_3	$CH_2OC_2H_5$
3-34	H	F	O	H	CF_2Cl	CH_3	$CH_2O'C_3H_7$
3-35	H	F	O	H	CF_2Cl	CH_3	$CH_2OCH_2OCH_3$
3-36	H	F	O	H	CF_2Cl	CH_3	$CH_2OCH_2OC_2H_5$
3-37	H	F	O	H	CF_2Cl	CH_3	CH_2OCOCH_3

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^5
3-38	H	F	O	H	CF_2Cl	CH_3	$CH_2OCOC_2H_5$
3-39	H	F	O	H	CF_2Cl	CH_3	$CH_2OCO^iC_3H_7$
3-40	H	F	O	H	CF_2Cl	CH_3	CH_2OCOCH_2Cl
3-41	H	F	O	H	CF_2Cl	CH_3	$CH_2OCOCCl_3$
3-42	H	F	O	H	CF_2Cl	CH_3	CH_2OCOCF_3
3-43	H	F	O	H	CF_2Cl	CH_3	$COOCH_3$
3-44	H	F	O	H	CF_2Cl	CH_3	$COOC_2H_5$
3-45	H	F	O	H	CF_2Cl	CH_3	$COO^nC_3H_7$
3-46	H	F	O	H	CF_2Cl	CH_3	$COO^nC_4H_9$
3-47	H	F	O	H	CF_2Cl	CH_3	$COO^nC_5H_{11}$
3-48	H	F	O	H	CF_2Cl	CH_3	$COO^iC_3H_7$
3-49	H	F	O	H	CF_2Cl	CH_3	$COCH_3$
3-50	H	F	O	H	CF_2Cl	CH_3	COC_2H_5
3-51	H	Cl	O	H	CF_2Cl	CH_3	CH_2Br
3-52	H	Cl	O	H	CF_2Cl	CH_3	$CHBr_2$
3-53	H	Cl	O	H	CF_2Cl	CH_3	CBr_3
3-54	H	Cl	O	H	CF_2Cl	CH_3	CHO
3-55	H	Cl	O	H	CF_2Cl	CH_3	CN
3-56	H	Cl	O	H	CF_2Cl	CH_3	COOH
3-57	H	Cl	O	H	CF_2Cl	CH_3	CH_2OH
3-58	H	Cl	O	H	CF_2Cl	CH_3	CH_2OCH_3
3-59	H	Cl	O	H	CF_2Cl	CH_3	$CH_2OC_2H_5$
3-60	H	Cl	O	H	CF_2Cl	CH_3	$CH_2O^iC_3H_7$

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-61	H	Cl	O	H	CF_2Cl	CH_3	$CH_2OCH_2OCH_3$
3-62	H	Cl	O	H	CF_2Cl	CH_3	$CH_2OCH_2OC_2H_5$
3-63	H	Cl	O	H	CF_2Cl	CH_3	CH_2OCOCH_3
3-64	H	Cl	O	H	CF_2Cl	CH_3	$CH_2OCOC_2H_5$
3-65	H	Cl	O	H	CF_2Cl	CH_3	$CH_2OCO^iC_3H_7$
3-66	H	Cl	O	H	CF_2Cl	CH_3	CH_2OCOCH_2Cl
3-67	H	Cl	O	H	CF_2Cl	CH_3	$CH_2OCOCCl_3$
3-67	H	Cl	O	H	CF_2Cl	CH_3	CH_2OCOCF_3
3-69	H	Cl	O	H	CF_2Cl	CH_3	$COOCH_3$
3-70	H	Cl	O	H	CF_2Cl	CH_3	$COOC_2H_5$
3-71	H	Cl	O	H	CF_2Cl	CH_3	$COO^nC_3H_7$
3-72	H	Cl	O	H	CF_2Cl	CH_3	$COO^nC_4H_9$
3-73	H	Cl	O	H	CF_2Cl	CH_3	$COO^nC_5H_{11}$
3-74	H	Cl	O	H	CF_2Cl	CH_3	$COO^iC_3H_7$
3-75	H	Cl	O	H	CF_2Cl	CH_3	$COCH_3$
3-76	H	Cl	O	H	CF_2Cl	CH_3	COC_2H_5
3-77	F	F	O	H	CF_2Cl	CH_3	CH_2Br
3-78	F	F	O	H	CF_2Cl	CH_3	$CHBr_2$
3-79	F	F	O	H	CF_2Cl	CH_3	CBr_3
3-80	F	F	O	H	CF_2Cl	CH_3	CHO
3-81	F	F	O	H	CF_2Cl	CH_3	CN
3-82	F	F	O	H	CF_2Cl	CH_3	COOH
3-83	F	F	O	H	CF_2Cl	CH_3	CH_2OH

TABLE 3 (contn'd)

Compound No.	X	Y	Z²	R³	R¹	R²	R⁶
3-84	F	F	O	H	CF_2Cl	CH_3	CH_2OCH_3
3-85	F	F	O	H	CF_2Cl	CH_3	$CH_2OC_2H_5$
3-86	F	F	O	H	CF_2Cl	CH_3	$CH_2O^iC_3H_7$
3-87	F	F	O	H	CF_2Cl	CH_3	$CH_2OCH_2OCH_3$
3-88	F	F	O	H	CF_2Cl	CH_3	$CH_2OCH_2OC_2H_5$
3-89	F	F	O	H	CF_2Cl	CH_3	CH_2OCOCH_3
3-90	F	F	O	H	CF_2Cl	CH_3	$CH_2OCOC_2H_5$
3-91	F	F	O	H	CF_2Cl	CH_3	$CH_2OCO^iC_3H_7$
3-92	F	F	O	H	CF_2Cl	CH_3	CH_2OCOCH_2Cl
3-93	F	F	O	H	CF_2Cl	CH_3	$CH_2OCOCCl_3$
3-94	F	F	O	H	CF_2Cl	CH_3	CH_2OCOCF_3
3-95	F	F	O	H	CF_2Cl	CH_3	$COOCH_3$
3-96	F	F	O	H	CF_2Cl	CH_3	$COOC_2H_5$
3-97	F	F	O	H	CF_2Cl	CH_3	$COO^nC_3H_7$
3-98	F	F	O	H	CF_2Cl	CH_3	$COO^nC_4H_9$
3-99	F	F	O	H	CF_2Cl	CH_3	$COO^nC_5H_{11}$
3-100	F	F	O	H	CF_2Cl	CH_3	$COO^iC_3H_7$
3-101	F	F	O	H	CF_2Cl	CH_3	$COCH_3$
3-102	F	F	O	H	CF_2Cl	CH_3	COC_2H_5
3-103	F	Cl	O	H	CF_2Cl	CH_3	CH_2Br
3-104	F	Cl	O	H	CF_2Cl	CH_3	$CHBr_2$
3-105	F	Cl	O	H	CF_2Cl	CH_3	CBr_3

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-106	F	Cl	O	H	CF_2Cl	CH_3	CHO
3-107	F	Cl	O	H	CF_2Cl	CH_3	CN
3-108	F	Cl	O	H	CF_2Cl	CH_3	COOH
3-109	F	Cl	O	H	CF_2Cl	CH_3	CH_2OH
3-110	F	Cl	O	H	CF_2Cl	CH_3	CH_2OCH_3
3-111	F	Cl	O	H	CF_2Cl	CH_3	$CH_2OC_2H_5$
3-112	F	Cl	O	H	CF_2Cl	CH_3	$CH_2O'C_3H_7$
3-113	F	Cl	O	H	CF_2Cl	CH_3	$CH_2OCH_2OCH_3$
3-114	F	Cl	O	H	CF_2Cl	CH_3	$CH_2OCH_2OC_2H_5$
3-115	F	Cl	O	H	CF_2Cl	CH_3	CH_2OCOCH_3
3-116	F	Cl	O	H	CF_2Cl	CH_3	$CH_2OCOC_2H_5$
3-117	F	Cl	O	H	CF_2Cl	CH_3	$CH_2OCO'C_3H_7$
3-118	F	Cl	O	H	CF_2Cl	CH_3	CH_2OCOCH_2Cl
3-119	F	Cl	O	H	CF_2Cl	CH_3	$CH_2OCOCCl_3$
3-120	F	Cl	O	H	CF_2Cl	CH_3	CH_2OCOCF_3
3-121	F	Cl	O	H	CF_2Cl	CH_3	$COOCH_3$
3-122	F	Cl	O	H	CF_2Cl	CH_3	$COOC_2H_5$
3-123	F	Cl	O	H	CF_2Cl	CH_3	$COO^nC_3H_7$
3-124	F	Cl	O	H	CF_2Cl	CH_3	$COO^nC_4H_9$
3-125	F	Cl	O	H	CF_2Cl	CH_3	$COO^nC_5H_{11}$
3-126	F	Cl	O	H	CF_2Cl	CH_3	$COO'C_3H_7$
3-127	F	Cl	O	H	CF_2Cl	CH_3	$COCH_3$
3-128	F	Cl	O	H	CF_2Cl	CH_3	COC_2H_5

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^5
3-129	H	F	O	H	CF_3	H	CH_3
3-130	H	Cl	O	H	CF_3	H	CH_3
3-131	H	Br	O	H	CF_3	H	CH_3
3-132	F	F	O	H	CF_3	H	CH_3
3-133	F	Cl	O	H	CF_3	H	CH_3
3-134	F	Br	O	H	CF_3	H	CH_3
3-135	H	F	O	H	CF_3	CH_3	CH_3
3-136	H	Cl	O	H	CF_3	CH_3	CH_3
3-137	H	Br	O	H	CF_3	CH_3	CH_3
3-138	F	F	O	H	CF_3	CH_3	CH_3
3-139	F	Cl	O	H	CF_3	CH_3	CH_3
3-140	F	Br	O	H	CF_3	CH_3	CH_3
3-141	H	F	O	H	CF_3	H	C_2H_5
3-142	H	Cl	O	H	CF_3	H	C_2H_5
3-143	H	Br	O	H	CF_3	H	C_2H_5
3-144	F	F	O	H	CF_3	H	C_2H_5
3-145	F	Cl	O	H	CF_3	H	C_2H_5
3-146	F	Br	O	H	CF_3	H	C_2H_5
3-147	H	F	O	H	CF_3	CH_3	C_2H_5
3-148	H	Cl	O	H	CF_3	CH_3	C_2H_5
3-149	H	Br	O	H	CF_3	CH_3	C_2H_5
3-150	F	F	O	H	CF_3	CH_3	C_2H_5
3-151	F	Cl	O	H	CF_3	CH_3	C_2H_5

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^5
3-152	F	Br	O	H	CF_3	CH_3	C_2H_5
3-153	H	F	O	H	CF_3	CH_3	CH_2Br
3-154	H	F	O	H	CF_3	CH_3	$CHBr_2$
3-155	H	F	O	H	CF_3	CH_3	CBr_3
3-156	H	F	O	H	CF_3	CH_3	CHO
3-157	H	F	O	H	CF_3	CH_3	CN
3-158	H	F	O	H	CF_3	CH_3	COOH
3-159	H	F	O	H	CF_3	CH_3	CH_2OH
3-160	H	F	O	H	CF_3	CH_3	CH_2OCH_3
3-161	H	F	O	H	CF_3	CH_3	$CH_2OC_2H_5$
3-162	H	F	O	H	CF_3	CH_3	$CH_2O^iC_3H_7$
3-163	H	F	O	H	CF_3	CH_3	$CH_2OCH_2OCH_3$
3-164	H	F	O	H	CF_3	CH_3	$CH_2OCH_2OC_2H_5$
3-165	H	F	O	H	CF_3	CH_3	CH_2OCOCH_3
3-166	H	F	O	H	CF_3	CH_3	$CH_2OCOC_2H_5$
3-167	H	F	O	H	CF_3	CH_3	$CH_2OCO^iC_3H_7$
3-168	H	F	O	H	CF_3	CH_3	CH_2OCOCH_2Cl
3-169	H	F	O	H	CF_3	CH_3	$CH_2OCOCCl_3$
3-170	H	F	O	H	CF_3	CH_3	CH_2OCOCF_3
3-171	H	F	O	H	CF_3	CH_3	$COOCH_3$
3-172	H	F	O	H	CF_3	CH_3	$COOC_2H_5$
3-173	H	F	O	H	CF_3	CH_3	$COO^nC_3H_7$
3-174	H	F	O	H	CF_3	CH_3	$COO^nC_4H_9$

TABLE 3 (contn'd)

Compound No.	X	Y	Z²	R³	R¹	R²	R⁶
3-175	H	F	O	H	CF_3	CH_3	$COO^nC_5H_{11}$
3-176	H	F	O	H	CF_3	CH_3	$COO^iC_3H_7$
3-177	H	F	O	H	CF_3	CH_3	$COCH_3$
3-178	H	F	O	H	CF_3	CH_3	COC_2H_5
3-179	H	Cl	O	H	CF_3	CH_3	CH_2Br
3-180	H	Cl	O	H	CF_3	CH_3	$CHBr_2$
3-181	H	Cl	O	H	CF_3	CH_3	CBr_3
3-182	H	Cl	O	H	CF_3	CH_3	CHO
3-183	H	Cl	O	H	CF_3	CH_3	CN
3-184	H	Cl	O	H	CF_3	CH_3	COOH
3-185	H	Cl	O	H	CF_3	CH_3	CH_2OH
3-186	H	Cl	O	H	CF_3	CH_3	CH_2OCH_3
3-187	H	Cl	O	H	CF_3	CH_3	$CH_2OC_2H_5$
3-188	H	Cl	O	H	CF_3	CH_3	$CH_2O^iC_3H_7$
3-189	H	Cl	O	H	CF_3	CH_3	$CH_2OCH_2OCH_3$
3-190	H	Cl	O	H	CF_3	CH_3	$CH_2OCH_2OC_2H_5$
3-191	H	Cl	O	H	CF_3	CH_3	CH_2OCOCH_3
3-192	H	Cl	O	H	CF_3	CH_3	$CH_2OCOC_2H_5$
3-193	H	Cl	O	H	CF_3	CH_3	$CH_2OCO^iC_3H_7$
3-194	H	Cl	O	H	CF_3	CH_3	CH_2OCOCH_2Cl
3-195	H	Cl	O	H	CF_3	CH_3	$CH_2OCOCCl_3$
3-196	H	Cl	O	H	CF_3	CH_3	CH_2OCOCF_3
3-197	H	Cl	O	H	CF_3	CH_3	$COOCH_3$

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-198	H	Cl	O	H	CF_3	CH_3	$COOC_2H_5$
3-199	H	Cl	O	H	CF_3	CH_3	$COO^nC_3H_7$
3-200	H	Cl	O	H	CF_3	CH_3	$COO^nC_4H_9$
3-201	H	Cl	O	H	CF_3	CH_3	$COO^nC_5H_{11}$
3-202	H	Cl	O	H	CF_3	CH_3	$COO^iC_3H_7$
3-203	H	Cl	O	H	CF_3	CH_3	$COCH_3$
3-204	H	Cl	O	H	CF_3	CH_3	COC_2H_5
3-205	F	F	O	H	CF_3	CH_3	CH_2Br
3-206	F	F	O	H	CF_3	CH_3	$CHBr_2$
3-207	F	F	O	H	CF_3	CH_3	CBr_3
3-208	F	F	O	H	CF_3	CH_3	CHO
3-209	F	F	O	H	CF_3	CH_3	CN
3-210	F	F	O	H	CF_3	CH_3	COOH
3-211	F	F	O	H	CF_3	CH_3	CH_2OH
3-212	F	F	O	H	CF_3	CH_3	CH_2OCH_3
3-213	F	F	O	H	CF_3	CH_3	$CH_2OC_2H_5$
3-214	F	F	O	H	CF_3	CH_3	$CH_2O^iC_3H_7$
3-215	F	F	O	H	CF_3	CH_3	$CH_2OCH_2OCH_3$
3-216	F	F	O	H	CF_3	CH_3	$CH_2OCH_2OC_2H_5$
3-217	F	F	O	H	CF_3	CH_3	CH_2OCOCH_3
3-218	F	F	O	H	CF_3	CH_3	$CH_2OCOC_2H_5$
3-219	F	F	O	H	CF_3	CH_3	$CH_2OCO^iC_3H_7$

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-220	F	F	O	H	CF_3	CH_3	CH_2OCOCH_2Cl
3-221	F	F	O	H	CF_3	CH_3	$CH_2OCOCCl_3$
3-222	F	F	O	H	CF_3	CH_3	CH_2OCOCF_3
3-223	F	F	O	H	CF_3	CH_3	$COOCH_3$
3-224	F	F	O	H	CF_3	CH_3	$COOC_2H_5$
3-225	F	F	O	H	CF_3	CH_3	$COO^nC_3H_7$
3-226	F	F	O	H	CF_3	CH_3	$COO^nC_4H_9$
3-227	F	F	O	H	CF_3	CH_3	$COO^nC_5H_{11}$
3-228	F	F	O	H	CF_3	CH_3	$COO^iC_3H_7$
3-229	F	F	O	H	CF_3	CH_3	$COCH_3$
3-230	F	F	O	H	CF_3	CH_3	COC_2H_5
3-231	F	Cl	O	H	CF_3	CH_3	CH_2Br
3-232	F	Cl	O	H	CF_3	CH_3	$CHBr_2$
3-233	F	Cl	O	H	CF_3	CH_3	CBr_3
3-234	F	Cl	O	H	CF_3	CH_3	CHO
3-235	F	Cl	O	H	CF_3	CH_3	CN
3-236	F	Cl	O	H	CF_3	CH_3	COOH
3-237	F	Cl	O	H	CF_3	CH_3	CH_2OH
3-238	F	Cl	O	H	CF_3	CH_3	CH_2OCH_3
3-239	F	Cl	O	H	CF_3	CH_3	$CH_2OC_2H_5$
3-240	F	Cl	O	H	CF_3	CH_3	$CH_2O^iC_3H_7$
3-241	F	Cl	O	H	CF_3	CH_3	$CH_2OCH_2OCH_3$
3-242	F	Cl	O	H	CF_3	CH_3	$CH_2OCH_2OC_2H_5$

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-243	F	Cl	O	H	CF_3	CH_3	CH_2OCOCH_3
3-244	F	Cl	O	H	CF_3	CH_3	$CH_2OCOC_2H_5$
3-245	F	Cl	O	H	CF_3	CH_3	$CH_2OCO^iC_3H_7$
3-246	F	Cl	O	H	CF_3	CH_3	CH_2OCOCH_2Cl
3-247	F	Cl	O	H	CF_3	CH_3	$CH_2OCOCCl_3$
3-248	F	Cl	O	H	CF_3	CH_3	CH_2OCOCF_3
3-249	F	Cl	O	H	CF_3	CH_3	$COOCH_3$
3-250	F	Cl	O	H	CF_3	CH_3	$COOC_2H_5$
3-251	F	Cl	O	H	CF_3	CH_3	$COO^nC_3H_7$
3-252	F	Cl	O	H	CF_3	CH_3	$COO^nC_4H_9$
3-253	F	Cl	O	H	CF_3	CH_3	$COO^nC_5H_{11}$
3-254	F	Cl	O	H	CF_3	CH_3	$COO^iC_3H_7$
3-255	F	Cl	O	H	CF_3	CH_3	$COCH_3$
3-256	F	Cl	O	H	CF_3	CH_3	COC_2H_5
3-257	H	F	O	H	CF_2Cl	H	CH_2Br
3-258	H	F	O	H	CF_2Cl	H	$CHBr_2$
3-259	H	F	O	H	CF_2Cl	H	CBr_3
3-260	H	F	O	H	CF_2Cl	H	CHO
3-261	H	F	O	H	CF_2Cl	H	CN
3-262	H	F	O	H	CF_2Cl	H	COOH
3-263	H	F	O	H	CF_2Cl	H	CH_2OH
3-264	H	F	O	H	CF_2Cl	H	CH_2OCH_3
3-265	H	F	O	H	CF_2Cl	H	$CH_2OC_2H_5$

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-266	H	F	O	H	CF_2Cl	H	$CH_2O^iC_3H_7$
3-267	H	F	O	H	CF_2Cl	H	$CH_2OCH_2OCH_3$
3-268	H	F	O	H	CF_2Cl	H	$CH_2OCH_2OC_2H_5$
3-269	H	F	O	H	CF_2Cl	H	CH_2OCOCH_3
3-270	H	F	O	H	CF_2Cl	H	$CH_2OCOC_2H_5$
3-271	H	F	O	H	CF_2Cl	H	$CH_2OCO^iC_3H_7$
3-272	H	F	O	H	CF_2Cl	H	CH_2OCOCH_2Cl
3-273	H	F	O	H	CF_2Cl	H	$CH_2OCOCCl_3$
3-274	H	F	O	H	CF_2Cl	H	CH_2OCOCF_3
3-275	H	F	O	H	CF_2Cl	H	$COOCH_3$
3-276	H	F	O	H	CF_2Cl	H	$COOC_2H_5$
3-277	H	F	O	H	CF_2Cl	H	$COO^nC_3H_7$
3-278	H	F	O	H	CF_2Cl	H	$COO^nC_4H_9$
3-279	H	F	O	H	CF_2Cl	H	$COO^nC_5H_{11}$
3-280	H	F	O	H	CF_2Cl	H	$COO^iC_3H_7$
3-281	H	F	O	H	CF_2Cl	H	$COCH_3$
3-282	H	F	O	H	CF_2Cl	H	COC_2H_5
3-283	H	Cl	O	H	CF_2Cl	H	CH_2Br
3-284	H	Cl	O	H	CF_2Cl	H	$CHBr_2$
3-285	H	Cl	O	H	CF_2Cl	H	CBr_3
3-286	H	Cl	O	H	CF_2Cl	H	CHO
3-287	H	Cl	O	H	CF_2Cl	H	CN
3-288	H	Cl	O	H	CF_2Cl	H	COOH

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^5
3-289	H	Cl	O	H	CF_2Cl	H	CH_2OH
3-290	H	Cl	O	H	CF_2Cl	H	CH_2OCH_3
3-291	H	Cl	O	H	CF_2Cl	H	$CH_2OC_2H_5$
3-292	H	Cl	O	H	CF_2Cl	H	$CH_2O\,{}^iC_3H_7$
3-293	H	Cl	O	H	CF_2Cl	H	$CH_2OCH_2OCH_3$
3-294	H	Cl	O	H	CF_2Cl	H	$CH_2OCH_2OC_2H_5$
3-295	H	Cl	O	H	CF_2Cl	H	CH_2OCOCH_3
3-296	H	Cl	O	H	CF_2Cl	H	$CH_2OCOC_2H_5$
3-297	H	Cl	O	H	CF_2Cl	H	$CH_2OCO\,{}^iC_3H_7$
3-298	H	Cl	O	H	CF_2Cl	H	CH_2OCOCH_2Cl
3-299	H	Cl	O	H	CF_2Cl	H	$CH_2OCOCCl_3$
3-300	H	Cl	O	H	CF_2Cl	H	CH_2OCOCF_3
3-301	H	Cl	O	H	CF_2Cl	H	$COOCH_3$
3-302	H	Cl	O	H	CF_2Cl	H	$COOC_2H_5$
3-303	H	Cl	O	H	CF_2Cl	H	$COO\,{}^nC_3H_7$
3-304	H	Cl	O	H	CF_2Cl	H	$COO\,{}^nC_4H_9$
3-305	H	Cl	O	H	CF_2Cl	H	$COO\,{}^nC_5H_{11}$
3-306	H	Cl	O	H	CF_2Cl	H	$COO\,{}^iC_3H_7$
3-307	H	Cl	O	H	CF_2Cl	H	$COCH_3$
3-308	H	Cl	O	H	CF_2Cl	H	COC_2H_5
3-309	F	F	O	H	CF_2Cl	H	CH_2Br
3-310	F	F	O	H	CF_2Cl	H	$CHBr_2$
3-311	F	F	O	H	CF_2Cl	H	CBr_3

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-312	F	F	O	H	CF_2Cl	H	CHO
3-313	F	F	O	H	CF_2Cl	H	CN
3-314	F	F	O	H	CF_2Cl	H	COOH
3-315	F	F	O	H	CF_2Cl	H	CH_2OH
3-316	F	F	O	H	CF_2Cl	H	CH_2OCH_3
3-317	F	F	O	H	CF_2Cl	H	$CH_2OC_2H_5$
3-318	F	F	O	H	CF_2Cl	H	$CH_2O^iC_3H_7$
3-319	F	F	O	H	CF_2Cl	H	$CH_2OCH_2OCH_3$
3-320	F	F	O	H	CF_2Cl	H	$CH_2OCH_2OC_2H_5$
3-321	F	F	O	H	CF_2Cl	H	CH_2OCOCH_3
3-322	F	F	O	H	CF_2Cl	H	$CH_2OCOC_2H_5$
3-323	F	F	O	H	CF_2Cl	H	$CH_2OCO^iC_3H_7$
3-324	F	F	O	H	CF_2Cl	H	CH_2OCOCH_2Cl
3-325	F	F	O	H	CF_2Cl	H	$CH_2OCOCCl_3$
3-326	F	F	O	H	CF_2Cl	H	CH_2OCOCF_3
3-327	F	F	O	H	CF_2Cl	H	$COOCH_3$
3-328	F	F	O	H	CF_2Cl	H	$COOC_2H_5$
3-329	F	F	O	H	CF_2Cl	H	$COO^nC_3H_7$
3-330	F	F	O	H	CF_2Cl	H	$COO^nC_4H_9$
3-331	F	F	O	H	CF_2Cl	H	$COO^nC_5H_{11}$
3-332	F	F	O	H	CF_2Cl	H	$COO^iC_3H_7$
3-333	F	F	O	H	CF_2Cl	H	$COCH_3$

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-334	F	F	O	H	CF_2Cl	H	COC_2H_5
3-335	F	Cl	O	H	CF_2Cl	H	CH_2Br
3-336	F	Cl	O	H	CF_2Cl	H	$CHBr_2$
3-337	F	Cl	O	H	CF_2Cl	H	CBr_3
3-338	F	Cl	O	H	CF_2Cl	H	CHO
3-339	F	Cl	O	H	CF_2Cl	H	CN
3-340	F	Cl	O	H	CF_2Cl	H	COOH
3-341	F	Cl	O	H	CF_2Cl	H	CH_2OH
3-342	F	Cl	O	H	CF_2Cl	H	CH_2OCH_3
3-343	F	Cl	O	H	CF_2Cl	H	$CH_2OC_2H_5$
3-344	F	Cl	O	H	CF_2Cl	H	$CH_2O'C_3H_7$
3-345	F	Cl	O	H	CF_2Cl	H	$CH_2OCH_2OCH_3$
3-346	F	Cl	O	H	CF_2Cl	H	$CH_2OCH_2OC_2H_5$
3-347	F	Cl	O	H	CF_2Cl	H	CH_2OCOCH_3
3-348	F	Cl	O	H	CF_2Cl	H	$CH_2OCOC_2H_5$
3-349	F	Cl	O	H	CF_2Cl	H	$CH_2OCO'C_3H_7$
3-350	F	Cl	O	H	CF_2Cl	H	CH_2OCOCH_2Cl
3-351	F	Cl	O	H	CF_2Cl	H	$CH_2OCOCCl_3$
3-352	F	Cl	O	H	CF_2Cl	H	CH_2OCOCF_3
3-353	F	Cl	O	H	CF_2Cl	H	$COOCH_3$
3-354	F	Cl	O	H	CF_2Cl	H	$COOC_2H_5$
3-355	F	Cl	O	H	CF_2Cl	H	$COO^nC_3H_7$
3-356	F	Cl	O	H	CF_2Cl	H	$COO^nC_4H_9$

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-357	F	Cl	O	H	CF_2Cl	H	$COO^nC_5H_{11}$
3-358	F	Cl	O	H	CF_2Cl	H	$COO^iC_3H_7$
3-359	F	Cl	O	H	CF_2Cl	H	$COCH_3$
3-360	F	Cl	O	H	CF_2Cl	H	COC_2H_5
3-361	F	Br	O	H	CF_3	H	C_2H_5
3-362	H	F	O	H	CF_3	H	CH_2Br
3-363	H	F	O	H	CF_3	H	$CHBr_2$
3-364	H	F	O	H	CF_3	H	CBr_3
3-365	H	F	O	H	CF_3	H	CHO
3-366	H	F	O	H	CF_3	H	CN
3-367	H	F	O	H	CF_3	H	COOH
3-368	H	F	O	H	CF_3	H	CH_2OH
3-369	H	F	O	H	CF_3	H	CH_2OCH_3
3-370	H	F	O	H	CF_3	H	$CH_2OC_2H_5$
3-371	H	F	O	H	CF_3	H	$CH_2O^iC_3H_7$
3-372	H	F	O	H	CF_3	H	$CH_2OCH_2OCH_3$
3-373	H	F	O	H	CF_3	H	$CH_2OCH_2OC_2H_5$
3-374	H	F	O	H	CF_3	H	CH_2OCOCH_3
3-375	H	F	O	H	CF_3	H	$CH_2OCOC_2H_5$
3-376	H	F	O	H	CF_3	H	$CH_2OCO^iC_3H_7$
3-377	H	F	O	H	CF_3	H	CH_2OCOCH_2Cl
3-378	H	F	O	H	CF_3	H	$CH_2OCOCCl_3$
3-379	H	F	O	H	CF_3	H	CH_2OCOCF_3

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-380	H	F	O	H	CF_3	H	$COOCH_3$
3-381	H	F	O	H	CF_3	H	$COOC_2H_5$
3-382	H	F	O	H	CF_3	H	COO n C_3H_7
3-383	H	F	O	H	CF_3	H	COO n C_4H_9
3-384	H	F	O	H	CF_3	H	COO n C_5H_{11}
3-385	H	F	O	H	CF_3	H	COO i C_3H_7
3-386	H	F	O	H	CF_3	H	$COCH_3$
3-387	H	F	O	H	CF_3	H	COC_2H_5
3-388	H	Cl	O	H	CF_3	H	CH_2Br
3-389	H	Cl	O	H	CF_3	H	$CHBr_2$
3-390	H	Cl	O	H	CF_3	H	CBr_3
3-391	H	Cl	O	H	CF_3	H	CHO
3-392	H	Cl	O	H	CF_3	H	CN
3-393	H	Cl	O	H	CF_3	H	COOH
3-394	H	Cl	O	H	CF_3	H	CH_2OH
3-395	H	Cl	O	H	CF_3	H	CH_2OCH_3
3-396	H	Cl	O	H	CF_3	H	$CH_2OC_2H_5$
3-397	H	Cl	O	H	CF_3	H	CH_2O i C_3H_7
3-398	H	Cl	O	H	CF_3	H	$CH_2OCH_2OCH_3$
3-399	H	Cl	O	H	CF_3	H	$CH_2OCH_2OC_2H_5$
3-400	H	Cl	O	H	CF_3	H	CH_2OCOCH_3
3-401	H	Cl	O	H	CF_3	H	$CH_2OCOC_2H_5$
3-402	H	Cl	O	H	CF_3	H	CH_2OCO i C_3H_7

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-403	H	Cl	O	H	CF_3	H	CH_2OCOCH_2Cl
3-404	H	Cl	O	H	CF_3	H	$CH_2OCOCCl_3$
3-405	H	Cl	O	H	CF_3	H	CH_2OCOCF_3
3-406	H	Cl	O	H	CF_3	H	$COOCH_3$
3-407	H	Cl	O	H	CF_3	H	$COOC_2H_5$
3-408	H	Cl	O	H	CF_3	H	$COO^nC_3H_7$
3-409	H	Cl	O	H	CF_3	H	$COO^nC_4H_9$
3-410	H	Cl	O	H	CF_3	H	$COO^nC_5H_{11}$
3-411	H	Cl	O	H	CF_3	H	$COO^iC_3H_7$
3-412	H	Cl	O	H	CF_3	H	$COCH_3$
3-413	H	Cl	O	H	CF_3	H	COC_2H_5
3-414	F	F	O	H	CF_3	H	CH_2Br
3-415	F	F	O	H	CF_3	H	$CHBr_2$
3-416	F	F	O	H	CF_3	H	CBr_3
3-417	F	F	O	H	CF_3	H	CHO
3-418	F	F	O	H	CF_3	H	CN
3-419	F	F	O	H	CF_3	H	COOH
3-420	F	F	O	H	CF_3	H	CH_2OH
3-421	F	F	O	H	CF_3	H	CH_2OCH_3
3-422	F	F	O	H	CF_3	H	$CH_2OC_2H_5$
3-423	F	F	O	H	CF_3	H	$CH_2O^iC_3H_7$
3-424	F	F	O	H	CF_3	H	$CH_2OCH_2OCH_3$
3-425	F	F	O	H	CF_3	H	$CH_2OCH_2OC_2H_5$

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-426	F	F	O	H	CF_3	H	CH_2OCOCH_3
3-427	F	F	O	H	CF_3	H	$CH_2OCOC_2H_5$
3-428	F	F	O	H	CF_3	H	$CH_2OCO\text{-}C_3H_7$
3-429	F	F	O	H	CF_3	H	CH_2OCOCH_2Cl
3-430	F	F	O	H	CF_3	H	$CH_2OCOCCl_3$
3-431	F	F	O	H	CF_3	H	CH_2OCOCF_3
3-432	F	F	O	H	CF_3	H	$COOCH_3$
3-433	F	F	O	H	CF_3	H	$COOC_2H_5$
3-434	F	F	O	H	CF_3	H	$COO\text{-}nC_3H_7$
3-435	F	F	O	H	CF_3	H	$COO\text{-}nC_4H_9$
3-436	F	F	O	H	CF_3	H	$COO\text{-}nC_5H_{11}$
3-437	F	F	O	H	CF_3	H	$COO\text{-}iC_3H_7$
3-438	F	F	O	H	CF_3	H	$COCH_3$
3-439	F	F	O	H	CF_3	H	COC_2H_5
3-440	F	Cl	O	H	CF_3	H	CH_2Br
3-441	F	Cl	O	H	CF_3	H	$CHBr_2$
3-442	F	Cl	O	H	CF_3	H	CBr_3
3-443	F	Cl	O	H	CF_3	H	CHO
3-444	F	Cl	O	H	CF_3	H	CN
3-445	F	Cl	O	H	CF_3	H	COOH
3-446	F	Cl	O	H	CF_3	H	CH_2OH

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^5
3-447	F	Cl	O	H	CF_3	H	CH_2OCH_3
3-448	F	Cl	O	H	CF_3	H	$CH_2OC_2H_5$
3-449	F	Cl	O	H	CF_3	H	$CH_2O^iC_3H_7$
3-450	F	Cl	O	H	CF_3	H	$CH_2OCH_2OCH_3$
3-451	F	Cl	O	H	CF_3	H	$CH_2OCH_2OC_2H_5$
3-452	F	Cl	O	H	CF_3	H	CH_2OCOCH_3
3-453	F	Cl	O	H	CF_3	H	$CH_2OCOC_2H_5$
3-454	F	Cl	O	H	CF_3	H	$CH_2OCO^iC_3H_7$
3-455	F	Cl	O	H	CF_3	H	CH_2OCOCH_2Cl
3-456	F	Cl	O	H	CF_3	H	$CH_2OCOCCl_3$
3-457	F	Cl	O	H	CF_3	H	CH_2OCOCF_3
3-458	F	Cl	O	H	CF_3	H	$COOCH_3$
3-459	F	Cl	O	H	CF_3	H	$COOC_2H_5$
3-460	F	Cl	O	H	CF_3	H	$COO^nC_3H_7$
3-461	F	Cl	O	H	CF_3	H	$COO^nC_4H_9$
3-462	F	Cl	O	H	CF_3	H	$COO^nC_5H_{11}$
3-463	F	Cl	O	H	CF_3	H	$COO^iC_3H_7$
3-464	F	Cl	O	H	CF_3	H	$COCH_3$
3-465	F	Cl	O	H	CF_3	H	COC_2H_5
3-466	H	F	O	CH_3	CF_3	H	CH_3
3-467	H	Cl	O	CH_3	CF_3	H	CH_3
3-468	H	Br	O	CH_3	CF_3	H	CH_3
3-469	F	F	O	CH_3	CF_3	H	CH_3

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-470	F	Cl	O	CH_3	CF_3	H	CH_3
3-471	F	Br	O	CH_3	CF_3	H	CH_3
3-472	H	F	O	CH_3	CF_3	H	C_2H_5
3-473	H	Cl	O	CH_3	CF_3	H	C_2H_5
3-474	H	Br	O	CH_3	CF_3	H	C_2H_5
3-475	F	F	O	CH_3	CF_3	H	C_2H_5
3-476	F	Cl	O	CH_3	CF_3	H	C_2H_5
3-477	F	Br	O	CH_3	CF_3	H	C_2H_5
3-478	F	Br	O	CH_3	CF_3	H	C_2H_5
3-479	H	F	O	CH_3	CF_3	H	CH_2Br
3-480	H	F	O	CH_3	CF_3	H	$CHBr_2$
3-481	H	F	O	CH_3	CF_3	H	CBr_3
3-482	H	F	O	CH_3	CF_3	H	CHO
3-483	H	F	O	CH_3	CF_3	H	CN
3-484	H	F	O	CH_3	CF_3	H	COOH
3-485	H	F	O	CH_3	CF_3	H	CH_2OH
3-486	H	F	O	CH_3	CF_3	H	CH_2OCH_3
3-487	H	F	O	CH_3	CF_3	H	$CH_2OC_2H_5$
3-488	H	F	O	CH_3	CF_3	H	$CH_2O^iC_3H_7$
3-489	H	F	O	CH_3	CF_3	H	$CH_2OCH_2OCH_3$
3-490	H	F	O	CH_3	CF_3	H	$CH_2OCH_2OC_2H_5$
3-491	H	F	O	CH_3	CF_3	H	CH_2OCOCH_3
3-492	H	F	O	CH_3	CF_3	H	$CH_2OCOC_2H_5$

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-493	H	F	O	CH_3	CF_3	H	$CH_2OCO'C_3H_7$
3-494	H	F	O	CH_3	CF_3	H	CH_2OCOCH_2Cl
3-495	H	F	O	CH_3	CF_3	H	$CH_2OCOCCl_3$
3-496	H	F	O	CH_3	CF_3	H	CH_2OCOCF_3
3-497	H	F	O	CH_3	CF_3	H	$COOCH_3$
3-498	H	F	O	CH_3	CF_3	H	$COOC_2H_5$
3-499	H	F	O	CH_3	CF_3	H	$COO"C_3H_7$
3-500	H	F	O	CH_3	CF_3	H	$COO"C_4H_9$
3-501	H	F	O	CH_3	CF_3	H	$COO"C_5H_{11}$
3-502	H	F	O	CH_3	CF_3	H	$COO'C_3H_7$
3-503	H	F	O	CH_3	CF_3	H	$COCH_3$
3-504	H	F	O	CH_3	CF_3	H	COC_2H_5
3-505	H	Cl	O	CH_3	CF_3	H	CH_2Br
3-506	H	Cl	O	CH_3	CF_3	H	$CHBr_2$
3-507	H	Cl	O	CH_3	CF_3	H	CBr_3
3-508	H	Cl	O	CH_3	CF_3	H	CHO
3-509	H	Cl	O	CH_3	CF_3	H	CN
3-510	H	Cl	O	CH_3	CF_3	H	COOH
3-511	H	Cl	O	CH_3	CF_3	H	CH_2OH
3-512	H	Cl	O	CH_3	CF_3	H	CH_2OCH_3
3-513	H	Cl	O	CH_3	CF_3	H	$CH_2OC_2H_5$
3-514	H	Cl	O	CH_3	CF_3	H	$CH_2O'C_3H_7$
3-515	H	Cl	O	CH_3	CF_3	H	$CH_2OCH_2OCH_3$

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-516	H	Cl	O	CH_3	CF_3	H	$CH_2OCH_2OC_2H_5$
3-517	H	Cl	O	CH_3	CF_3	H	CH_2OCOCH_3
3-518	H	Cl	O	CH_3	CF_3	H	$CH_2OCOC_2H_5$
3-519	H	Cl	O	CH_3	CF_3	H	$CH_2OCO\ C_3H_7$
3-520	H	Cl	O	CH_3	CF_3	H	CH_2OCOCH_2Cl
3-521	H	Cl	O	CH_3	CF_3	H	$CH_2OCOCCl_3$
3-522	H	Cl	O	CH_3	CF_3	H	CH_2OCOCF_3
3-523	H	Cl	O	CH_3	CF_3	H	$COOCH_3$
3-524	H	Cl	O	CH_3	CF_3	H	$COOC_2H_5$
3-525	H	Cl	O	CH_3	CF_3	H	$COO\ ^nC_3H_7$
3-526	H	Cl	O	CH_3	CF_3	H	$COO\ ^nC_4H_9$
3-527	H	Cl	O	CH_3	CF_3	H	$COO\ ^nC_5H_{11}$
3-528	H	Cl	O	CH_3	CF_3	H	$COO\ ^iC_3H_7$
3-529	H	Cl	O	CH_3	CF_3	H	$COCH_3$
3-530	H	Cl	O	CH_3	CF_3	H	COC_2H_5
3-531	F	F	O	CH_3	CF_3	H	CH_2Br
3-532	F	F	O	CH_3	CF_3	H	$CHBr_2$
3-533	F	F	O	CH_3	CF_3	H	CBr_3
3-534	F	F	O	CH_3	CF_3	H	CHO
3-535	F	F	O	CH_3	CF_3	H	CN
3-536	F	F	O	CH_3	CF_3	H	COOH
3-537	F	F	O	CH_3	CF_3	H	CH_2OH
3-538	F	F	O	CH_3	CF_3	H	CH_2OCH_3

TABLE 3 (contn'd)

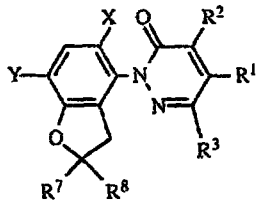
Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-539	F	F	O	CH_3	CF_3	H	$CH_2OC_2H_5$
3-540	F	F	O	CH_3	CF_3	H	$CH_2O\,{}^{i}C_3H_7$
3-541	F	F	O	CH_3	CF_3	H	$CH_2OCH_2OCH_3$
3-542	F	F	O	CH_3	CF_3	H	$CH_2OCH_2OC_2H_5$
3-543	F	F	O	CH_3	CF_3	H	CH_2OCOCH_3
3-544	F	F	O	CH_3	CF_3	H	$CH_2OCOC_2H_5$
3-545	F	F	O	CH_3	CF_3	H	$CH_2OCO\,{}^{i}C_3H_7$
3-546	F	F	O	CH_3	CF_3	H	CH_2OCOCH_2Cl
3-547	F	F	O	CH_3	CF_3	H	$CH_2OCOCCl_3$
3-548	F	F	O	CH_3	CF_3	H	CH_2OCOCF_3
3-549	F	F	O	CH_3	CF_3	H	$COOCH_3$
3-550	F	F	O	CH_3	CF_3	H	$COOC_2H_5$
3-551	F	F	O	CH_3	CF_3	H	$COO\,{}^{n}C_3H_7$
3-552	F	F	O	CH_3	CF_3	H	$COO\,{}^{n}C_4H_9$
3-553	F	F	O	CH_3	CF_3	H	$COO\,{}^{n}C_5H_{11}$
3-554	F	F	O	CH_3	CF_3	H	$COO\,{}^{i}C_3H_7$
3-555	F	F	O	CH_3	CF_3	H	$COCH_3$
3-556	F	F	O	CH_3	CF_3	H	COC_2H_5
3-557	F	Cl	O	CH_3	CF_3	H	CH_2Br
3-558	F	Cl	O	CH_3	CF_3	H	$CHBr_2$
3-559	F	Cl	O	CH_3	CF_3	H	CBr_3
3-560	F	Cl	O	CH_3	CF_3	H	CHO

TABLE 3 (contn'd)

Compound No.	X	Y	Z^2	R^3	R^1	R^2	R^6
3-561	F	Cl	O	CH_3	CF_3	H	CN
3-562	F	Cl	O	CH_3	CF_3	H	COOH
3-563	F	Cl	O	CH_3	CF_3	H	CH_2OH
3-564	F	Cl	O	CH_3	CF_3	H	CH_2OCH_3
3-565	F	Cl	O	CH_3	CF_3	H	$CH_2OC_2H_5$
3-566	F	Cl	O	CH_3	CF_3	H	$CH_2O^iC_3H_7$
3-567	F	Cl	O	CH_3	CF_3	H	$CH_2OCH_2OCH_3$
3-568	F	Cl	O	CH_3	CF_3	H	$CH_2OCH_2OC_2H_5$
3-569	F	Cl	O	CH_3	CF_3	H	CH_2OCOCH_3
3-570	F	Cl	O	CH_3	CF_3	H	$CH_2OCOC_2H_5$
3-571	F	Cl	O	CH_3	CF_3	H	$CH_2OCO^iC_3H_7$
3-572	F	Cl	O	CH_3	CF_3	H	CH_2OCOCH_2Cl
3-573	F	Cl	O	CH_3	CF_3	H	$CH_2OCOCCl_3$
3-574	F	Cl	O	CH_3	CF_3	H	CH_2OCOCF_3
3-575	F	Cl	O	CH_3	CF_3	H	$COOCH_3$
3-576	F	Cl	O	CH_3	CF_3	H	$COOC_2H_5$
3-577	F	Cl	O	CH_3	CF_3	H	$COO^nC_3H_7$
3-578	F	Cl	O	CH_3	CF_3	H	$COO^nC_4H_9$
3-579	F	Cl	O	CH_3	CF_3	H	$COO^nC_5H_{11}$
3-580	F	Cl	O	CH_3	CF_3	H	$COO^iC_3H_7$
3-581	F	Cl	O	CH_3	CF_3	H	$COCH_3$
3-582	F	Cl	O	CH_3	CF_3	H	COC_2H_5

TABLE 4

Compounds of the formula:



Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4－1	H	Cl	H	CF_2Cl	CH_3	H	CH_2Cl
4－2	H	Cl	H	CF_2Cl	CH_3	H	CH_2Br
4－3	H	Cl	H	CF_2Cl	CH_3	H	CH_2OCH_3
4－4	H	Cl	H	CF_2Cl	CH_3	H	$CH_2OC_2H_5$
4－5	H	Cl	H	CF_2Cl	CH_3	H	$CH_2OCH_2OCH_3$
4－6	H	Cl	H	CF_2Cl	CH_3	H	$CH_2OCH_2OC_2H_5$
4－7	H	Cl	H	CF_2Cl	CH_3	H	CH_2OCOCH_3
4－8	H	Cl	H	CF_2Cl	CH_3	H	$CH_2OCOC_2H_5$
4－9	H	Cl	H	CF_2Cl	CH_3	H	$CH_2OCO^iC_3H_7$
4－10	H	Cl	H	CF_2Cl	CH_3	H	CH_2OCOCH_2Cl
4－11	H	Cl	H	CF_2Cl	CH_3	H	$CH_2OCOCCl_3$
4－12	H	Cl	H	CF_2Cl	CH_3	H	CH_2OCOCF_3
4－13	H	Cl	H	CF_2Cl	CH_3	H	COOH
4－14	H	Cl	H	CF_2Cl	CH_3	H	$COOCH_3$
4－15	H	Cl	H	CF_2Cl	CH_3	H	$COOC_2H_5$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-16	H	Cl	H	CF_2Cl	CH_3	H	$COO^nC_3H_7$
4-17	H	Cl	H	CF_2Cl	CH_3	H	$COO^nC_4H_9$
4-18	H	Cl	H	CF_2Cl	CH_3	H	$COO^nC_5H_{11}$
4-19	H	Cl	H	CF_2Cl	CH_3	H	$COO^iC_3H_7$
4-20	H	Cl	H	CF_2Cl	CH_3	H	$COO^cC_5H_9$
4-21	H	Cl	H	CF_2Cl	CH_3	H	$COO^cC_6H_{11}$
4-22	H	Cl	H	CF_2Cl	CH_3	H	$COOCH_2CH=CH_2$
4-23	H	Cl	H	CF_2Cl	CH_3	H	$COOCH_2C\equiv CH$
4-24	H	Cl	H	CF_2Cl	CH_3	H	$CONH_2$
4-25	H	Cl	H	CF_2Cl	CH_3	H	$CONHCH_3$
4-26	H	Cl	H	CF_2Cl	CH_3	H	$CONHC_2H_5$
4-27	H	Cl	H	CF_2Cl	CH_3	H	$CON(CH_3)_2$
4-28	H	Cl	H	CF_2Cl	CH_3	H	$CON(C_2H_5)_2$
4-29	F	Cl	H	CF_2Cl	CH_3	H	CH_2Cl
4-30	F	Cl	H	CF_2Cl	CH_3	H	CH_2Br
4-31	F	Cl	H	CF_2Cl	CH_3	H	CH_2OCH_3
4-32	F	Cl	H	CF_2Cl	CH_3	H	$CH_2OC_2H_5$
4-33	F	Cl	H	CF_2Cl	CH_3	H	$CH_2OCH_2OCH_3$
4-34	F	Cl	H	CF_2Cl	CH_3	H	$CH_2OCH_2OC_2H_5$
4-35	F	Cl	H	CF_2Cl	CH_3	H	CH_2OCOCH_3
4-36	F	Cl	H	CF_2Cl	CH_3	H	$CH_2OCOC_2H_5$
4-37	F	Cl	H	CF_2Cl	CH_3	H	$CH_2OCO^iC_3H_7$
4-38	F	Cl	H	CF_2Cl	CH_3	H	CH_2OCOCH_2Cl

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-39	F	Cl	H	CF_2Cl	CH_3	H	$CH_2OCOCCl_3$
4-40	F	Cl	H	CF_2Cl	CH_3	H	CH_2OCOCF_3
4-41	F	Cl	H	CF_2Cl	CH_3	H	COOH
4-42	F	Cl	H	CF_2Cl	CH_3	H	$COOCH_3$
4-43	F	Cl	H	CF_2Cl	CH_3	H	$COOC_2H_5$
4-44	F	Cl	H	CF_2Cl	CH_3	H	$COO^nC_3H_7$
4-45	F	Cl	H	CF_2Cl	CH_3	H	$COO^nC_4H_9$
4-46	F	Cl	H	CF_2Cl	CH_3	H	$COO^nC_5H_{11}$
4-47	F	Cl	H	CF_2Cl	CH_3	H	$COO^iC_3H_7$
4-48	F	Cl	H	CF_2Cl	CH_3	H	$COO^cC_5H_9$
4-49	F	Cl	H	CF_2Cl	CH_3	H	$COO^cC_6H_{11}$
4-50	F	Cl	H	CF_2Cl	CH_3	H	$COOCH_2CH=CH_2$
4-51	F	Cl	H	CF_2Cl	CH_3	H	$COOCH_2C\equiv CH$
4-52	F	Cl	H	CF_2Cl	CH_3	H	$CONH_2$
4-53	F	Cl	H	CF_2Cl	CH_3	H	$CONHCH_3$
4-54	F	Cl	H	CF_2Cl	CH_3	H	$CONHC_2H_5$
4-55	F	Cl	H	CF_2Cl	CH_3	H	$CON(CH_3)_2$
4-56	F	Cl	H	CF_2Cl	CH_3	H	$CON(C_2H_5)_2$
4-57	H	Cl	H	CF_2Cl	CH_3	CH_3	CH_2Cl
4-58	H	Cl	H	CF_2Cl	CH_3	CH_3	CH_2Br
4-59	H	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCH_3
4-60	H	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OC_2H_5$
4-61	H	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCH_2OCH_3$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-62	H	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCH_2OC_2H_5$
4-63	H	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCOCH_3
4-64	H	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCOC_2H_5$
4-65	H	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCO\ ^iC_3H_7$
4-66	H	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCOCH_2Cl
4-67	H	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCOCCl_3$
4-68	H	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCOCF_3
4-69	H	Cl	H	CF_2Cl	CH_3	CH_3	COOH
4-70	H	Cl	H	CF_2Cl	CH_3	CH_3	$COOCH_3$
4-71	H	Cl	H	CF_2Cl	CH_3	CH_3	$COOC_2H_5$
4-72	H	Cl	H	CF_2Cl	CH_3	CH_3	$COO\ ^nC_3H_7$
4-73	H	Cl	H	CF_2Cl	CH_3	CH_3	$COO\ ^nC_4H_9$
4-74	H	Cl	H	CF_2Cl	CH_3	CH_3	$COO\ ^nC_5H_{11}$
4-75	H	Cl	H	CF_2Cl	CH_3	CH_3	$COO\ ^iC_3H_7$
4-76	H	Cl	H	CF_2Cl	CH_3	CH_3	$COO\ ^cC_5H_9$
4-77	H	Cl	H	CF_2Cl	CH_3	CH_3	$COO\ ^cC_6H_{11}$
4-78	H	Cl	H	CF_2Cl	CH_3	CH_3	$COOCH_2CH=CH_2$
4-79	H	Cl	H	CF_2Cl	CH_3	CH_3	$COOCH_2C\equiv CH$
4-80	H	Cl	H	CF_2Cl	CH_3	CH_3	$CONH_2$
4-81	H	Cl	H	CF_2Cl	CH_3	CH_3	$CONHCH_3$
4-82	H	Cl	H	CF_2Cl	CH_3	CH_3	$CONHC_2H_5$
4-83	H	Cl	H	CF_2Cl	CH_3	CH_3	$CON(CH_3)_2$
4-84	H	Cl	H	CF_2Cl	CH_3	CH_3	$CON(C_2H_5)_2$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-85	F	Cl	H	CF_2Cl	CH_3	CH_3	CH_2Cl
4-86	F	Cl	H	CF_2Cl	CH_3	CH_3	CH_2Br
4-87	F	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCH_3
4-88	F	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OC_2H_5$
4-89	F	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCH_2OCH_3$
4-90	F	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCH_2OC_2H_5$
4-91	F	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCOCH_3
4-92	F	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCOC_2H_5$
4-93	F	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCO^iC_3H_7$
4-94	F	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCOCH_2Cl
4-95	F	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCOCCl_3$
4-96	F	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCOCF_3
4-97	F	Cl	H	CF_2Cl	CH_3	CH_3	COOH
4-98	F	Cl	H	CF_2Cl	CH_3	CH_3	$COOCH_3$
4-99	F	Cl	H	CF_2Cl	CH_3	CH_3	$COOC_2H_5$
4-100	F	Cl	H	CF_2Cl	CH_3	CH_3	$COO^nC_3H_7$
4-101	F	Cl	H	CF_2Cl	CH_3	CH_3	$COO^nC_4H_9$
4-102	F	Cl	H	CF_2Cl	CH_3	CH_3	$COO^nC_5H_{11}$
4-103	F	Cl	H	CF_2Cl	CH_3	CH_3	$COO^iC_3H_7$
4-104	F	Cl	H	CF_2Cl	CH_3	CH_3	$COO^cC_5H_9$
4-105	F	Cl	H	CF_2Cl	CH_3	CH_3	$COO^cC_6H_{11}$
4-106	F	Cl	H	CF_2Cl	CH_3	CH_3	$COOCH_2CH=CH_2$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-107	F	Cl	H	CF_2Cl	CH_3	CH_3	$COOCH_2C\equiv CH$
4-108	F	Cl	H	CF_2Cl	CH_3	CH_3	$CONH_2$
4-109	F	Cl	H	CF_2Cl	CH_3	CH_3	$CONHCH_3$
4-110	F	Cl	H	CF_2Cl	CH_3	CH_3	$CONHC_2H_5$
4-111	F	Cl	H	CF_2Cl	CH_3	CH_3	$CON(CH_3)_2$
4-112	F	Cl	H	CF_2Cl	CH_3	CH_3	$CON(C_2H_5)_2$
4-113	H	Cl	H	CF_3	CH_3	H	CH_2Cl
4-114	H	Cl	H	CF_3	CH_3	H	CH_2Br
4-115	H	Cl	H	CF_3	CH_3	H	CH_2OCH_3
4-116	H	Cl	H	CF_3	CH_3	H	$CH_2OC_2H_5$
4-117	H	Cl	H	CF_3	CH_3	H	$CH_2OCH_2OCH_3$
4-118	H	Cl	H	CF_3	CH_3	H	$CH_2OCH_2OC_2H_5$
4-119	H	Cl	H	CF_3	CH_3	H	CH_2OCOCH_3
4-120	H	Cl	H	CF_3	CH_3	H	$CH_2OCOC_2H_5$
4-121	H	Cl	H	CF_3	CH_3	H	$CH_2OCO^iC_3H_7$
4-122	H	Cl	H	CF_3	CH_3	H	CH_2OCOCH_2Cl
4-123	H	Cl	H	CF_3	CH_3	H	$CH_2OCOCCl_3$
4-124	H	Cl	H	CF_3	CH_3	H	CH_2OCOCF_3
4-125	H	Cl	H	CF_3	CH_3	H	COOH
4-126	H	Cl	H	CF_3	CH_3	H	$COOCH_3$
4-127	H	Cl	H	CF_3	CH_3	H	$COOC_2H_5$
4-128	H	Cl	H	CF_3	CH_3	H	$COO^nC_3H_7$
4-129	H	Cl	H	CF_3	CH_3	H	$COO^nC_4H_9$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-130	H	Cl	H	CF_3	CH_3	H	$COO^nC_5H_{11}$
4-131	H	Cl	H	CF_3	CH_3	H	$COO^iC_3H_7$
4-132	H	Cl	H	CF_3	CH_3	H	$COO^cC_5H_9$
4-133	H	Cl	H	CF_3	CH_3	H	$COO^cC_6H_{11}$
4-134	H	Cl	H	CF_3	CH_3	H	$COOCH_2CH=CH_2$
4-135	H	Cl	H	CF_3	CH_3	H	$COOCH_2C\equiv CH$
4-136	H	Cl	H	CF_3	CH_3	H	$CONH_2$
4-137	H	Cl	H	CF_3	CH_3	H	$CONHCH_3$
4-138	H	Cl	H	CF_3	CH_3	H	$CONHC_2H_5$
4-139	H	Cl	H	CF_3	CH_3	H	$CON(CH_3)_2$
4-140	H	Cl	H	CF_3	CH_3	H	$CON(C_2H_5)_2$
4-141	F	Cl	H	CF_3	CH_3	H	CH_2Cl
4-142	F	Cl	H	CF_3	CH_3	H	CH_2Br
4-143	F	Cl	H	CF_3	CH_3	H	CH_2OCH_3
4-144	F	Cl	H	CF_3	CH_3	H	$CH_2OC_2H_5$
4-145	F	Cl	H	CF_3	CH_3	H	$CH_2OCH_2OCH_3$
4-146	F	Cl	H	CF_3	CH_3	H	$CH_2OCH_2OC_2H_5$
4-147	F	Cl	H	CF_3	CH_3	H	CH_2OCOCH_3
4-148	F	Cl	H	CF_3	CH_3	H	$CH_2OCOC_2H_5$
4-149	F	Cl	H	CF_3	CH_3	H	$CH_2OCO^iC_3H_7$
4-150	F	Cl	H	CF_3	CH_3	H	CH_2OCOCH_2Cl
4-151	F	Cl	H	CF_3	CH_3	H	$CH_2OCOCCl_3$
4-152	F	Cl	H	CF_3	CH_3	H	CH_2OCOCF_3

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-153	F	Cl	H	CF_3	CH_3	H	COOH
4-154	F	Cl	H	CF_3	CH_3	H	$COOCH_3$
4-155	F	Cl	H	CF_3	CH_3	H	$COOC_2H_5$
4-156	F	Cl	H	CF_3	CH_3	H	$COO^nC_3H_7$
4-157	F	Cl	H	CF_3	CH_3	H	$COO^nC_4H_9$
4-158	F	Cl	H	CF_3	CH_3	H	$COO^nC_5H_{11}$
4-159	F	Cl	H	CF_3	CH_3	H	$COO^iC_3H_7$
4-160	F	Cl	H	CF_3	CH_3	H	$COO^cC_5H_9$
4-161	F	Cl	H	CF_3	CH_3	H	$COO^cC_6H_{11}$
4-162	F	Cl	H	CF_3	CH_3	H	$COOCH_2CH=CH_2$
4-163	F	Cl	H	CF_3	CH_3	H	$COOCH_2C\equiv CH$
4-164	F	Cl	H	CF_3	CH_3	H	$CONH_2$
4-165	F	Cl	H	CF_3	CH_3	H	$CONHCH_3$
4-166	F	Cl	H	CF_3	CH_3	H	$CONHC_2H_5$
4-167	F	Cl	H	CF_3	CH_3	H	$CON(CH_3)_2$
4-168	F	Cl	H	CF_3	CH_3	H	$CON(C_2H_5)_2$
4-169	H	Cl	H	CF_3	CH_3	CH_3	CH_2Cl
4-170	H	Cl	H	CF_3	CH_3	CH_3	CH_2Br
4-171	H	Cl	H	CF_3	CH_3	CH_3	CH_2OCH_3
4-172	H	Cl	H	CF_3	CH_3	CH_3	$CH_2OC_2H_5$
4-173	H	Cl	H	CF_3	CH_3	CH_3	$CH_2OCH_2OCH_3$
4-174	H	Cl	H	CF_3	CH_3	CH_3	$CH_2OCH_2OC_2H_5$
4-175	H	Cl	H	CF_3	CH_3	CH_3	CH_2OCOCH_3

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-176	H	Cl	H	CF_3	CH_3	CH_3	$CH_2OCOC_2H_5$
4-177	H	Cl	H	CF_3	CH_3	CH_3	$CH_2 \cdot OCO\ ^iC_3H_7$
4-178	H	Cl	H	CF_3	CH_3	CH_3	CH_2OCOCH_2Cl
4-179	H	Cl	H	CF_3	CH_3	CH_3	$CH_2OCOCCl_3$
4-180	H	Cl	H	CF_3	CH_3	CH_3	CH_2OCOCF_3
4-181	H	Cl	H	CF_3	CH_3	CH_3	COOH
4-182	H	Cl	H	CF_3	CH_3	CH_3	$COOCH_3$
4-183	H	Cl	H	CF_3	CH_3	CH_3	$COOC_2H_5$
4-184	H	Cl	H	CF_3	CH_3	CH_3	$COO\ ^nC_3H_7$
4-185	H	Cl	H	CF_3	CH_3	CH_3	$COO\ ^nC_4H_9$
4-186	H	Cl	H	CF_3	CH_3	CH_3	$COO\ ^nC_5H_{11}$
4-187	H	Cl	H	CF_3	CH_3	CH_3	$COO\ ^iC_3H_7$
4-188	H	Cl	H	CF_3	CH_3	CH_3	$COO\ ^cC_5H_9$
4-189	H	Cl	H	CF_3	CH_3	CH_3	$COO\ ^cC_6H_{11}$
4-190	H	Cl	H	CF_3	CH_3	CH_3	$COOCH_2CH=CH_2$
4-191	H	Cl	H	CF_3	CH_3	CH_3	$COOCH_2C\equiv CH$
4-192	H	Cl	H	CF_3	CH_3	CH_3	$CONH_2$
4-193	H	Cl	H	CF_3	CH_3	CH_3	$CONHCH_3$
4-194	H	Cl	H	CF_3	CH_3	CH_3	$CONHC_2H_5$
4-195	H	Cl	H	CF_3	CH_3	CH_3	$CON(CH_3)_2$
4-196	H	Cl	H	CF_3	CH_3	CH_3	$CON(C_2H_5)_2$
4-197	F	Cl	H	CF_3	CH_3	CH_3	CH_2Cl
4-198	F	Cl	H	CF_3	CH_3	CH_3	CH_2Br

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-199	F	Cl	H	CF_3	CH_3	CH_3	CH_2OCH_3
4-200	F	Cl	H	CF_3	CH_3	CH_3	$CH_2OC_2H_5$
4-201	F	Cl	H	CF_3	CH_3	CH_3	$CH_2OCH_2OCH_3$
4-202	F	Cl	H	CF_3	CH_3	CH_3	$CH_2OCH_2OC_2H_5$
4-203	F	Cl	H	CF_3	CH_3	CH_3	CH_2OCOCH_3
4-204	F	Cl	H	CF_3	CH_3	CH_3	$CH_2OCOC_2H_5$
4-205	F	Cl	H	CF_3	CH_3	CH_3	$CH_2OCO^iC_3H_7$
4-206	F	Cl	H	CF_3	CH_3	CH_3	CH_2OCOCH_2Cl
4-207	F	Cl	H	CF_3	CH_3	CH_3	$CH_2OCOCCl_3$
4-208	F	Cl	H	CF_3	CH_3	CH_3	CH_2OCOCF_3
4-209	F	Cl	H	CF_3	CH_3	CH_3	COOH
4-210	F	Cl	H	CF_3	CH_3	CH_3	$COOCH_3$
4-211	F	Cl	H	CF_3	CH_3	CH_3	$COOC_2H_5$
4-212	F	Cl	H	CF_3	CH_3	CH_3	$COO^nC_3H_7$
4-213	F	Cl	H	CF_3	CH_3	CH_3	$COO^nC_4H_9$
4-214	F	Cl	H	CF_3	CH_3	CH_3	$COO^nC_5H_{11}$
4-215	F	Cl	H	CF_3	CH_3	CH_3	$COO^iC_3H_7$
4-216	F	Cl	H	CF_3	CH_3	CH_3	$COO^cC_5H_9$
4-217	F	Cl	H	CF_3	CH_3	CH_3	$COO^cC_6H_{11}$
4-218	F	Cl	H	CF_3	CH_3	CH_3	$COOCH_2CH=CH_2$
4-219	F	Cl	H	CF_3	CH_3	CH_3	$COOCH_2C\equiv CH$
4-220	F	Cl	H	CF_3	CH_3	CH_3	$CONH_2$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-221	F	Cl	H	CF_3	CH_3	CH_3	$CONHCH_3$
4-222	F	Cl	H	CF_3	CH_3	CH_3	$CONHC_2H_5$
4-223	F	Cl	H	CF_3	CH_3	CH_3	$CON(CH_3)_2$
4-224	F	Cl	H	CF_3	CH_3	CH_3	$CON(C_2H_5)_2$
4-225	H	Cl	H	CF_2Cl	CH_3	H	CH_2Cl
4-226	H	Cl	H	CF_2Cl	CH_3	H	CH_2Br
4-227	H	Cl	H	CF_2Cl	CH_3	H	CH_2OCH_3
4-228	H	Cl	H	CF_2Cl	CH_3	H	$CH_2OC_2H_5$
4-229	H	Cl	H	CF_2Cl	CH_3	H	$CH_2OCH_2OCH_3$
4-230	H	Cl	H	CF_2Cl	CH_3	H	$CH_2OCH_2OC_2H_5$
4-231	H	Cl	H	CF_2Cl	CH_3	H	CH_2OCOCH_3
4-232	H	Cl	H	CF_2Cl	CH_3	H	$CH_2OCOC_2H_5$
4-233	H	Cl	H	CF_2Cl	CH_3	H	$CH_2OCO^iC_3H_7$
4-234	H	Cl	H	CF_2Cl	CH_3	H	CH_2OCOCH_2Cl
4-235	H	Cl	H	CF_2Cl	CH_3	H	$CH_2OCOCCl_3$
4-236	H	Cl	H	CF_2Cl	CH_3	H	CH_2OCOCF_3
4-237	H	Cl	H	CF_2Cl	CH_3	H	COOH
4-238	H	Cl	H	CF_2Cl	CH_3	H	$COOCH_3$
4-239	H	Cl	H	CF_2Cl	CH_3	H	$COOC_2H_5$
4-240	H	Cl	H	CF_2Cl	CH_3	H	$COO^nC_3H_7$
4-241	H	Cl	H	CF_2Cl	CH_3	H	$COO^nC_4H_9$
4-242	H	Cl	H	CF_2Cl	CH_3	H	$COO^nC_5H_{11}$
4-243	H	Cl	H	CF_2Cl	CH_3	H	$COO^iC_3H_7$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-244	H	Cl	H	CF_2Cl	CH_3	H	$COO^cC_5H_9$
4-245	H	Cl	H	CF_2Cl	CH_3	H	$COO^cC_6H_{11}$
4-246	H	Cl	H	CF_2Cl	CH_3	H	$COOCH_2CH=CH_2$
4-247	H	Cl	H	CF_2Cl	CH_3	H	$COOCH_2C\equiv CH$
4-248	H	Cl	H	CF_2Cl	CH_3	H	$CONH_2$
4-249	H	Cl	H	CF_2Cl	CH_3	H	$CONHCH_3$
4-250	H	Cl	H	CF_2Cl	CH_3	H	$CONHC_2H_5$
4-251	H	Cl	H	CF_2Cl	CH_3	H	$CON(CH_3)_2$
4-252	H	Cl	H	CF_2Cl	CH_3	H	$CON(C_2H_5)_2$
4-253	F	Cl	H	CF_2Cl	CH_3	H	CH_2Cl
4-254	F	Cl	H	CF_2Cl	CH_3	H	CH_2Br
4-255	F	Cl	H	CF_2Cl	CH_3	H	CH_2OCH_3
4-256	F	Cl	H	CF_2Cl	CH_3	H	$CH_2OC_2H_5$
4-257	F	Cl	H	CF_2Cl	CH_3	H	$CH_2OCH_2OCH_3$
4-258	F	Cl	H	CF_2Cl	CH_3	H	$CH_2OCH_2OC_2H_5$
4-259	F	Cl	H	CF_2Cl	CH_3	H	CH_2OCOCH_3
4-260	F	Cl	H	CF_2Cl	CH_3	H	$CH_2OCOC_2H_5$
4-261	F	Cl	H	CF_2Cl	CH_3	H	$CH_2OCO^iC_3H_7$
4-262	F	Cl	H	CF_2Cl	CH_3	H	CH_2OCOCH_2Cl
4-263	F	Cl	H	CF_2Cl	CH_3	H	$CH_2OCOCCl_3$
4-264	F	Cl	H	CF_2Cl	CH_3	H	CH_2OCOCF_3
4-265	F	Cl	H	CF_2Cl	CH_3	H	COOH
4-266	F	Cl	H	CF_2Cl	CH_3	H	$COOCH_3$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-267	F	Cl	H	CF_2Cl	CH_3	H	$COOC_2H_5$
4-268	F	Cl	H	CF_2Cl	CH_3	H	$COO^nC_3H_7$
4-269	F	Cl	H	CF_2Cl	CH_3	H	$COO^nC_4H_9$
4-270	F	Cl	H	CF_2Cl	CH_3	H	$COO^nC_5H_{11}$
4-271	F	Cl	H	CF_2Cl	CH_3	H	$COO^iC_3H_7$
4-272	F	Cl	H	CF_2Cl	CH_3	H	$COO^cC_5H_9$
4-273	F	Cl	H	CF_2Cl	CH_3	H	$COO^cC_6H_{11}$
4-274	F	Cl	H	CF_2Cl	CH_3	H	$COOCH_2CH=CH_2$
4-275	F	Cl	H	CF_2Cl	CH_3	H	$COOCH_2C\equiv CH$
4-276	F	Cl	H	CF_2Cl	CH_3	H	$CONH_2$
4-277	F	Cl	H	CF_2Cl	CH_3	H	$CONHCH_3$
4-278	F	Cl	H	CF_2Cl	CH_3	H	$CONHC_2H_5$
4-279	F	Cl	H	CF_2Cl	CH_3	H	$CON(CH_3)_2$
4-280	F	Cl	H	CF_2Cl	CH_3	H	$CON(C_2H_5)_2$
4-281	H	Cl	H	CF_2Cl	CH_3	CH_3	CH_2Cl
4-282	H	Cl	H	CF_2Cl	CH_3	CH_3	CH_2Br
4-283	H	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCH_3
4-284	H	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OC_2H_5$
4-285	H	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCH_2OCH_3$
4-286	H	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCH_2OC_2H_5$
4-287	H	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCOCH_3
4-288	H	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCOC_2H_5$
4-289	H	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCO^iC_3H_7$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-290	H	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCOCH_2Cl
4-291	H	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCOCCl_3$
4-292	H	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCOCF_3
4-293	H	Cl	H	CF_2Cl	CH_3	CH_3	COOH
4-294	H	Cl	H	CF_2Cl	CH_3	CH_3	$COOCH_3$
4-295	H	Cl	H	CF_2Cl	CH_3	CH_3	$COOC_2H_5$
4-296	H	Cl	H	CF_2Cl	CH_3	CH_3	$COO^nC_3H_7$
4-297	H	Cl	H	CF_2Cl	CH_3	CH_3	$COO^nC_4H_9$
4-298	H	Cl	H	CF_2Cl	CH_3	CH_3	$COO^nC_5H_{11}$
4-299	H	Cl	H	CF_2Cl	CH_3	CH_3	$COO^iC_3H_7$
4-300	H	Cl	H	CF_2Cl	CH_3	CH_3	$COO^cC_5H_9$
4-301	H	Cl	H	CF_2Cl	CH_3	CH_3	$COO^cC_6H_{11}$
4-302	H	Cl	H	CF_2Cl	CH_3	CH_3	$COOCH_2CH=CH_2$
4-303	H	Cl	H	CF_2Cl	CH_3	CH_3	$COOCH_2C\equiv CH$
4-304	H	Cl	H	CF_2Cl	CH_3	CH_3	$CONH_2$
4-305	H	Cl	H	CF_2Cl	CH_3	CH_3	$CONHCH_3$
4-306	H	Cl	H	CF_2Cl	CH_3	CH_3	$CONHC_2H_5$
4-307	H	Cl	H	CF_2Cl	CH_3	CH_3	$CON(CH_3)_2$
4-308	H	Cl	H	CF_2Cl	CH_3	CH_3	$CON(C_2H_5)_2$
4-309	F	Cl	H	CF_2Cl	CH_3	CH_3	CH_2Cl
4-310	F	Cl	H	CF_2Cl	CH_3	CH_3	CH_2Br
4-311	F	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCH_3
4-312	F	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OC_2H_5$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-313	F	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCH_2OCH_3$
4-314	F	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCH_2OC_2H_5$
4-315	F	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCOCH_3
4-316	F	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCOC_2H_5$
4-317	F	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCO^iC_3H_7$
4-318	F	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCOCH_2Cl
4-319	F	Cl	H	CF_2Cl	CH_3	CH_3	$CH_2OCOCCl_3$
4-320	F	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OCOCF_3
4-321	F	Cl	H	CF_2Cl	CH_3	CH_3	COOH
4-322	F	Cl	H	CF_2Cl	CH_3	CH_3	$COOCH_3$
4-323	F	Cl	H	CF_2Cl	CH_3	CH_3	$COOC_2H_5$
4-324	F	Cl	H	CF_2Cl	CH_3	CH_3	$COO^nC_3H_7$
4-325	F	Cl	H	CF_2Cl	CH_3	CH_3	$COO^nC_4H_9$
4-326	F	Cl	H	CF_2Cl	CH_3	CH_3	$COO^nC_5H_{11}$
4-327	F	Cl	H	CF_2Cl	CH_3	CH_3	$COO^iC_3H_7$
4-328	F	Cl	H	CF_2Cl	CH_3	CH_3	$COO^cC_5H_9$
4-329	F	Cl	H	CF_2Cl	CH_3	CH_3	$COO^cC_6H_{11}$
4-330	F	Cl	H	CF_2Cl	CH_3	CH_3	$COOCH_2CH=CH_2$
4-331	F	Cl	H	CF_2Cl	CH_3	CH_3	$COOCH_2C\equiv CH$
4-332	F	Cl	H	CF_2Cl	CH_3	CH_3	$CONH_2$
4-333	F	Cl	H	CF_2Cl	CH_3	CH_3	$CONHCH_3$
4-334	F	Cl	H	CF_2Cl	CH_3	CH_3	$CONHC_2H_5$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-335	F	Cl	H	CF_2Cl	CH_3	CH_3	$CON(CH_3)_2$
4-336	F	Cl	H	CF_2Cl	CH_3	CH_3	$CON(C_2H_5)_2$
4-337	H	Cl	H	CF_3	CH_3	H	CH_2Cl
4-338	H	Cl	H	CF_3	CH_3	H	CH_2Br
4-339	H	Cl	H	CF_3	CH_3	H	CH_2OCH_3
4-340	H	Cl	H	CF_3	CH_3	H	$CH_2OC_2H_5$
4-341	H	Cl	H	CF_3	CH_3	H	$CH_2OCH_2OCH_3$
4-342	H	Cl	H	CF_3	CH_3	H	$CH_2OCH_2OC_2H_5$
4-343	H	Cl	H	CF_3	CH_3	H	CH_2OCOCH_3
4-344	H	Cl	H	CF_3	CH_3	H	$CH_2OCOC_2H_5$
4-345	H	Cl	H	CF_3	CH_3	H	$CH_2OCO^iC_3H_7$
4-346	H	Cl	H	CF_3	CH_3	H	CH_2OCOCH_2Cl
4-347	H	Cl	H	CF_3	CH_3	H	$CH_2OCOCCl_3$
4-348	H	Cl	H	CF_3	CH_3	H	CH_2OCOCF_3
4-349	H	Cl	H	CF_3	CH_3	H	COOH
4-350	H	Cl	H	CF_3	CH_3	H	$COOCH_3$
4-351	H	Cl	H	CF_3	CH_3	H	$COOC_2H_6$
4-352	H	Cl	H	CF_3	CH_3	H	$COO^nC_3H_7$
4-353	H	Cl	H	CF_3	CH_3	H	$COO^nC_4H_9$
4-354	H	Cl	H	CF_3	CH_3	H	$COO^nC_5H_{11}$
4-355	H	Cl	H	CF_3	CH_3	H	$COO^iC_3H_7$
4-356	H	Cl	H	CF_3	CH_3	H	$COO^cC_6H_9$
4-357	H	Cl	H	CF_3	CH_3	H	$COO^cC_6H_{11}$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-358	H	Cl	H	CF_3	CH_3	H	$COOCH_2CH=CH_2$
4-359	H	Cl	H	CF_3	CH_3	H	$COOCH_2C\equiv CH$
4-360	H	Cl	H	CF_3	CH_3	H	$CONH_2$
4-361	H	Cl	H	CF_3	CH_3	H	$CONHCH_3$
4-362	H	Cl	H	CF_3	CH_3	H	$CONHC_2H_5$
4-363	H	Cl	H	CF_3	CH_3	H	$CON(CH_3)_2$
4-364	H	Cl	H	CF_3	CH_3	H	$CON(C_2H_5)_2$
4-365	F	Cl	H	CF_3	CH_3	H	CH_2Cl
4-366	F	Cl	H	CF_3	CH_3	H	CH_2Br
4-367	F	Cl	H	CF_3	CH_3	H	CH_2OCH_3
4-368	F	Cl	H	CF_3	CH_3	H	$CH_2OC_2H_5$
4-369	F	Cl	H	CF_3	CH_3	H	$CH_2OCH_2OCH_3$
4-370	F	Cl	H	CF_3	CH_3	H	$CH_2OCH_2OC_2H_5$
4-371	F	Cl	H	CF_3	CH_3	H	CH_2OCOCH_3
4-372	F	Cl	H	CF_3	CH_3	H	$CH_2OCOC_2H_5$
4-373	F	Cl	H	CF_3	CH_3	H	$CH_2OCO^iC_3H_7$
4-374	F	Cl	H	CF_3	CH_3	H	CH_2OCOCH_2Cl
4-375	F	Cl	H	CF_3	CH_3	H	$CH_2OCOCCl_3$
4-376	F	Cl	H	CF_3	CH_3	H	CH_2OCOCF_3
4-377	F	Cl	H	CF_3	CH_3	H	COOH
4-378	F	Cl	H	CF_3	CH_3	H	$COOCH_3$
4-379	F	Cl	H	CF_3	CH_3	H	$COOC_2H_5$
4-380	F	Cl	H	CF_3	CH_3	H	$COO^nC_3H_7$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-381	F	Cl	H	CF_3	CH_3	H	$COO^nC_4H_9$
4-382	F	Cl	H	CF_3	CH_3	H	$COO^nC_5H_{11}$
4-383	F	Cl	H	CF_3	CH_3	H	$COO^iC_3H_7$
4-384	F	Cl	H	CF_3	CH_3	H	$COO^cC_5H_9$
4-385	F	Cl	H	CF_3	CH_3	H	$COO^cC_6H_{11}$
4-386	F	Cl	H	CF_3	CH_3	H	$COOCH_2CH=CH_2$
4-387	F	Cl	H	CF_3	CH_3	H	$COOCH_2C\equiv CH$
4-388	F	Cl	H	CF_3	CH_3	H	$CONH_2$
4-389	F	Cl	H	CF_3	CH_3	H	$CONHCH_3$
4-390	F	Cl	H	CF_3	CH_3	H	$CONHC_2H_5$
4-391	F	Cl	H	CF_3	CH_3	H	$CON(CH_3)_2$
4-392	F	Cl	H	CF_3	CH_3	H	$CON(C_2H_5)_2$
4-393	H	Cl	H	CF_3	CH_3	CH_3	CH_2Cl
4-394	H	Cl	H	CF_3	CH_3	CH_3	CH_2Br
4-395	H	Cl	H	CF_3	CH_3	CH_3	CH_2OCH_3
4-396	H	Cl	H	CF_3	CH_3	CH_3	$CH_2OC_2H_5$
4-397	H	Cl	H	CF_3	CH_3	CH_3	$CH_2OCH_2OCH_3$
4-398	H	Cl	H	CF_3	CH_3	CH_3	$CH_2OCH_2OC_2H_5$
4-399	H	Cl	H	CF_3	CH_3	CH_3	CH_2OCOCH_3
4-400	H	Cl	H	CF_3	CH_3	CH_3	$CH_2OCOC_2H_5$
4-401	H	Cl	H	CF_3	CH_3	CH_3	$CH_2OCO^iC_3H_7$
4-402	H	Cl	H	CF_3	CH_3	CH_3	CH_2OCOCH_2Cl
4-403	H	Cl	H	CF_3	CH_3	CH_3	$CH_2OCOCCl_3$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-404	H	Cl	H	CF_3	CH_3	CH_3	CH_2OCOCF_3
4-405	H	Cl	H	CF_3	CH_3	CH_3	COOH
4-406	H	Cl	H	CF_3	CH_3	CH_3	$COOCH_3$
4-407	H	Cl	H	CF_3	CH_3	CH_3	$COOC_2H_5$
4-408	H	Cl	H	CF_3	CH_3	CH_3	$COO^nC_3H_7$
4-409	H	Cl	H	CF_3	CH_3	CH_3	$COO^nC_4H_9$
4-410	H	Cl	H	CF_3	CH_3	CH_3	$COO^nC_5H_{11}$
4-411	H	Cl	H	CF_3	CH_3	CH_3	$COO^iC_3H_7$
4-412	H	Cl	H	CF_3	CH_3	CH_3	$COO^cC_5H_9$
4-413	H	Cl	H	CF_3	CH_3	CH_3	$COO^cC_6H_{11}$
4-414	H	Cl	H	CF_3	CH_3	CH_3	$COOCH_2CH=CH_2$
4-415	H	Cl	H	CF_3	CH_3	CH_3	$COOCH_2C\equiv CH$
4-416	H	Cl	H	CF_3	CH_3	CH_3	$CONH_2$
4-417	H	Cl	H	CF_3	CH_3	CH_3	$CONHCH_3$
4-418	H	Cl	H	CF_3	CH_3	CH_3	$CONHC_2H_5$
4-419	H	Cl	H	CF_3	CH_3	CH_3	$CON(CH_3)_2$
4-420	H	Cl	H	CF_3	CH_3	CH_3	$CON(C_2H_5)_2$
4-421	F	Cl	H	CF_3	CH_3	CH_3	CH_2Cl
4-422	F	Cl	H	CF_3	CH_3	CH_3	CH_2Br
4-423	F	Cl	H	CF_3	CH_3	CH_3	CH_2OCH_3
4-424	F	Cl	H	CF_3	CH_3	CH_3	$CH_2OC_2H_5$
4-425	F	Cl	H	CF_3	CH_3	CH_3	$CH_2OCH_2OCH_3$
4-426	F	Cl	H	CF_3	CH_3	CH_3	$CH_2OCH_2OC_2H_5$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-427	F	Cl	H	CF_3	CH_3	CH_3	CH_2OCOCH_3
4-428	F	Cl	H	CF_3	CH_3	CH_3	$CH_2OCOC_2H_5$
4-429	F	Cl	H	CF_3	CH_3	CH_3	$CH_2OCO^iC_3H_7$
4-430	F	Cl	H	CF_3	CH_3	CH_3	CH_2OCOCH_2Cl
4-431	F	Cl	H	CF_3	CH_3	CH_3	$CH_2OCOCCl_3$
4-432	F	Cl	H	CF_3	CH_3	CH_3	CH_2OCOCF_3
4-433	F	Cl	H	CF_3	CH_3	CH_3	COOH
4-434	F	Cl	H	CF_3	CH_3	CH_3	$COOCH_3$
4-435	F	Cl	H	CF_3	CH_3	CH_3	$COOC_2H_5$
4-436	F	Cl	H	CF_3	CH_3	CH_3	$COO^nC_3H_7$
4-437	F	Cl	H	CF_3	CH_3	CH_3	$COO^nC_4H_9$
4-438	F	Cl	H	CF_3	CH_3	CH_3	$COO^nC_5H_{11}$
4-439	F	Cl	H	CF_3	CH_3	CH_3	$COO^iC_3H_7$
4-440	F	Cl	H	CF_3	CH_3	CH_3	$COO^cC_5H_9$
4-441	F	Cl	H	CF_3	CH_3	CH_3	$COO^cC_6H_{11}$
4-442	F	Cl	H	CF_3	CH_3	CH_3	$COOCH_2CH=CH_2$
4-443	F	Cl	H	CF_3	CH_3	CH_3	$COOCH_2C\equiv CH$
4-444	F	Cl	H	CF_3	CH_3	CH_3	$CONH_2$
4-445	F	Cl	H	CF_3	CH_3	CH_3	$CONHCH_3$
4-446	F	Cl	H	CF_3	CH_3	CH_3	$CONHC_2H_5$
4-447	F	Cl	H	CF_3	CH_3	CH_3	$CON(CH_3)_2$
4-448	F	Cl	H	CF_3	CH_3	CH_3	$CON(C_2H_5)_2$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-449	F	Cl	H	CF_3	CH_3	H	CH_3
4-450	F	Cl	H	CF_3	CH_3	H	CH_2OH
4-451	F	Cl	H	CF_3	CH_3	CH_3	CH_3
4-452	F	Cl	H	CF_3	CH_3	CH_3	CH_2OH
4-453	F	Cl	H	CF_3	H	H	CH_3
4-454	F	Cl	H	CF_3	H	H	CH_2OH
4-455	F	Cl	H	CF_3	H	CH_3	CH_3
4-456	F	Cl	H	CF_3	H	CH_3	CH_2OH
4-457	H	Cl	H	CF_3	CH_3	H	CH_3
4-458	H	Cl	H	CF_3	CH_3	H	CH_2OH
4-459	H	Cl	H	CF_3	CH_3	CH_3	CH_3
4-460	H	Cl	H	CF_3	CH_3	CH_3	CH_2OH
4-461	H	Cl	H	CF_3	H	H	CH_3
4-462	H	Cl	H	CF_3	H	H	CH_2OH
4-463	H	Cl	H	CF_3	H	CH_3	CH_3
4-464	H	Cl	H	CF_3	H	CH_3	CH_2OH
4-465	F	Cl	H	CF_2Cl	CH_3	H	CH_3
4-466	F	Cl	H	CF_2Cl	CH_3	H	CH_2OH
4-467	F	Cl	H	CF_2Cl	CH_3	CH_3	CH_3
4-468	F	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OH
4-469	F	Cl	H	CF_2Cl	H	H	CH_3
4-470	F	Cl	H	CF_2Cl	H	H	CH_2OH
4-471	F	Cl	H	CF_2Cl	H	CH_3	CH_3

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-472	F	Cl	H	CF_2Cl	H	CH_3	CH_2OH
4-473	H	Cl	H	CF_2Cl	CH_3	H	CH_3
4-474	H	Cl	H	CF_2Cl	CH_3	H	CH_2OH
4-475	H	Cl	H	CF_2Cl	CH_3	CH_3	CH_3
4-476	H	Cl	H	CF_2Cl	CH_3	CH_3	CH_2OH
4-477	H	Cl	H	CF_2Cl	H	H	CH_3
4-478	H	Cl	H	CF_2Cl	H	H	CH_2OH
4-479	H	Cl	H	CF_2Cl	H	CH_3	CH_3
4-480	H	Cl	H	CF_2Cl	H	CH_3	CH_2OH
4-481	H	Cl	H	CF_3	H	H	CH_2Cl
4-482	H	Cl	H	CF_3	H	H	CH_2Br
4-483	H	Cl	H	CF_3	H	H	CH_2OCH_3
4-484	H	Cl	H	CF_3	H	H	$CH_2OC_2H_5$
4-485	H	Cl	H	CF_3	H	H	$CH_2OCH_2OCH_3$
4-486	H	Cl	H	CF_3	H	H	$CH_2OCH_2OC_2H_5$
4-487	H	Cl	H	CF_3	H	H	CH_2OCOCH_3
4-488	H	Cl	H	CF_3	H	H	$CH_2OCOC_2H_5$
4-489	H	Cl	H	CF_3	H	H	$CH_2OCO'C_3H_7$
4-490	H	Cl	H	CF_3	H	H	CH_2OCOCH_2Cl
4-491	H	Cl	H	CF_3	H	H	$CH_2OCOCCl_3$
4-492	H	Cl	H	CF_3	H	H	CH_2OCOCF_3
4-493	H	Cl	H	CF_3	H	H	COOH
4-494	H	Cl	H	CF_3	H	H	$COOCH_3$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-495	H	Cl	H	CF_3	H	H	$COOC_2H_5$
4-496	H	Cl	H	CF_3	H	H	$COO^nC_3H_7$
4-497	H	Cl	H	CF_3	H	H	$COO^nC_4H_9$
4-498	H	Cl	H	CF_3	H	H	$COO^nC_5H_{11}$
4-499	H	Cl	H	CF_3	H	H	$COO^iC_3H_7$
4-500	H	Cl	H	CF_3	H	H	$COO^cC_5H_9$
4-501	H	Cl	H	CF_3	H	H	$COO^cC_6H_{11}$
4-502	H	Cl	H	CF_3	H	H	$COOCH_2CH=CH_2$
4-503	H	Cl	H	CF_3	H	H	$COOCH_2C\equiv CH$
4-504	H	Cl	H	CF_3	H	H	$CONH_2$
4-505	H	Cl	H	CF_3	H	H	$CONHCH_3$
4-506	H	Cl	H	CF_3	H	H	$CONHC_2H_5$
4-507	H	Cl	H	CF_3	H	H	$CON(CH_3)_2$
4-508	H	Cl	H	CF_3	H	H	$CON(C_2H_5)_2$
4-509	F	Cl	H	CF_3	H	H	CH_2Cl
4-510	F	Cl	H	CF_3	H	H	CH_2Br
4-511	F	Cl	H	CF_3	H	H	CH_2OCH_3
4-512	F	Cl	H	CF_3	H	H	$CH_2OC_2H_5$
4-513	F	Cl	H	CF_3	H	H	$CH_2OCH_2OCH_3$
4-514	F	Cl	H	CF_3	H	H	$CH_2OCH_2OC_2H_5$
4-515	F	Cl	H	CF_3	H	H	CH_2OCOCH_3
4-516	F	Cl	H	CF_3	H	H	$CH_2OCOC_2H_5$
4-517	F	Cl	H	CF_3	H	H	$CH_2OCO^iC_3H_7$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-518	F	Cl	H	CF_3	H	H	CH_2OCOCH_2Cl
4-519	F	Cl	H	CF_3	H	H	$CH_2OCOCCl_3$
4-520	F	Cl	H	CF_3	H	H	CH_2OCOCF_3
4-521	F	Cl	H	CF_3	H	H	COOH
4-522	F	Cl	H	CF_3	H	H	$COOCH_3$
4-523	F	Cl	H	CF_3	H	H	$COOC_2H_5$
4-524	F	Cl	H	CF_3	H	H	$COO^nC_3H_7$
4-525	F	Cl	H	CF_3	H	H	$COO^nC_4H_9$
4-526	F	Cl	H	CF_3	H	H	$COO^nC_5H_{11}$
4-527	F	Cl	H	CF_3	H	H	$COO^iC_3H_7$
4-528	F	Cl	H	CF_3	H	H	$COO^cC_5H_9$
4-529	F	Cl	H	CF_3	H	H	$COO^cC_6H_{11}$
4-530	F	Cl	H	CF_3	H	H	$COOCH_2CH=CH_2$
4-531	F	Cl	H	CF_3	H	H	$COOCH_2C\equiv CH$
4-532	F	Cl	H	CF_3	H	H	$CONH_2$
4-533	F	Cl	H	CF_3	H	H	$CONHCH_3$
4-534	F	Cl	H	CF_3	H	H	$CONHC_2H_5$
4-535	F	Cl	H	CF_3	H	H	$CON(CH_3)_2$
4-536	F	Cl	H	CF_3	H	H	$CON(C_2H_5)_2$
4-537	H	Cl	H	CF_3	H	CH_3	CH_2Cl
4-538	H	Cl	H	CF_3	H	CH_3	CH_2Br
4-539	H	Cl	H	CF_3	H	CH_3	CH_2OCH_3
4-540	H	Cl	H	CF_3	H	CH_3	$CH_2OC_2H_5$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^9
4-541	H	Cl	H	CF_3	H	CH_3	$CH_2OCH_2OCH_3$
4-542	H	Cl	H	CF_3	H	CH_3	$CH_2OCH_2OC_2H_5$
4-543	H	Cl	H	CF_3	H	CH_3	CH_2OCOCH_3
4-544	H	Cl	H	CF_3	H	CH_3	$CH_2OCOC_2H_5$
4-545	H	Cl	H	CF_3	H	CH_3	$CH_2OCO^iC_3H_7$
4-546	H	Cl	H	CF_3	H	CH_3	CH_2OCOCH_2Cl
4-547	H	Cl	H	CF_3	H	CH_3	$CH_2OCOCCl_3$
4-548	H	Cl	H	CF_3	H	CH_3	CH_2OCOCF_3
4-549	H	Cl	H	CF_3	H	CH_3	COOH
4-550	H	Cl	H	CF_3	H	CH_3	$COOCH_3$
4-551	H	Cl	H	CF_3	H	CH_3	$COOC_2H_5$
4-552	H	Cl	H	CF_3	H	CH_3	$COO^nC_3H_7$
4-553	H	Cl	H	CF_3	H	CH_3	$COO^nC_4H_9$
4-554	H	Cl	H	CF_3	H	CH_3	$COO^nC_5H_{11}$
4-555	H	Cl	H	CF_3	H	CH_3	$COO^iC_3H_7$
4-556	H	Cl	H	CF_3	H	CH_3	$COO^cC_5H_9$
4-557	H	Cl	H	CF_3	H	CH_3	$COO^cC_6H_{11}$
4-558	H	Cl	H	CF_3	H	CH_3	$COOCH_2CH=CH_2$
4-559	H	Cl	H	CF_3	H	CH_3	$COOCH_2C\equiv CH$
4-560	H	Cl	H	CF_3	H	CH_3	$CONH_2$
4-561	H	Cl	H	CF_3	H	CH_3	$CONHCH_3$
4-562	H	Cl	H	CF_3	H	CH_3	$CONHC_2H_5$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-563	H	Cl	H	CF_3	H	CH_3	$CON(CH_3)_2$
4-564	H	Cl	H	CF_3	H	CH_3	$CON(C_2H_5)_2$
4-565	F	Cl	H	CF_3	H	CH_3	CH_2Cl
4-566	F	Cl	H	CF_3	H	CH_3	CH_2Br
4-567	F	Cl	H	CF_3	H	CH_3	CH_2OCH_3
4-568	F	Cl	H	CF_3	H	CH_3	$CH_2OC_2H_5$
4-569	F	Cl	H	CF_3	H	CH_3	$CH_2OCH_2OCH_3$
4-570	F	Cl	H	CF_3	H	CH_3	$CH_2OCH_2OC_2H_5$
4-571	F	Cl	H	CF_3	H	CH_3	CH_2OCOCH_3
4-572	F	Cl	H	CF_3	H	CH_3	$CH_2OCOC_2H_5$
4-573	F	Cl	H	CF_3	H	CH_3	$CH_2OCO^iC_3H_7$
4-574	F	Cl	H	CF_3	H	CH_3	CH_2OCOCH_2Cl
4-575	F	Cl	H	CF_3	H	CH_3	$CH_2OCOCCl_3$
4-576	F	Cl	H	CF_3	H	CH_3	CH_2OCOCF_3
4-577	F	Cl	H	CF_3	H	CH_3	COOH
4-578	F	Cl	H	CF_3	H	CH_3	$COOCH_3$
4-579	F	Cl	H	CF_3	H	CH_3	$COOC_2H_5$
4-580	F	Cl	H	CF_3	H	CH_3	$COO^nC_3H_7$
4-581	F	Cl	H	CF_3	H	CH_3	$COO^nC_4H_9$
4-582	F	Cl	H	CF_3	H	CH_3	$COO^nC_5H_{11}$
4-583	F	Cl	H	CF_3	H	CH_3	$COO^iC_3H_7$
4-584	F	Cl	H	CF_3	H	CH_3	$COO^cC_5H_9$
4-585	F	Cl	H	CF_3	H	CH_3	$COO^cC_6H_{11}$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-586	F	Cl	H	CF_3	H	CH_3	$COOCH_2CH=CH_2$
4-587	F	Cl	H	CF_3	H	CH_3	$COOCH_2C\equiv CH$
4-588	F	Cl	H	CF_3	H	CH_3	$CONH_2$
4-589	F	Cl	H	CF_3	H	CH_3	$CONHCH_3$
4-590	F	Cl	H	CF_3	H	CH_3	$CONHC_2H_5$
4-591	F	Cl	H	CF_3	H	CH_3	$CON(CH_3)_2$
4-592	F	Cl	H	CF_3	H	CH_3	$CON(C_2H_5)_2$
4-593	H	Cl	H	CF_3	H	H	CH_2Cl
4-594	H	Cl	H	CF_3	H	H	CH_2Br
4-595	H	Cl	H	CF_3	H	H	CH_2OCH_3
4-596	H	Cl	H	CF_3	H	H	$CH_2OC_2H_5$
4-597	H	Cl	H	CF_3	H	H	$CH_2OCH_2OCH_3$
4-598	H	Cl	H	CF_3	H	H	$CH_2OCH_2OC_2H_5$
4-599	H	Cl	H	CF_3	H	H	CH_2OCOCH_3
4-600	H	Cl	H	CF_3	H	H	$CH_2OCOC_2H_5$
4-601	H	Cl	H	CF_3	H	H	$CH_2OCO^iC_3H_7$
4-602	H	Cl	H	CF_3	H	H	CH_2OCOCH_2Cl
4-603	H	Cl	H	CF_3	H	H	$CH_2OCOCCl_3$
4-604	H	Cl	H	CF_3	H	H	CH_2OCOCF_3
4-605	H	Cl	H	CF_3	H	H	COOH
4-606	H	Cl	H	CF_3	H	H	$COOCH_3$
4-607	H	Cl	H	CF_3	H	H	$COOC_2H_5$
4-608	H	Cl	H	CF_3	H	H	$COO^nC_3H_7$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-609	H	Cl	H	CF_3	H	H	$COO^nC_4H_9$
4-610	H	Cl	H	CF_3	H	H	$COO^nC_5H_{11}$
4-611	H	Cl	H	CF_3	H	H	$COO^iC_3H_7$
4-612	H	Cl	H	CF_3	H	H	$COO^cC_5H_9$
4-613	H	Cl	H	CF_3	H	H	$COO^cC_6H_{11}$
4-614	H	Cl	H	CF_3	H	H	$COOCH_2CH=CH_2$
4-615	H	Cl	H	CF_3	H	H	$COOCH_2C\equiv CH$
4-616	H	Cl	H	CF_3	H	H	$CONH_2$
4-617	H	Cl	H	CF_3	H	H	$CONHCH_3$
4-618	H	Cl	H	CF_3	H	H	$CONHC_2H_5$
4-619	H	Cl	H	CF_3	H	H	$CON(CH_3)_2$
4-620	H	Cl	H	CF_3	H	H	$CON(C_2H_5)_2$
4-621	F	Cl	H	CF_3	H	H	CH_2Cl
4-622	F	Cl	H	CF_3	H	H	CH_2Br
4-623	F	Cl	H	CF_3	H	H	CH_2OCH_3
4-624	F	Cl	H	CF_3	H	H	$CH_2OC_2H_5$
4-625	F	Cl	H	CF_3	H	H	$CH_2OCH_2OCH_3$
4-626	F	Cl	H	CF_3	H	H	$CH_2OCH_2OC_2H_5$
4-627	F	Cl	H	CF_3	H	H	CH_2OCOCH_3
4-628	F	Cl	H	CF_3	H	H	$CH_2OCOC_2H_5$
4-629	F	Cl	H	CF_3	H	H	$CH_2OCO^iC_3H_7$
4-630	F	Cl	H	CF_3	H	H	CH_2OCOCH_2Cl
4-631	F	Cl	H	CF_3	H	H	$CH_2OCOCCl_3$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-632	F	Cl	H	CF_3	H	H	CH_2OCOCF_3
4-633	F	Cl	H	CF_3	H	H	COOH
4-634	F	Cl	H	CF_3	H	H	$COOCH_3$
4-635	F	Cl	H	CF_3	H	H	$COOC_2H_5$
4-636	F	Cl	H	CF_3	H	H	$COO^nC_3H_7$
4-637	F	Cl	H	CF_3	H	H	$COO^nC_4H_9$
4-638	F	Cl	H	CF_3	H	H	$COO^nC_5H_{11}$
4-639	F	Cl	H	CF_3	H	H	$COO^iC_3H_7$
4-640	F	Cl	H	CF_3	H	H	$COO^cC_5H_9$
4-641	F	Cl	H	CF_3	H	H	$COO^cC_6H_{11}$
4-642	F	Cl	H	CF_3	H	H	$COOCH_2CH=CH_2$
4-643	F	Cl	H	CF_3	H	H	$COOCH_2C\equiv CH$
4-644	F	Cl	H	CF_3	H	H	$CONH_2$
4-645	F	Cl	H	CF_3	H	H	$CONHCH_3$
4-646	F	Cl	H	CF_3	H	H	$CONHC_2H_5$
4-647	F	Cl	H	CF_3	H	H	$CON(CH_3)_2$
4-648	F	Cl	H	CF_3	H	H	$CON(C_2H_5)_2$
4-649	H	Cl	H	CF_3	H	CH_3	CH_2Cl
4-650	H	Cl	H	CF_3	H	CH_3	CH_2Br
4-651	H	Cl	H	CF_3	H	CH_3	CH_2OCH_3
4-652	H	Cl	H	CF_3	H	CH_3	$CH_2OC_2H_5$
4-653	H	Cl	H	CF_3	H	CH_3	$CH_2OCH_2OCH_3$
4-654	H	Cl	H	CF_3	H	CH_3	$CH_2OCH_2OC_2H_5$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-655	H	Cl	H	CF_3	H	CH_3	CH_2OCOCH_3
4-656	H	Cl	H	CF_3	H	CH_3	$CH_2OCOC_2H_5$
4-657	H	Cl	H	CF_3	H	CH_3	$CH_2OCO^iC_3H_7$
4-658	H	Cl	H	CF_3	H	CH_3	CH_2OCOCH_2Cl
4-659	H	Cl	H	CF_3	H	CH_3	$CH_2OCOCCl_3$
4-660	H	Cl	H	CF_3	H	CH_3	CH_2OCOCF_3
4-661	H	Cl	H	CF_3	H	CH_3	COOH
4-662	H	Cl	H	CF_3	H	CH_3	$COOCH_3$
4-663	H	Cl	H	CF_3	H	CH_3	$COOC_2H_5$
4-664	H	Cl	H	CF_3	H	CH_3	$COO^nC_3H_7$
4-665	H	Cl	H	CF_3	H	CH_3	$COO^nC_4H_9$
4-666	H	Cl	H	CF_3	H	CH_3	$COO^nC_5H_{11}$
4-667	H	Cl	H	CF_3	H	CH_3	$COO^iC_3H_7$
4-668	H	Cl	H	CF_3	H	CH_3	$COO^cC_5H_9$
4-669	H	Cl	H	CF_3	H	CH_3	$COO^cC_6H_{11}$
4-670	H	Cl	H	CF_3	H	CH_3	$COOCH_2CH=CH_2$
4-671	H	Cl	H	CF_3	H	CH_3	$COOCH_2C\equiv CH$
4-672	H	Cl	H	CF_3	H	CH_3	$CONH_2$
4-673	H	Cl	H	CF_3	H	CH_3	$CONHCH_3$
4-674	H	Cl	H	CF_3	H	CH_3	$CONHC_2H_5$
4-675	H	Cl	H	CF_3	H	CH_3	$CON(CH_3)_2$
4-676	H	Cl	H	CF_3	H	CH_3	$CON(C_2H_5)_2$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-677	F	Cl	H	CF_3	H	CH_3	CH_2Cl
4-678	F	Cl	H	CF_3	H	CH_3	CH_2Br
4-679	F	Cl	H	CF_3	H	CH_3	CH_2OCH_3
4-680	F	Cl	H	CF_3	H	CH_3	$CH_2OC_2H_5$
4-681	F	Cl	H	CF_3	H	CH_3	$CH_2OCH_2OCH_3$
4-682	F	Cl	H	CF_3	H	CH_3	$CH_2OCH_2OC_2H_5$
4-683	F	Cl	H	CF_3	H	CH_3	CH_2OCOCH_3
4-684	F	Cl	H	CF_3	H	CH_3	$CH_2OCOC_2H_5$
4-685	F	Cl	H	CF_3	H	CH_3	$CH_2OCO^iC_3H_7$
4-686	F	Cl	H	CF_3	H	CH_3	CH_2OCOCH_2Cl
4-687	F	Cl	H	CF_3	H	CH_3	$CH_2OCOCCl_3$
4-688	F	Cl	H	CF_3	H	CH_3	CH_2OCOCF_3
4-689	F	Cl	H	CF_3	H	CH_3	COOH
4-690	F	Cl	H	CF_3	H	CH_3	$COOCH_3$
4-691	F	Cl	H	CF_3	H	CH_3	$COOC_2H_5$
4-692	F	Cl	H	CF_3	H	CH_3	$COO^nC_3H_7$
4-693	F	Cl	H	CF_3	H	CH_3	$COO^nC_4H_9$
4-694	F	Cl	H	CF_3	H	CH_3	$COO^nC_5H_{11}$
4-695	F	Cl	H	CF_3	H	CH_3	$COO^iC_3H_7$
4-696	F	Cl	H	CF_3	H	CH_3	$COO^cC_5H_9$
4-697	F	Cl	H	CF_3	H	CH_3	$COO^cC_6H_{11}$
4-698	F	Cl	H	CF_3	H	CH_3	$COOCH_2CH=CH_2$
4-699	F	Cl	H	CF_3	H	CH_3	$COOCH_2C\equiv CH$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-700	F	Cl	H	CF_3	H	CH_3	$CONH_2$
4-701	F	Cl	H	CF_3	H	CH_3	$CONHCH_3$
4-702	F	Cl	H	CF_3	H	CH_3	$CONHC_2H_5$
4-703	F	Cl	H	CF_3	H	CH_3	$CON(CH_3)_2$
4-704	F	Cl	H	CF_3	H	CH_3	$CON(C_2H_5)_2$
4-705	H	Cl	CH_3	CF_3	H	H	CH_2Cl
4-706	H	Cl	CH_3	CF_3	H	H	CH_2Br
4-707	H	Cl	CH_3	CF_3	H	H	CH_2OCH_3
4-708	H	Cl	CH_3	CF_3	H	H	$CH_2OC_2H_5$
4-709	H	Cl	CH_3	CF_3	H	H	$CH_2OCH_2OCH_3$
4-710	H	Cl	CH_3	CF_3	H	H	$CH_2OCH_2OC_2H_5$
4-711	H	Cl	CH_3	CF_3	H	H	CH_2OCOCH_3
4-712	H	Cl	CH_3	CF_3	H	H	$CH_2OCOC_2H_5$
4-713	H	Cl	CH_3	CF_3	H	H	$CH_2OCO^iC_3H_7$
4-714	H	Cl	CH_3	CF_3	H	H	CH_2OCOCH_2Cl
4-715	H	Cl	CH_3	CF_3	H	H	$CH_2OCOCCl_3$
4-716	H	Cl	CH_3	CF_3	H	H	CH_2OCOCF_3
4-717	H	Cl	CH_3	CF_3	H	H	COOH
4-718	H	Cl	CH_3	CF_3	H	H	$COOCH_3$
4-719	H	Cl	CH_3	CF_3	H	H	$COOC_2H_5$
4-720	H	Cl	CH_3	CF_3	H	H	$COO^nC_3H_7$
4-721	H	Cl	CH_3	CF_3	H	H	$COO^nC_4H_9$
4-722	H	Cl	CH_3	CF_3	H	H	$COO^nC_5H_{11}$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-723	H	Cl	CH_3	CF_3	H	H	$COO^iC_3H_7$
4-724	H	Cl	CH_3	CF_3	H	H	$COO^cC_5H_9$
4-725	H	Cl	CH_3	CF_3	H	H	$COO^cC_6H_{11}$
4-726	H	Cl	CH_3	CF_3	H	H	$COOCH_2CH=CH_2$
4-727	H	Cl	CH_3	CF_3	H	H	$COOCH_2C\equiv CH$
4-728	H	Cl	CH_3	CF_3	H	H	$CONH_2$
4-729	H	Cl	CH_3	CF_3	H	H	$CONHCH_3$
4-730	H	Cl	CH_3	CF_3	H	H	$CONHC_2H_5$
4-731	H	Cl	CH_3	CF_3	H	H	$CON(CH_3)_2$
4-732	H	Cl	CH_3	CF_3	H	H	$CON(C_2H_5)_2$
4-733	F	Cl	CH_3	CF_3	H	H	CH_2Cl
4-734	F	Cl	CH_3	CF_3	H	H	CH_2Br
4-735	F	Cl	CH_3	CF_3	H	H	CH_2OCH_3
4-736	F	Cl	CH_3	CF_3	H	H	$CH_2OC_2H_5$
4-737	F	Cl	CH_3	CF_3	H	H	$CH_2OCH_2OCH_3$
4-738	F	Cl	CH_3	CF_3	H	H	$CH_2OCH_2OC_2H_5$
4-739	F	Cl	CH_3	CF_3	H	H	CH_2OCOCH_3
4-740	F	Cl	CH_3	CF_3	H	H	$CH_2OCOC_2H_5$
4-741	F	Cl	CH_3	CF_3	H	H	$CH_2OCO^iC_3H_7$
4-742	F	Cl	CH_3	CF_3	H	H	CH_2OCOCH_2Cl
4-743	F	Cl	CH_3	CF_3	H	H	$CH_2OCOCCl_3$
4-744	F	Cl	CH_3	CF_3	H	H	CH_2OCOCF_3
4-745	F	Cl	CH_3	CF_3	H	H	COOH

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-746	F	Cl	CH_3	CF_3	H	H	$COOCH_3$
4-747	F	Cl	CH_3	CF_3	H	H	$COOC_2H_5$
4-748	F	Cl	CH_3	CF_3	H	H	$COO^nC_3H_7$
4-749	F	Cl	CH_3	CF_3	H	H	$COO^nC_4H_9$
4-750	F	Cl	CH_3	CF_3	H	H	$COO^nC_5H_{11}$
4-751	F	Cl	CH_3	CF_3	H	H	$COO^iC_3H_7$
4-752	F	Cl	CH_3	CF_3	H	H	$COO^cC_5H_9$
4-753	F	Cl	CH_3	CF_3	H	H	$COO^cC_6H_{11}$
4-754	F	Cl	CH_3	CF_3	H	H	$COOCH_2CH=CH_2$
4-755	F	Cl	CH_3	CF_3	H	H	$COOCH_2C\equiv CH$
4-756	F	Cl	CH_3	CF_3	H	H	$CONH_2$
4-757	F	Cl	CH_3	CF_3	H	H	$CONHCH_3$
4-758	F	Cl	CH_3	CF_3	H	H	$CONHC_2H_5$
4-759	F	Cl	CH_3	CF_3	H	H	$CON(CH_3)_2$
4-760	F	Cl	CH_3	CF_3	H	H	$CON(C_2H_5)_2$
4-761	H	Cl	CH_3	CF_3	H	CH_3	CH_2Cl
4-762	H	Cl	CH_3	CF_3	H	CH_3	CH_2Br
4-763	H	Cl	CH_3	CF_3	H	CH_3	CH_2OCH_3
4-764	H	Cl	CH_3	CF_3	H	CH_3	$CH_2OC_2H_5$
4-765	H	Cl	CH_3	CF_3	H	CH_3	$CH_2OCH_2OCH_3$
4-766	H	Cl	CH_3	CF_3	H	CH_3	$CH_2OCH_2OC_2H_5$
4-767	H	Cl	CH_3	CF_3	H	CH_3	CH_2OCOCH_3
4-768	H	Cl	CH_3	CF_3	H	CH_3	$CH_2OCOC_2H_5$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-769	H	Cl	CH_3	CF_3	H	CH_3	$CH_2OCO^iC_3H_7$
4-770	H	Cl	CH_3	CF_3	H	CH_3	CH_2OCOCH_2Cl
4-771	H	Cl	CH_3	CF_3	H	CH_3	$CH_2OCOCCl_3$
4-772	H	Cl	CH_3	CF_3	H	CH_3	CH_2OCOCF_3
4-773	H	Cl	CH_3	CF_3	H	CH_3	COOH
4-774	H	Cl	CH_3	CF_3	H	CH_3	$COOCH_3$
4-775	H	Cl	CH_3	CF_3	H	CH_3	$COOC_2H_5$
4-776	H	Cl	CH_3	CF_3	H	CH_3	$COO^nC_3H_7$
4-777	H	Cl	CH_3	CF_3	H	CH_3	$COO^nC_4H_9$
4-778	H	Cl	CH_3	CF_3	H	CH_3	$COO^nC_5H_{11}$
4-779	H	Cl	CH_3	CF_3	H	CH_3	$GOO^iC_3H_7$
4-780	H	Cl	CH_3	CF_3	H	CH_3	$COO^cC_5H_9$
4-781	H	Cl	CH_3	CF_3	H	CH_3	$COO^cC_6H_{11}$
4-782	H	Cl	CH_3	CF_3	H	CH_3	$COOCH_2CH=CH_2$
4-783	H	Cl	CH_3	CF_3	H	CH_3	$COOCH_2C\equiv CH$
4-784	H	Cl	CH_3	CF_3	H	CH_3	$CONH_2$
4-785	H	Cl	CH_3	CF_3	H	CH_3	$CONHCH_3$
4-786	H	Cl	CH_3	CF_3	H	CH_3	$CONHC_2H_5$
4-787	H	Cl	CH_3	CF_3	H	CH_3	$CON(CH_3)_2$
4-788	H	Cl	CH_3	CF_3	H	CH_3	$CON(C_2H_5)_2$
4-789	F	Cl	CH_3	CF_3	H	CH_3	CH_2Cl
4-790	F	Cl	CH_3	CF_3	H	CH_3	CH_2Br

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-791	F	Cl	CH_3	CF_3	H	CH_3	CH_2OCH_3
4-792	F	Cl	CH_3	CF_3	H	CH_3	$CH_2OC_2H_5$
4-793	F	Cl	CH_3	CF_3	H	CH_3	$CH_2OCH_2OCH_3$
4-794	F	Cl	CH_3	CF_3	H	CH_3	$CH_2OCH_2OC_2H_5$
4-795	F	Cl	CH_3	CF_3	H	CH_3	CH_2OCOCH_3
4-796	F	Cl	CH_3	CF_3	H	CH_3	$CH_2OCOC_2H_5$
4-797	F	Cl	CH_3	CF_3	H	CH_3	$CH_2OCO^iC_3H_7$
4-798	F	Cl	CH_3	CF_3	H	CH_3	CH_2OCOCH_2Cl
4-799	F	Cl	CH_3	CF_3	H	CH_3	$CH_2OCOCCl_3$
4-800	F	Cl	CH_3	CF_3	H	CH_3	CH_2OCOCF_3
4-801	F	Cl	CH_3	CF_3	H	CH_3	COOH
4-802	F	Cl	CH_3	CF_3	H	CH_3	$COOCH_3$
4-803	F	Cl	CH_3	CF_3	H	CH_3	$COOC_2H_5$
4-804	F	Cl	CH_3	CF_3	H	CH_3	$COO^nC_3H_7$
4-805	F	Cl	CH_3	CF_3	H	CH_3	$COO^nC_4H_9$
4-806	F	Cl	CH_3	CF_3	H	CH_3	$COO^nC_5H_{11}$
4-807	F	Cl	CH_3	CF_3	H	CH_3	$COO^iC_3H_7$
4-808	F	Cl	CH_3	CF_3	H	CH_3	$COO^cC_5H_9$
4-809	F	Cl	CH_3	CF_3	H	CH_3	$COO^cC_6H_{11}$
4-810	F	Cl	CH_3	CF_3	H	CH_3	$COOCH_2CH=CH_2$
4-811	F	Cl	CH_3	CF_3	H	CH_3	$COOCH_2C\equiv CH$
4-812	F	Cl	CH_3	CF_3	H	CH_3	$CONH_2$
4-813	F	Cl	CH_3	CF_3	H	CH_3	$CONHCH_3$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-814	F	Cl	CH_3	CF_3	H	CH_3	$CONHC_2H_5$
4-815	F	Cl	CH_3	CF_3	H	CH_3	$CON(CH_3)_2$
4-816	F	Cl	CH_3	CF_3	H	CH_3	$CON(C_2H_5)_2$
4-817	H	Cl	CH_3	CF_3	H	H	CH_2Cl
4-818	H	Cl	CH_3	CF_3	H	H	CH_2Br
4-819	H	Cl	CH_3	CF_3	H	H	CH_2OCH_3
4-820	H	Cl	CH_3	CF_3	H	H	$CH_2OC_2H_5$
4-821	H	Cl	CH_3	CF_3	H	H	$CH_2OCH_2OCH_3$
4-822	H	Cl	CH_3	CF_3	H	H	$CH_2OCH_2OC_2H_5$
4-823	H	Cl	CH_3	CF_3	H	H	CH_2OCOCH_3
4-824	H	Cl	CH_3	CF_3	H	H	$CH_2OCOC_2H_5$
4-825	H	Cl	CH_3	CF_3	H	H	$CH_2OCO^iC_3H_7$
4-826	H	Cl	CH_3	CF_3	H	H	CH_2OCOCH_2Cl
4-827	H	Cl	CH_3	CF_3	H	H	$CH_2OCOCCl_3$
4-828	H	Cl	CH_3	CF_3	H	H	CH_2OCOCF_3
4-829	H	Cl	CH_3	CF_3	H	H	COOH
4-830	H	Cl	CH_3	CF_3	H	H	$COOCH_3$
4-831	H	Cl	CH_3	CF_3	H	H	$COOC_2H_5$
4-832	H	Cl	CH_3	CF_3	H	H	$COO^nC_3H_7$
4-833	H	Cl	CH_3	CF_3	H	H	$COO^nC_4H_9$
4-834	H	Cl	CH_3	CF_3	H	H	$COO^nC_5H_{11}$
4-835	H	Cl	CH_3	CF_3	H	H	$COO^iC_3H_7$
4-836	H	Cl	CH_3	CF_3	H	H	$COO^cC_5H_9$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-837	H	Cl	CH_3	CF_3	H	H	$COO^cC_6H_{11}$
4-838	H	Cl	CH_3	CF_3	H	H	$COOCH_2CH=CH_2$
4-839	H	Cl	CH_3	CF_3	H	H	$COOCH_2C\equiv CH$
4-840	H	Cl	CH_3	CF_3	H	H	$CONH_2$
4-841	H	Cl	CH_3	CF_3	H	H	$CONHCH_3$
4-842	H	Cl	CH_3	CF_3	H	H	$CONHC_2H_5$
4-843	H	Cl	CH_3	CF_3	H	H	$CON(CH_3)_2$
4-844	H	Cl	CH_3	CF_3	H	H	$CON(C_2H_5)_2$
4-845	F	Cl	CH_3	CF_3	H	H	CH_2Cl
4-846	F	Cl	CH_3	CF_3	H	H	CH_2Br
4-847	F	Cl	CH_3	CF_3	H	H	CH_2OCH_3
4-848	F	Cl	CH_3	CF_3	H	H	$CH_2OC_2H_5$
4-849	F	Cl	CH_3	CF_3	H	H	$CH_2OCH_2OCH_3$
4-850	F	Cl	CH_3	CF_3	H	H	$CH_2OCH_2OC_2H_5$
4-851	F	Cl	CH_3	CF_3	H	H	CH_2OCOCH_3
4-852	F	Cl	CH_3	CF_3	H	H	$CH_2OCOC_2H_5$
4-853	F	Cl	CH_3	CF_3	H	H	$CH_2OCO^iC_3H_7$
4-854	F	Cl	CH_3	CF_3	H	H	CH_2OCOCH_2Cl
4-855	F	Cl	CH_3	CF_3	H	H	$CH_2OCOCCl_3$
4-856	F	Cl	CH_3	CF_3	H	H	CH_2OCOCF_3
4-857	F	Cl	CH_3	CF_3	H	H	$COOH$
4-858	F	Cl	CH_3	CF_3	H	H	$COOCH_3$
4-859	F	Cl	CH_3	CF_3	H	H	$COOC_2H_5$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-860	F	Cl	CH_3	CF_3	H	H	$COO^nC_3H_7$
4-861	F	Cl	CH_3	CF_3	H	H	$COO^nC_4H_9$
4-862	F	Cl	CH_3	CF_3	H	H	$COO^nC_5H_{11}$
4-863	F	Cl	CH_3	CF_3	H	H	$COO^iC_3H_7$
4-864	F	Cl	CH_3	CF_3	H	H	$COO^cC_5H_9$
4-865	F	Cl	CH_3	CF_3	H	H	$COO^cC_6H_{11}$
4-866	F	Cl	CH_3	CF_3	H	H	$COOCH_2CH=CH_2$
4-867	F	Cl	CH_3	CF_3	H	H	$COOCH_2{}^tC\equiv CH$
4-868	F	Cl	CH_3	CF_3	H	H	$CONH_2$
4-869	F	Cl	CH_3	CF_3	H	H	$CONHCH_3$
4-870	F	Cl	CH_3	CF_3	H	H	$CONHC_2H_5$
4-871	F	Cl	CH_3	CF_3	H	H	$CON(CH_3)_2$
4-872	F	Cl	CH_3	CF_3	H	H	$CON(C_2H_5)_2$
4-873	H	Cl	CH_3	CF_3	H	CH_3	CH_2Cl
4-874	H	Cl	CH_3	CF_3	H	CH_3	CH_2Br
4-875	H	Cl	CH_3	CF_3	H	CH_3	CH_2OCH_3
4-876	H	Cl	CH_3	CF_3	H	CH_3	$CH_2OC_2H_5$
4-877	H	Cl	CH_3	CF_3	H	CH_3	$CH_2OCH_2OCH_3$
4-878	H	Cl	CH_3	CF_3	H	CH_3	$CH_2OCH_2OC_2H_5$
4-879	H	Cl	CH_3	CF_3	H	CH_3	CH_2OCOCH_3
4-880	H	Cl	CH_3	CF_3	H	CH_3	$CH_2OCOC_2H_5$
4-881	H	Cl	CH_3	CF_3	H	CH_3	$CH_2OCO^iC_3H_7$
4-882	H	Cl	CH_3	CF_3	H	CH_3	CH_2OCOCH_2Cl

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-883	H	Cl	CH_3	CF_3	H	CH_3	$CH_2OCOCCl_3$
4-884	H	Cl	CH_3	CF_3	H	CH_3	CH_2OCOCF_3
4-885	H	Cl	CH_3	CF_3	H	CH_3	COOH
4-886	H	Cl	CH_3	CF_3	H	CH_3	$COOCH_3$
4-887	H	Cl	CH_3	CF_3	H	CH_3	$COOC_2H_5$
4-888	H	Cl	CH_3	CF_3	H	CH_3	$COO^nC_3H_7$
4-889	H	Cl	CH_3	CF_3	H	CH_3	$COO^nC_4H_9$
4-890	H	Cl	CH_3	CF_3	H	CH_3	$COO^nC_5H_{11}$
4-891	H	Cl	CH_3	CF_3	H	CH_3	$COO^iC_3H_7$
4-892	H	Cl	CH_3	CF_3	H	CH_3	$COO^cC_5H_9$
4-893	H	Cl	CH_3	CF_3	H	CH_3	$COO^cC_6H_{11}$
4-894	H	Cl	CH_3	CF_3	H	CH_3	$COOCH_2CH=CH_2$
4-895	H	Cl	CH_3	CF_3	H	CH_3	$COOCH_2C\equiv CH$
4-896	H	Cl	CH_3	CF_3	H	CH_3	$CONH_2$
4-897	H	Cl	CH_3	CF_3	H	CH_3	$CONHCH_3$
4-898	H	Cl	CH_3	CF_3	H	CH_3	$CONHC_2H_5$
4-899	H	Cl	CH_3	CF_3	H	CH_3	$CON(CH_3)_2$
4-900	H	Cl	CH_3	CF_3	H	CH_3	$CON(C_2H_5)_2$
4-901	F	Cl	CH_3	CF_3	H	CH_3	CH_2Cl
4-902	F	Cl	CH_3	CF_3	H	CH_3	CH_2Br
4-903	F	Cl	CH_3	CF_3	H	CH_3	CH_2OCH_3
4-904	F	Cl	CH_3	CF_3	H	CH_3	$CH_2OC_2H_5$

TABLE 4 (contn'd)

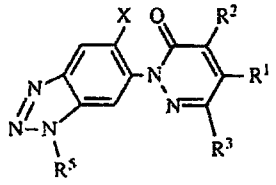
Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-905	F	Cl	CH_3	CF_3	H	CH_3	$CH_2OCH_2OCH_3$
4-906	F	Cl	CH_3	CF_3	H	CH_3	$CH_2OCH_2OC_2H_5$
4-907	F	Cl	CH_3	CF_3	H	CH_3	CH_2OCOCH_3
4-908	F	Cl	CH_3	CF_3	H	CH_3	$CH_2OCOC_2H_5$
4-909	F	Cl	CH_3	CF_3	H	CH_3	$CH_2OCO^iC_3H_7$
4-910	F	Cl	CH_3	CF_3	H	CH_3	CH_2OCOCH_2Cl
4-911	F	Cl	CH_3	CF_3	H	CH_3	$CH_2OCOCCl_3$
4-912	F	Cl	CH_3	CF_3	H	CH_3	CH_2OCOCF_3
4-913	F	Cl	CH_3	CF_3	H	CH_3	COOH
4-914	F	Cl	CH_3	CF_3	H	CH_3	$COOCH_3$
4-915	F	Cl	CH_3	CF_3	H	CH_3	$COOC_2H_5$
4-916	F	Cl	CH_3	CF_3	H	CH_3	$COO^nC_3H_7$
4-917	F	Cl	CH_3	CF_3	H	CH_3	$COO^nC_4H_9$
4-918	F	Cl	CH_3	CF_3	H	CH_3	$COO^nC_5H_{11}$
4-919	F	Cl	CH_3	CF_3	H	CH_3	$COO^iC_3H_7$
4-920	F	Cl	CH_3	CF_3	H	CH_3	$COO^cC_5H_9$
4-921	F	Cl	CH_3	CF_3	H	CH_3	$COO^cC_6H_{11}$
4-922	F	Cl	CH_3	CF_3	H	CH_3	$COOCH_2CH=CH_2$
4-923	F	Cl	CH_3	CF_3	H	CH_3	$COOCH_2C\equiv CH$
4-924	F	Cl	CH_3	CF_3	H	CH_3	$CONH_2$
4-925	F	Cl	CH_3	CF_3	H	CH_3	$CONHCH_3$
4-926	F	Cl	CH_3	CF_3	H	CH_3	$CONHC_2H_5$
4-927	F	Cl	CH_3	CF_3	H	CH_3	$CON(CH_3)_2$

TABLE 4 (contn'd)

Compound No.	X	Y	R^3	R^1	R^2	R^7	R^8
4-928	F	Cl	CH_3	CF_3	H	CH_3	$CON(C_2H_5)_2$
4-929	F	Cl	CH_3	CF_3	H	H	CH_3
4-930	F	Cl	CH_3	CF_3	H	H	CH_2OH
4-931	F	Cl	CH_3	CF_3	H	CH_3	CH_3
4-932	F	Cl	CH_3	CF_3	H	CH_3	CH_2OH
4-933	H	Cl	CH_3	CF_3	H	H	CH_3
4-934	H	Cl	CH_3	CF_3	H	H	CH_2OH
4-935	H	Cl	CH_3	CF_3	H	CH_3	CH_3
4-936	H	Cl	CH_3	CF_3	H	CH_3	CH_2OH

TABLE 5

Compounds of the formula:



Compound No.	X	R^3	R^1	R^2	R^5
5 − 1	H	H	CF_2Cl	CH_3	CH_3
5 − 2	H	H	CF_2Cl	CH_3	C_2H_5
5 − 3	H	H	CF_2Cl	CH_3	$^iC_3H_7$
5 − 4	H	H	CF_2Cl	CH_3	$^nC_3H_7$
5 − 5	H	H	CF_2Cl	CH_3	$^iC_4H_9$
5 − 6	H	H	CF_2Cl	CH_3	$CH_2CH=CH_2$
5 − 7	H	H	CF_2Cl	CH_3	$CH(CH_3)CH=CH_2$
5 − 8	H	H	CF_2Cl	CH_3	$CH_2C\equiv CH$
5 − 9	H	H	CF_2Cl	CH_3	$CH(CH_3)C\equiv CH$
5 −10	F	H	CF_2Cl	CH_3	CH_3
5 −11	F	H	CF_2Cl	CH_3	C_2H_5
5 −12	F	H	CF_2Cl	CH_3	$^iC_3H_7$
5 −13	F	H	CF_2Cl	CH_3	$^nC_3H_7$
5 −14	F	H	CF_2Cl	CH_3	$^iC_4H_9$
5 −15	F	H	CF_2Cl	CH_3	$CH_2CH=CH_2$

TABLE 5 (contn'd)

Compound No.	X	R^3	R^1	R^2	R^5
5-16	F	H	CF_2Cl	CH_3	$CH(CH_3)CH=CH_2$
5-17	F	H	CF_2Cl	CH_3	$CH_2C\equiv CH$
5-18	F	H	CF_2Cl	CH_3	$CH(CH_3)C\equiv CH$
5-19	H	H	CF_3	CH_3	CH_3
5-20	H	H	CF_3	CH_3	C_2H_5
5-21	H	H	CF_3	CH_3	$^iC_3H_7$
5-22	H	H	CF_3	CH_3	$^nC_3H_7$
5-23	H	H	CF_3	CH_3	$^tC_4H_9$
5-24	H	H	CF_3	CH_3	$CH_2CH=CH_2$
5-25	H	H	CF_3	CH_3	$CH(CH_3)CH=CH_2$
5-26	H	H	CF_3	CH_3	$CH_2C\equiv CH$
5-27	H	H	CF_3	CH_3	$CH(CH_3)C\equiv CH$
5-28	F	H	CF_3	CH_3	CH_3
5-29	F	H	CF_3	CH_3	C_2H_5
5-30	F	H	CF_3	CH_3	$^iC_3H_7$
5-31	F	H	CF_3	CH_3	$^tC_4H_9$
5-32	F	H	CF_3	CH_3	$CH_2CH=CH_2$
5-33	F	H	CF_3	CH_3	$CH(CH_3)CH=CH_2$
5-34	F	H	CF_3	CH_3	$CH_2C\equiv CH$
5-35	F	H	CF_3	CH_3	$CH(CH_3)C\equiv CH$
5-36	H	H	CF_2Cl	H	CH_3
5-37	H	H	CF_2Cl	H	C_2H_5
5-38	H	H	CF_2Cl	H	$^iC_3H_7$

TABLE 5 (contn'd)

Compound No.	X	R^3	R^1	R^2	R^5
5-39	H	H	CF_2Cl	H	$^nC_3H_7$
5-40	H	H	CF_2Cl	H	$^iC_4H_9$
5-41	H	H	CF_2Cl	H	$CH_2CH=CH_2$
5-42	H	H	CF_2Cl	H	$CH(CH_3)CH=CH_2$
5-43	H	H	CF_2Cl	H	$CH_2C\equiv CH$
5-44	H	H	CF_2Cl	H	$CH(CH_3)C\equiv CH$
5-45	F	H	CF_2Cl	H	CH_3
5-46	F	H	CF_2Cl	H	C_2H_5
5-47	F	H	CF_2Cl	H	$^iC_3H_7$
5-48	F	H	CF_2Cl	H	$^nC_3H_7$
5-49	F	H	CF_2Cl	H	$^iC_4H_9$
5-50	F	H	CF_2Cl	H	$CH_2CH=CH_2$
5-51	F	H	CF_2Cl	H	$CH(CH_3)CH=CH_2$
5-52	F	H	CF_2Cl	H	$CH_2C\equiv CH$
5-53	F	H	CF_2Cl	H	$CH(CH_3)C\equiv CH$
5-54	H	H	CF_3	H	CH_3
5-55	H	H	CF_3	H	C_2H_5
5-56	H	H	CF_3	H	$^iC_3H_7$
5-57	H	H	CF_3	H	$^nC_3H_7$
5-58	H	H	CF_3	H	$^iC_4H_9$
5-59	H	H	CF_3	H	$CH_2CH=CH_2$
5-60	H	H	CF_3	H	$CH(CH_3)CH=CH_2$
5-61	H	H	CF_3	H	$CH_2C\equiv CH$

TABLE 5 (contn'd)

Compound No.	X	R^3	R^1	R^2	R^5
5-62	H	H	CF_3	H.	$CH(CH_3)C\equiv CH$
5-63	F	H	CF_3	H	CH_3
5-64	F	H	CF_3	H	C_2H_5
5-65	F	H	CF_3	H	$^iC_3H_7$
5-66	F	H	CF_3	H	$^iC_4H_9$
5-67	F	H	CF_3	H	$CH_2CH=CH_2$
5-68	F	H	CF_3	H	$CH(CH_3)CH=CH_2$
5-69	F	H	CF_3	H	$CH_2C\equiv CH$
5-70	F	H	CF_3	H	$CH(CH_3)C\equiv CH$
5-71	H	CH_3	CF_3	H	CH_3
5-72	H	CH_3	CF_3	H	C_2H_5
5-73	H	CH_3	CF_3	H	$^iC_3H_7$
5-74	H	CH_3	CF_3	H	$^nC_3H_7$
5-75	H	CH_3	CF_3	H	$^iC_4H_9$
5-76	H	CH_3	CF_3	H	$CH_2CH=CH_2$
5-77	H	CH_3	CF_3	H	$CH(CH_3)CH=CH_2$
5-78	H	CH_3	CF_3	H	$CH_2C\equiv CH$
5-79	H	CH_3	CF_3	H	$CH(CH_3)C\equiv CH$
5-80	F	CH_3	CF_3	H	CH_3
5-81	F	CH_3	CF_3	H	C_2H_5
5-82	F	CH_3	CF_3	H	$^iC_3H_7$
5-83	F	CH_3	CF_3	H	$^iC_4H_9$
5-84	F	CH_3	CF_3	H	$CH_2CH=CH_2$

TABLE 5 (contn'd)

Compound No.	X	R^3	R^1	R^2	R^5
5 −85	F	CH_3	CF_3	H	$CH(CH_3)CH=CH_2$
5 −86	F	CH_3	CF_3	H	$CH_2C\equiv CH$
5 −87	F	CH_3	CF_3	H	$CH(CH_3)C\equiv CH$

The physical properties (melting point, m.p.) or ^{1}H-NMR (250 or 300 MHz, $CDCl_3$, TMS, δ(ppm)) data for some of the present compounds are shown below.

Compound 1-332, m.p. 97.0°C

Compound 1-335, m.p. 80.8°C

Compound 1-337, m.p. 91.5°C

Compound 1-338, m.p. 86.1°C

Compound 1-344, m.p. 94.2°C

Compound 1-347, m.p. 80.7°C

Compound 1-350, 2.41 (3H, q, J = 1.8 Hz), 4.05-4.35 (2H, b), 6.87-6.94 (1H, m), 7.03 (1H, d, J = 2.4 Hz), 7.33 (1H, d, J = 8.5 Hz), 7.98 (1H, s)

Compound 1-353, m.p. 124.0°C

Compound 1-367, 2.44 (3H, q, J = 1.9 Hz), 3.04 (3H, s), 6.88 (1H, s), 7.37 (1H, d, J = 9.0 Hz), 7.79 (1H, d, J = 7.0 Hz), 8.01 (1H, s)

Compound 1-369, 2.44 (3H, q, J = 2.0 Hz), 4.57 (2H, s), 7.06 (1H, s), 7.38 (1H, d, J = 9.0 Hz), 7.83 (1H, d, J = 6.9 Hz), 8.01 (1H, s)

Compound 1-391, m.p. 177.6°C

Compound 1-392, m.p. 172.5°C

Compound 1-398, m.p. 133.1°C

Compound 1-420, 1.25 (3H, t, J = 7.5 Hz), 1.51 (3H, d, J = 7.0 Hz), 2.42 (3H, q, J = 1.8 Hz), 4.0-4.18 (3H, m), 4.82 (1H, d, J = 7.9 Hz), 6.59 (1H, d, J = 6.3 Hz), 7.23 (1H, d, J = 9.3 Hz), 7.97 (1H, s)

Compound 1-429, 1.40 (6H, d, J = 6.3 Hz), 2.43 (3H, q, J = 2.4 Hz), 4.52-4.63 (1H, m), 7.14 (0.5H, d, J = 2.4 Hz), 7.17 (0.5H, d, J = 2.4 Hz), 7.24 (1H, d, J = 3.6 Hz), 7.29 (1H, s), 7.46 (1H, d, J = 8.4 Hz)

Compound 1-439, m.p. 110.6°C

Compound 1-449, 1.29 (3H, t, J = 7.5 Hz), 2.42 (3H, q, J = 2.4 Hz), 4.28 (2H, q, J = 7.5 Hz), 4.73 (2H, s), 7.20-7.32 (2H, m), 7.49 (1H, d, J = 10.4 Hz), 8.00 (1H, s)

Compound 1-456, 1.70 (3H, d, J = 6.9 Hz), 2.41 (3H, q, J = 2.1 Hz), 3.77 (3H, s), 4.81 (1H, q, J = 6.9 Hz), 7.21-7.28 (2H, m), 7.47 (1H, d, J = 8.7 Hz), 7.99 (1H, s)

Compound 1-474, m.p. 110.6°C

Compound 1-475, 1.46 (3H, t, J = 5.8 Hz), 2.44 (3H, q, J = 1.5 Hz), 4.07 (2H, q, J = 5.8 Hz), 6.94 (1H, d, J = 5.0 Hz), 7.29 (1H, d, J = 7.5 Hz), 8.01 (1H, s)

Compound 1-476, 1.38 (6H, d, J = 6.3 Hz), 2.43 (3H, q, J = 2.0 Hz), 4.47 (1H, m), 6.99 (1H, d, J = 5.0 Hz), 7.29 (1H, d, J = 9.5 Hz), 8.00 (1H, s)

Compound 1-482, m.p. 79.8°C

Compound 1-483, m.p. 132.7°C

Compound 1-486, m.p. 140.7°C (decomp.)

Compound 1-487, m.p. 114.1°C

Compound 1-491, m.p. 82.9°C

Compound 1-495, m.p. 80.4°C

Compound 1-496, m.p. 102.0°C

Compound 1-497, m.p. 82.9°C

Compound 1-498, m.p. 75.6°C

Compound 1-499, 0.88 (3H, t, J = 7 Hz), 1.2-1.4 (4H, m), 1.55-1.70 (2H, m), 2.43 (3H, q, J = 2 Hz), 4.19 (2H, t, J = 7 Hz), 4.68 (2H, s), 6.98 (1H, d, J = 7 Hz), 7.33 (1H, d, J = 8 Hz), 7.99 (1H, s)

Compound 1-500, 1.26 (6H, d, J = 6.3 Hz), 2.43 (3H, q, J = 2 Hz), 4.65 (2H, s), 5.05-5.18 (1H, m), 6.98 (1H, d, J = 7 Hz), 7.33 (1H, d, J = 8 Hz), 7.98 (1H, s)

Compound 1-501, 1.5-1.9 (8H, m), 2.43 (3H, q, J = 2 Hz), 4.65 (2H, s), 5.2-5.4 (1H, m), 6.97 (1H, d, J = 7 Hz), 7.33 (1H, d, J = 8 Hz), 7.98 (1H, s)

Compound 1-503, 1.68 (3H, d, J = 7 Hz), 2.43 (3H, q, J = 2 Hz), 3.76 (3H, s), 4.73 (1H, q, J = 7 Hz), 6.98 (1H, d, J = 7 Hz), 7.32 (1H, d, J = 8 Hz), 7.99 (1H, s)

Compound 1-504, 1.25 (3H, t, J = 7.3 Hz), 1.68 (3H, d, J = 6.8 Hz), 2.42 (3H, q, J = 2.0 Hz), 4.21 (2H, q, J = 7.3 Hz), 4.70 (1H, q, J = 6.8 Hz), 6.99 (1H, d, J = 6.8 Hz), 7.32 (1H, d, J = 9.3 Hz), 7.98 (1H, s)

Compound 1-511, m.p. 110.7°C

Compound 1-518, m.p. 131.2°C (decomp.)

Compound 1-576, 2.43 (3H, q, J = 1.8 Hz), 3.67 (2H, s), 3.72 (3H, s), 7.32 (1H, d, J = 8.5 Hz), 7.59 (1H, d, J = 7.1 Hz), 8.2 (1H, s)

Compound 1-577, 1.15 (3H, t, J = 7.5 Hz), 2.36 (3H, q, J = 1.8 Hz), 3.58 (2H, s), 4.09 (2H, q, J = 7.5 Hz), 7.28 (1H, d, J = 8.6 Hz), 7.52 (1H, d, J = 7.1 Hz), 7.93 (1H, s)

Compound 1-579, m.p. 71.6°C

Compound 1-581, m.p. 97.5°C

Compound 1-584, 1.53 (3H, d, J = 7.2 Hz), 2.43 (3H, q, J = 1.8 Hz), 3.66 (3H, s), 3.88 (1H, q, J = 7.2 Hz), 7.38 (1H, d, J = 9.6 Hz), 7.66 (1H, d, J = 7.5 Hz), 7.99 (1H, s)

Compound 1-585, 1.17 (3H, t, J = 6.9 Hz), 1.53 (3H, d, J = 7.2 Hz), 2.43 (3H, q, J = 1.8 Hz), 3.89 (1H, q, J = 7.2 Hz), 4.11 (2H, q, J = 6.9 Hz), 7.37 (1H, d, J = 9.6 Hz), 7.67 (1H, d, J = 9.0 Hz), 7.99 (1H, s)

Compound 1-586, 0.85 (3H, t, J = 6.8 Hz), 1.51-1.62 (5H, m), 2.43 (3H, q, J = 1.8 Hz), 3.89 (1H, q, J = 7.2 Hz), 4.02 (2H, t, J = 6.8 Hz), 7.33 (1H, d, J = 9.5 Hz), 7.66 (1H, d, J = 7.5 Hz), 7.98 (1H, s)

Compound 1-587, 0.88 (3H, t, J = 7.2 Hz), 1.30-1.40 (2H, m), 1.47-1.55 (5H, m), 2.43 (3H, q, J = 1.8 Hz), 3.89 (1H, q, J = 7.1 Hz), 4.02-4.08 (2H, m), 7.36 (1H, d, J = 9.4 Hz), 7.66 (1H, d, J = 7.5 Hz), 7.99 (1H, s)

Compound 1-619, 2.45 (3H, q, J = 1.6 Hz), 7.60 (1H, d, J = 8.6 Hz), 7.80-7.86 (1H, m), 8.04 (1H, s), 8.36 (1H, d, J = 2.5 Hz)

Compound 1-621, 1.40 (3H, t, J = 7.1 Hz), 2.43 (3H, q, J = 1.8 Hz), 4.41 (2H, q, J = 7.1 Hz), 7.56 (1H, d, J = 8.6 Hz), 7.72-7.78 (1H, m), 8.02 (1H, s), 8.16

(1H, d, J = 2.7 Hz)

Compound 1-625, 1.39 (6H, d, J = 6.2 Hz), 2.43 (3H, q, J = 1.6 Hz), 5.23-5.28 (1H, m), 7.54 (1H, d, J = 8.7 Hz), 7.70-7.76 (1H, m), 8.02 (1H, s), 8.10 (1H, d, J = 2.6 Hz)

Compound 1-632, m.p. 76.1°C

Compound 1-637, m.p. 102.8°C

Compound 1-641, 2.43 (3H, q, J = 2.0 Hz), 3.92 (3H, s), 7.39 (1H, d, J = 9.5 Hz), 8.02 (1H, s), 8.07 (1H, d, J = 7.7 Hz)

Compound 1-642, 1.39 (3H, t, J = 7.2 Hz), 2.44 (3H, q, J = 1.9 Hz), 4.40 (2H, q, J = 7.2 Hz), 7.38 (1H, d, J = 9.5 Hz), 8.00-8.06 (2H, m)

Compound 1-981, m.p. 87.1°C

Compound 1-987, 4.0-4.4 (2H, b), 6.8-6.9 (1H, m), 7.04 (1H, d, J = 2.4 Hz), 7.28 (1H, q, J = 1.2 Hz), 7.35 (1H, d, J = 8.6 Hz), 8.02 (1H, d, J = 2.2 Hz)

Compound 1-1025, 5.92 (1H, s), 7.16 (0.5H, d, J = 2.4 Hz), 7.19 (0.5H, d, J = 2.4 Hz), 7.30 (1H, q, J = 1.1 Hz), 7.34 (1H, d, J = 5.7 Hz), 7.43 (1H, d, J = 9.0 Hz), 8.04 (1H, q, J = 3.0 Hz)

Compound 1-1028, m.p. 180.2°C,

5.65-5.9 (1H, br), 7.09 (1H, d, J = 7 Hz), 7.27-7.30 (2H, m), 8.10 (1H, q, J = 2.2 Hz)

Compound 1-1029, 7.09 (1H, d, J = 6.4 Hz), 7.31 (1H, q, J = 1.1 Hz), 7.42 (1H, d, J = 8.8 Hz), 8.04 (1H, q, J = 2.2 Hz)

Compound 1-1035, m.p. 61.1°C

Compound 1-1057, m.p. 158°C

Compound 1-1066, m.p. 89.1°C

Compound 1-1076, m.p. 113.5°C

Compound 1-1086, m.p. 83.9°C

Compound 1-1093, m.p. 83.1°C

Compound 1-1113, m.p. 68.6°C

Compound 1-1123, m.p. 147.4°C

Compound 1-1124, m.p. 117.2°C

Compound 1-1133, m.p. 149.2°C (decomp.)

Compound 1-1140, m.p. 99.1°C

Compound 1-1141, m.p. 80.2°C

Compound 1-1213, m.p. 85.8°C

Compound 1-1214, m.p. 65.1°C

Compound 1-1221, 1.54 (3H, d, J = 7.2 Hz), 3.66 (3H, s), 3.90 (1H, q, J = 7.2 Hz), 7.31 (1H, s), 7.39 (1H, d, J = 9.0 Hz), 7.67 (1H, d, J = 8.7 Hz), 8.04 (1H, d, J = 3.6 Hz)

Compound 1-1222, 1.16 (3H, t, J = 5.1 Hz), 1.53 (3H, d, J = 7.2 Hz), 3.89 (1H, q, J = 7.2 Hz), 4.10 (2H, q, J = 5.1 Hz), 7.30 (1H, q, J = 1.1 Hz), 7.38 (1H, d, J = 9.0 Hz), 7.68 (1H, d, J = 7.5 Hz), 8.04 (1H, q, J = 2.2 Hz)

Compound 1-1226, 1.12 (3H, d, J = 6.0 Hz), 1.21 (3H, d, J = 6.0 Hz), 1.52 (3H, d, J = 3.0 Hz), 3.88 (1H, q, J = 3.0 Hz), 4.85-5.03 (1H, m), 7.30 (1H, q, J = 1.8 Hz), 7.37 (1H, d, J = 9.0 Hz), 7.67 (1H, d, J = 7.5 Hz), 8.02 (1H, q, J = 2.1 Hz)

Compound 1-1256, 7.35 (1H, q, J = 1.1 Hz), 7.62 (1H, d, J = 8.7 Hz), 7.82-7.88 (1H, m), 8.09 (1H, d, J = 2.2 Hz), 8.35 (1H, d, J = 2.6 Hz)

Compound 1-1258, 1.41 (3H, t, J = 7.1 Hz), 4.42 (2H, q, J = 7.1 Hz), 7.31 (1H, s), 7.57 (1H, d, J = 8.7 Hz), 7.74-7.79 (1H, m), 8.07 (1H, q, J = 2.1 Hz), 8.16 (1H, d, J = 2.6 Hz)

Compound 1-1269, m.p. 89.7°C

Compound 1-1274, m.p. 154.2°C

Compound 1-1278, m.p. 128.6°C

Compound 1-1279, 1.40 (3H, t, J = 7.1 Hz), 4.40 (2H, q, J = 7.1 Hz), 7.33 (1H, q, J = 1.1 Hz), 7.39 (1H, d, J = 9.4 Hz), 8.05 (1H, d, J = 8.3 Hz), 8.07 (1H, s)

Compound 1-1346, 2.48 (3H, s), 5.66 (1H, s), 7.08 (1H, d, J = 7.8 Hz), 7.28 (1H, d, J = 9.0 Hz), 7.32 (1H, s)

Compound 1-1431, m.p. 74.5°C

Compound 1-1441, m.p. 128.2°C

Compound 1-1442, 1.73 (3H, d, J = 6.6 Hz), 2.49 (3H, q, J = 1.3 Hz), 2.54 (1H, d, J = 2.0 Hz), 4.84 (1H, m), 7.22 (1H, d, J = 6.5 Hz), 7.28-7.34 (2H, m)

Compound 1-1451, 1.29 (3H, t, J = 7.0 Hz), 2.47 (3H, q, J = 1.4 Hz), 4.27 (2H, q, J = 7.0 Hz), 4.68 (2H, s), 6.99 (1H, d, J = 7.1 Hz), 7.32 (1H, s), 7.34 (1H, d, J = 7.2 Hz)

Compound 1-1458, 1.69 (3H, d, J = 6.8 Hz), 2.48 (3H, q, J = 1.3 Hz), 3.76 (3H, s), 4.74 (1H, q, J = 6.8 Hz), 7.01 (1H, d, J = 6.5 Hz), 7.29-7.34 (2H, m)

Compound 1-1540, 1.17 (3H, t, J = 7.0 Hz), 1.54 (3H, d, J = 7.3 Hz), 2.48 (3H, q, J = 1.4 Hz), 3.89 (1H, q, J = 7.3 Hz), 4.11 (2H, q, J = 7.0 Hz), 7.31 (1H, s), 7.37 (1H, d, J = 9.5 Hz), 7.67 (1H, d, J = 7.5 Hz)

Compound 1-1617, m.p. 105.7°C

Compound 1-1622, 1.27 (3H, t, J = 7.0 Hz), 2.42 (3H, q, J = 2.0 Hz), 3.26 (0.3H, d, J = 7.6 Hz), 3.32 (0.7H, d, J = 7.6 Hz), 3.49 (0.7H, d, J = 7.6 Hz), 3.54 (0.3H, d, J = 7.6 Hz), 4.23 (2H, q, J = 7.0 Hz), 4.54 (0.5H, d, J = 7.6 Hz), 4.57 (0.5 H, d, J = 7.6 Hz), 7.34 (1H, d, J = 9.3 Hz), 7.40 (1H, d, J = 7.5 Hz), 8.00 (1H, s)

Compound 1-1627, m.p. 182.2°C

Compound 1-1638, 3.66 (2H, s), 7.31 (1H, s), 7.34 (1H, d, J = 9.3 Hz), 7.62 (1H, d, J = 7.2 Hz), 8.08 (1H, s)

Compound 1-1639, m.p. 158.9°C (decomp.)

Compound 1-1641, 1.55 (3H, d, J = 7.2 Hz), 3.88 (1H, q, J = 7.2 Hz), 7.32 (1H, s), 7.37 (1H, d, J = 9.2 Hz), 7.69 (1H, d, J = 7.1 Hz), 8.03 (1H, s)

Compound 1-1650, 1.11 (3H, t, J = 7.5 Hz), 2.03-2.12 (2H, m), 2.43 (3H, q, J = 1.8 Hz), 3.75 (3H, s), 4.58 (1H, t, J = 7.5 Hz), 6.92 (1H, d, J = 8.2 Hz), 7.32

(1H, d, J = 9.3 Hz), 8.00 (1H, s)

Compound 1-1655, m.p. 119.7°C,

1.29 (3H, t, J = 7.1 Hz), 2.43 (3H, q, J = 1.8 Hz), 4.26 (2H, q, J = 7.1 Hz), 4.68 (2H, s), 6.91 (1H, s), 7.60 (1H, s), 7.99 (1H, s)

Compound 1-1663, m.p. 136.2°C,

2.44 (3H, q, J = 1.8 Hz), 2.58 (1H, t, J = 2.3 Hz), 4.78 (2H, d, J = 2.3 Hz), 7.12 (1H, s), 7.59 (1H, s), 8.01 (1H, s)

Compound 1-1665, 1.23 (3H, t, J = 6.9 Hz), 1.68 (3H, d, J = 6.8 Hz), 2.42 (3H, q, J = 1.8 Hz), 4.1-4.3 (2H, m), 4.72 (1H, q, J = 6.8 Hz), 6.90 (1H, s), 7.58 (1H, s), 7.97 (1H, s)

Compound 1-1670, m.p. 118.1°C

Compound 1-1673, m.p. 107.2°C

Compound 1-1678, m.p. 164.7°C

Compound 1-1679, 1.73 (3H, d, J = 6.9 Hz), 2.54 (1H, d, J = 2.1 Hz), 4.73-4.90 (1H, m), 7.20 (1H, d, J = 6.3 Hz), 7.30 (1H, s), 7.49 (1H, d, J = 8.7 Hz), 8.00 (1H, s)

Compound 1-1680, m.p. 90.1°C

Compound 1-1681, m.p. 148.1°C

Compound 1-1682, m.p. 107.0°C

Compound 1-1683, 1.25 (3H, t, J = 7.2 Hz), 1.68 (3H, d, J = 6.8 Hz), 2.42 (3H, q, J = 1.5 Hz), 4.13-4.26 (2H, m), 4.70 (1H, q, J = 6.8 Hz), 6.96 (1H, d, J = 6.3 Hz), 7.48 (1H, d, J = 9.0 Hz), 7.97 (1H, s)

Compound 1-1687, m.p. 200.1°C

Compound 1-1689, m.p. 76.3°C

Compound 1-1690, m.p. 196.1°C

Compound 1-1691, 3.06 (3H, s), 7.10-7.30 (1H, b), 7.30 (1H, s), 7.64 (1H, s), 7.74 (1H, s), 8.06 (1H, q, J = 2.1 Hz)

Compound 1-1701, 1.39 (3H, t, J = 7.1 Hz), 4.40 (2H, q, J = 7.1 Hz),

7.33 (1H, q, J = 1.1 Hz), 7.69 (1H, s), 7.97 (1H, s), 8.06 (1H, q, J = 2.2 Hz)

Compound 1-1718, m.p. 63.9°C

Compound 1-1719, m.p. 189.5°C

Compound 1-1720, m.p. 117.3°C

Compound 1-1721, m.p. 156.1°C

Compound 1-1722, 2.47 (3H, q, J = 1.8 Hz), 3.05 (3H, s), 7.15-7.30 (1H, b), 7.66 (1H, s), 7.78 (1H, s), 8.03 (1H, s)

Compound 1-1732, 1.38 (3H, t, J = 7.1 Hz), 2.44 (3H, q, J = 1.8 Hz), 4.39 (2H, q, J = 7.1 Hz), 7.68 (1H, s), 7.96 (1H, s), 8.02 (1H, s)

Compound 1-1748, 1.38 (6H, d, J = 6.0 Hz), 2.44 (3H, q, J = 1.9 Hz), 4.40-4.59 (1H, m), 6.95 (1H, s), 7.55 (1H, s), 8.00 (1H, s)

Compound 1-1780, m.p. 76.4°C

Compound 1-1781, 3.51 (3H, s), 3.51 (3H, s), 7.30 (1H, q, J = 1.2 Hz), 7.59 (1H, d, J = 6.7 Hz), 7.65 (1H, d, J = 9.0 Hz), 8.06 (1H, d, J = 2.1 Hz)

Compound 1-1782, 3.03 (3H, s), 7.09 (1H, s), 7.32 (1H, q, J = 1.0 Hz), 7.53 (1H, d, J = 8.7 Hz), 7.77 (1H, d, J = 6.8 Hz), 8.07 (1H, q, J = 2.2 Hz)

Compound 1-1783, 1.38 (6H, d, J = 6.1 Hz), 2.43 (3H, q, J = 1.7 Hz), 4.4-4.6 (1H, m), 6.95 (1H, d, J = 6.4 Hz), 7.47 (1H, d, J = 8.9 Hz), 8.00 (1H, s)

Compound 1-1785, 2.43 (3H, q, J = 1.9 Hz), 3.03 (3H, s), 7.03 (1H, s), 7.52 (1H, d, J = 8.8 Hz), 7.76 (1H, d, J = 6.9 Hz), 8.02 (1H, s)

Compound 1-1789, m.p. 78.3°C

Compound 1-1790, m.p. 63.2°C

Compound 1-1879, 2.42 (3H, q, J = 1.8 Hz), 5.38 (2H, s), 7.28-7.47 (5H, m), 7.56 (1H, d, J = 8.7 Hz), 7.72-7.79 (1H, m), 8.00 (1H, s), 8.18 (1H, d, J = 2.5 Hz)

Compound 1-1881, 2.20 (0.75H, s), 2.24 (2.25H, s), 2.42 (3H, q, J = 1.9 Hz), 3.82 (0.75H, s), 3.98 (2.25H, s), 7.47-7.68 (3H, m), 8.00 (1H, s)

Compound 1-1901, m.p. 99.2°C

Compound 1-1908, m.p. 77.6°C

Compound 1-1910, m.p. 75.3°C

Compound 1-1930, m.p. 139.7°C

Compound 1-2051, 1.25 (3H, t, J = 7.2 Hz), 2.42 (3H, q, J = 1.9 Hz), 4.17 (2H, q, J = 7.2 Hz), 4.71 (2H, s), 4.82 (2H, s), 7.10 (1H, d, J = 6.3 Hz), 7.33 (1H, d, J = 9.1 Hz), 7.99 (1H, s)

Compound 1-2054, 1.24 (3H, t, J = 7.1 Hz), 1.51 (3H, d, J = 7.2 Hz), 2.42 (3H, q, J = 1.8 Hz), 4.15 (2H, q, J = 7.1 Hz), 4.78 (2H, s), 5.19 (1H, q, J = 7.2 Hz), 7.08 (1H, d, J = 6.3 Hz), 7.32 (1H, d, J = 9.1 Hz), 7.98 (1H, s)

Compound 2-203, 2.3-2.4 (1H, m), 2.35 (3H, q, J = 1.9 Hz), 4.5-4.7 (4H, m), 7.00 (1H, d, J = 6.5 Hz), 7.19 (1H, m), 7.39 (1H, d, J = 2.5 Hz), 7.95 (1H, s)

Compound 2-251, m.p. 168.3°C

Compound 2-328, 0.90 (3H, t, J = 7.3 Hz), 1.54 (3H, d, J = 7.0 Hz), 1.70-1.90 (2H, m), 2.46 (3H, m), 4.50 (1H, m), 7.18 (1H, d, J = 5.75 Hz), 7.35 (1H, d, J = 8.8 Hz), 8.04 (1H, s)

Compound 2-583, m.p. 149.1°C

Compound 2-631, m.p. 168.3°C

Compound 2-708, 0.90 (3H, t, J = 7.3 Hz), 1.55 (3H, d, J = 7.0 Hz), 1.75-1.95 (2H, m), 4.50 (1H, m), 7.22 (1H, d, J = 5.8 Hz), 7.30-7.40 (2H, m), 8.08 (1H, q, J = 2.2 Hz)

Compound 2-821, m.p. 162.7°C

Compound 3-139, m.p. 88.2°C

Compound 4-434, 1.67 (3H, s), 2.35 (3H, q, J = 1.7 Hz), 3.0-3.2 (1H, m), 3.4-3.7 (1H, m), 3.71 (3H, s), 7.03 (1H, d, J = 5.0 Hz), 7.97 (1H, q, J = 3.3 Hz)

Compound 4-451, 1.53 (6H, s), 2.43 (3H, q, J = 1.9 Hz), 2.96 (1H, d, J = 16.2 Hz), 3.08 (1H, d, J = 16.2 Hz), 7.07 (1H, d, J = 9.9 Hz), 7.99 (1H, s)

Compound 4-452, 1.4-1.5 (3H, m), 2.43 (3H, q, J = 2.0 Hz), 2.7-3.0 (1H, m), 3.1-3.5 (1H, m), 3.5-3.8 (2H, m), 7.07 (1H, d, J = 10.0 Hz), 8.00 (1H, q, J = 2.5

Hz)

The following will describe formulation examples, in which the present compounds are designated by their compound numbers shown in Tables 1 to 5 and parts are by weight.

Formulation Example 1

Fifty parts of each of compounds 1-1 to 1-2157, 2-1 to 2-950, 3-1 to 3-582, 4-1 to 4-936, and 5-1 to 5-87, 3 parts of calcium ligninsulfonate, 2 parts of sodium laurylsulfate, and 45 parts of synthetic hydrated silicon oxide are well pulverized and mixed to give a wettable powder for each compound.

Formulation Example 2

Ten parts of each of compounds 1-1 to 1-2157, 2-1 to 2-950, 3-1 to 3-582, 4-1 to 4-936, and 5-1 to 5-87, 14 parts of polyoxyethylene styryl phenyl ether, 6 parts of calcium dodecylbenzenesulfonate, 35 parts of xylene, and 35 parts of cyclohexanone are well mixed to give an emulsifiable concentrate for each compound.

Formulation Example 3

Two parts of each of compounds 1-1 to 1-2157, 2-1 to 2-950, 3-1 to 3-582, 4-1 to 4-936, and 5-1 to 5-87, 2 parts of synthetic hydrated silicon oxide, 2 parts of calcium ligninsulfonate, 30 parts of bentonite, and 64 parts of kaoline clay are well pulverized and mixed, to which water is added, and the mixture is well kneaded, granulated, and dried to give a granule for each compound.

Formulation Example 4

Twenty-five parts of each of compounds 1-1 to 1-2157, 2-1 to 2-950, 3-1 to 3-582, 4-1 to 4-936, and 5-1 to 5-87, 50 parts of 10% aqueous polyvinyl alcohol solution, and 25 parts of water are mixed, and the mixture is pulverized until the average particle size becomes 5 μm or less to give a flowable for each compound.

Formulation Example 5

Five parts of compound 1-1650 is added to 40 parts of 10% aqueous polyvinyl alcohol solution and dispersed by emulsion with a homogenizer until the mean

particle size becomes 10 μm or less, to which 55 parts of water is added to give a concentrated emulsion.

The following test examples will demonstrate that the present compounds are useful as active ingredients of herbicides. The present compounds are designated by their compound numbers shown in Tables 1 to 5.

The herbicidal activity and phytotoxicity were evaluated at 6 levels with indices of 0 to 5, i.e., designated by the numeral "0", "1", "2", "3", "4" or "5", wherein "0" means that there was no or little difference in the degree of germination or growth between the treated and the untreated test plants at the time of examination, and "5" means that the test plants died complete or their germination or growth was completely inhibited. The herbicidal activity is excellent when rated at "4" or "5" but insufficient when rated at "3" or lower. The phytotoxicity is no problematic on practical use when rated at "0" or "1" but not allowed when rated at "2" or higher.

Test Example 1: Foliar treatment on upland fields

Cylindrical plastic pots of 10 cm in diameter and 10 cm in depth were filled with soil, in which the seeds of entireleaf morningglory (*Ipomoea hederacea* var. *integriuscula*) and velvetleaf (*Abutilon theophrasti*) were sowed, and the test plants were grown in a greenhouse for 19 days. Each of the test compounds listed below was formulated into an emulsifiable concentrate according to Formulation Example 2, which was diluted with water containing a spreading agent to a prescribed concentration. The dilution was uniformly sprayed over the foliage of the test plants with a sprayer at a volume of 1000 liters per hectare. After the application, the test plants were grown in the greenhouse for 19 days, and the herbicidal activity was examined. The results are shown in Table 6.

TABLE 6

Test compound	Application amount of active ingredient (g/ha)	Herbicidal activity	
		Entireleaf morningglory	Velvetleaf
1-332	500	5	5
1-335	500	5	5
1-338	500	5	5
1-347	500	5	5
1-350	500	5	5
1-353	500	5	5
1-367	500	5	5
1-369	500	5	5
1-391	500	5	5
1-392	500	5	5
1-398	500	5	5
1-420	500	5	5
1-429	500	5	5
1-439	500	5	5
1-449	500	5	5
1-456	500	5	5
1-474	500	5	5
1-475	500	5	5
1-476	500	5	5
1-482	500	5	5
1-483	500	5	5
1-486	500	5	5
1-487	500	5	5
1-491	500	5	5
1-495	500	5	5
1-496	500	5	5
1-497	500	5	5
1-498	500	5	5
1-499	500	5	5
1-500	500	5	5
1-501	500	5	5
1-503	500	5	5
1-504	500	5	5
1-511	500	5	5
1-576	500	5	5
1-577	500	5	5
1-579	500	5	5
1-581	500	5	5
1-584	500	5	5
1-585	500	5	5
1-586	500	5	5
1-587	500	5	5
1-619	500	5	5
1-621	500	5	5
1-625	500	5	5
1-637	500	5	5
1-641	500	5	5
1-642	500	5	5

TABLE 6 (contn'd)

Test compound	Application amount of active ingredient (g/ha)	Herbicidal activity	
		Entireleaf morningglory	Velvetleaf
I-987	500	5	5
I-1025	500	5	5
I-1028	500	5	5
I-1029	500	5	5
I-1035	500	5	5
I-1057	500	5	5
I-1066	500	5	5
I-1076	500	5	5
I-1086	500	5	5
I-1093	500	5	5
I-1113	500	5	5
I-1123	500	5	5
I-1124	500	5	5
I-1133	500	5	5
I-1140	500	5	5
I-1141	500	5	5
I-1213	500	5	5
I-1214	500	5	5
I-1221	500	5	5
I-1222	500	5	5
I-1226	500	5	5
I-1274	500	5	5
I-1278	500	5	5
I-1279	500	5	5
I-1422	500	5	5
I-1431	500	5	5
I-1441	500	5	5
I-1451	500	5	5
I-1458	500	5	5
I-1540	500	5	5
I-1617	500	5	5
I-1622	500	5	5
I-1627	500	5	5
I-1638	500	5	5
I-1639	500	5	5
I-1641	500	5	5
I-1650	500	5	5
I-1655	500	5	5
I-1663	500	5	5
I-1665	500	5	5
I-1670	500	5	5
I-1673	500	5	5
I-1678	500	5	5
I-1679	500	5	5
I-1680	500	5	5
I-1681	500	5	5
I-1682	500	5	5
I-1683	500	5	5

TABLE 6 (contn'd)

Test compound	Application amount of active ingredient (g/ha)	Herbicidal activity	
		Entireleaf morningglory	Velvetleaf
1-1691	500	5	5
1-1701	500	5	5
1-1718	500	5	5
1-1719	500	5	5
1-1722	500	5	5
1-1732	500	5	5
1-1748	500	5	5
1-1780	500	5	5
1-1781	500	5	5
1-1782	500	5	5
1-1783	500	5	5
1-1785	500	5	5
2-203	500	5	5
2-251	500	5	5
2-328	500	5	5
2-583	500	5	5
2-631	500	5	5
2-708	500	5	5
2-821	500	5	5
3-139	500	5	5
4-434	500	5	5
4-451	500	5	5
1-344	2000	5	5
1-981	2000	5	5
1-1689	2000	5	5
1-1720	2000	5	5
1-1721	2000	5	5

Test Example 2: Foliar treatment on upland fields

Cylindrical plastic pots of 10 cm in diameter and 10 cm in depth were filled with soil, in which the seeds of barnyardgrass (*Echinochloa crus-galli*), entireleaf morningglory (*Ipomoea hederacea* var. *integriuscula*), and velvetleaf (*Abutilon theophrasti*) were sowed, and the test plants were grown in a greenhouse for 19 days. Each of the test compounds listed below was formulated into an emulsifiable concentrate according to Formulation Example 2, which was diluted with water containing a spreading agent to a prescribed concentration. The dilution was uniformly sprayed over the foliage of the test plants with a sprayer at a volume of 1000 liters per hectare. After the application, the test plants were grown in the greenhouse for 19 days, and the herbicidal activity was examined. The results are shown in Table 7.

TABLE 7

Test compound	Application amount of active ingredient (g/ha)	Herbicidal activity		
		Barnyardgrass	Entireleaf morningglory	Velvetleaf
I-369	32	5	5	5
I-420	32	5	5	5
I-439	32	4	5	5
I-482	32	5	5	5
I-486	32	4	5	5
I-487	32	5	5	5
I-491	32	5	5	5
I-495	32	5	5	5
I-496	32	5	5	5
I-499	32	5	5	5
I-503	32	5	5	5
I-576	32	5	5	5
I-577	32	5	5	5
I-579	32	5	5	5
I-581	32	5	5	5
I-584	32	5	5	5
I-585	32	5	5	5
I-625	32	5	5	5
I-641	32	5	5	5
I-642	32	5	5	5
I-1057	32	5	5	5
I-1076	32	4	5	5
I-1123	32	4	5	5
I-1124	32	5	5	5
I-1140	32	5	5	5
I-1141	32	4	5	5
I-1213	32	5	5	5
I-1214	32	5	5	5
I-1221	32	5	5	5
I-1222	32	5	5	5
I-1226	32	5	5	5
I-1279	32	5	5	5
I-1422	32	5	5	5
I-1431	32	5	5	5
I-1441	32	5	5	5
I-1458	32	5	5	5
I-1540	32	5	5	5
I-1665	32	5	5	5
I-1670	32	5	5	5
I-1673	32	5	5	5
I-1678	32	5	5	5
I-1679	32	5	5	5
I-1680	32	5	5	5
I-1681	32	5	5	5
I-1682	32	5	5	5
I-1683	32	5	5	5
I-1701	32	5	5	5
I-1732	32	5	5	5

TABLE 7 (contn'd)

Test compound	Application amount of active ingredient (g/ha)	Herbicidal activity		
		Branyardgrass	Entireleaf morningglory	Velvetleaf
1-1780	32	5	5	5
1-1783	32	5	5	5
2-203	32	4	5	5
2-251	32	5	5	5
2-583	32	4	5	5
2-631	32	5	5	5
2-821	32	5	5	5
4-434	32	5	5	5

Test Example 3: Soil surface treatment on upland fields

Cylindrical plastic pots of 10 cm in diameter and 10 cm in depth were filled with soil, in which the seeds of entireleaf morningglory (*Ipomoea hederacea* var. *integriuscula*) and velvetleaf (*Abutilon theophrasti*) were sowed. Each of the test compounds listed below was formulated into an emulsifiable concentrate according to Formulation Example 2, which was diluted with water to a prescribed concentration. The dilution was uniformly sprayed over the soil surface in the pots with a sprayer at a volume of 1000 liters per hectare. After the application, the test plants were grown in a greenhouse for 19 days, and the herbicidal activity was examined. The results are shown in Table 8.

TABLE 8

Test compound	Application amount of active ingredient (g/ha)	Herbicidal activity	
		Entireleaf morningglory	Velvetleaf
1-347	500	5	5
1-332	500	5	5
1-335	500	5	5
1-338	500	5	5
1-353	500	5	5
1-367	500	5	5
1-369	500	5	5
1-391	500	5	5
1-392	500	5	5

TABLE 8 (contn'd)

Test compound	Application amount of active ingredient (g/ha)	Herbicidal activity	
		Entireleaf morningglory	Velvetleaf
I-398	500	5	5
I-420	500	5	5
I-439	500	5	5
I-449	500	5	5
I-456	500	5	5
I-474	500	5	5
I-475	500	5	5
I-476	500	5	5
I-482	500	5	5
I-486	500	5	5
I-487	500	5	5
I-491	500	5	5
I-495	500	5	5
I-496	500	5	5
I-497	500	5	5
I-498	500	5	5
I-499	500	5	5
I-500	500	5	5
I-501	500	5	5
I-503	500	5	5
I-504	500	5	5
I-511	500	5	5
I-576	500	5	5
I-577	500	5	5
I-579	500	5	5
I-581	500	5	5
I-584	500	5	5
I-585	500	5	5
I-587	500	5	5
I-621	500	5	5
I-625	500	5	5
I-641	500	5	5
I-642	500	5	5
I-1028	500	5	5
I-1029	500	5	5
I-1035	500	5	5
I-1057	500	5	5
I-1066	500	5	5
I-1076	500	5	5
I-1093	500	5	5
I-1113	500	5	5
I-1123	500	5	5
I-1124	500	5	5
I-1133	500	5	5
I-1140	500	5	5
I-1141	500	5	5
I-1213	500	5	5
I-1214	500	5	5

TABLE 8 (contn'd)

Test compound	Application amount of active ingredient (g/ha)	Herbicidal activity	
		Entireleaf morningglory	Velvetleaf
1-1221	500	5	5
1-1222	500	5	5
1-1226	500	5	5
1-1279	500	5	5
1-1422	500	5	5
1-1431	500	5	5
1-1441	500	5	5
1-1451	500	5	5
1-1458	500	5	5
1-1540	500	5	5
1-1617	500	5	5
1-1622	500	5	5
1-1627	500	5	5
1-1638	500	5	5
1-1639	500	5	5
1-1641	500	5	5
1-1650	500	5	5
1-1655	500	5	5
1-1663	500	5	5
1-1665	500	5	5
1-1670	500	5	5
1-1673	500	5	5
1-1678	500	5	5
1-1679	500	5	5
1-1680	500	5	5
1-1681	500	5	5
1-1682	500	5	5
1-1683	500	5	5
1-1691	500	5	5
1-1780	500	5	5
1-1781	500	5	5
1-1782	500	5	5
1-1783	500	5	5
1-1785	500	5	5
2-203	500	5	5
2-251	500	5	5
2-328	500	5	5
2-583	500	5	5
2-631	500	5	5
2-708	500	5	5
2-821	500	5	5
4-434	500	5	5

Test Example 4: Flooding treatment on paddy fields

Cylindrical plastic pots of 9 cm in diameter and 11 cm in depth were filled with soil, in which the seeds of barnyardgrass (*Echinochloa oryzicola*) were sowed. These pots were flooded to form a paddy field, and the test plants were grown in a greenhouse for 7 days. Each of the test compounds listed below was formulated into an emulsifiable concentrate according to Formulation Example 2, which was diluted with water to a prescribed concentration. The dilution was applied to the water surface in the pots at a volume of 50 liters per hectare. After the application, the test plants were grown in the greenhouse for 19 days, and the herbicidal activity was examined. The results are shown in Table 9.

TABLE 9

Test compound	Application amount of active ingredient (g/ha)	Herbicidal activity
		Barnyardgrass
1-332	250	5
1-335	250	5
1-338	250	5
1-347	250	5
1-353	250	5
1-367	250	5
1-369	250	5
1-391	250	5
1-392	250	5
1-398	250	5
1-420	250	5
1-439	250	5
1-449	250	5
1-456	250	5
1-474	250	5
1-475	250	5
1-476	250	5
1-482	250	5
1-483	250	5
1-486	250	5
1-487	250	5
1-491	250	5
1-495	250	5
1-496	250	5
1-497	250	5
1-498	250	5
1-499	250	5

TABLE 9 (contn'd)

Test compound	Application amount of active ingredient (g/ha)	Herbicidal activity
		Barnyardgrass
1-500	250	5
1-501	250	5
1-503	250	5
1-504	250	5
1-511	250	5
1-576	250	5
1-577	250	5
1-579	250	5
1-581	250	5
1-584	250	5
1-585	250	5
1-586	250	5
1-587	250	5
1-621	250	5
1-625	250	5
1-641	250	5
1-642	250	5
1-1025	250	5
1-1028	250	5
1-1029	250	5
1-1035	250	5
1-1057	250	5
1-1066	250	5
1-1076	250	5
1-1086	250	5
1-1093	250	5
1-1113	250	5
1-1123	250	5
1-1124	250	5
1-1133	250	5
1-1140	250	5
1-1141	250	5
1-1213	250	5
1-1214	250	5
1-1221	250	5
1-1222	250	5
1-1226	250	5
1-1274	250	5
1-1278	250	5
1-1279	250	5
1-1422	250	5
1-1431	250	5
1-1441	250	5
1-1451	250	5
1-1458	250	5
1-1540	250	5
1-1617	250	5
1-1622	250	5
1-1627	250	5

TABLE 9 (contn'd)

Test compound	Application amount of active ingredient (g/ha)	Herbicidal activity
		Barnyardgrass
1-1638	250	5
1-1639	250	5
1-1641	250	5
1-1650	250	5
1-1655	250	5
1-1663	250	5
1-1665	250	5
1-1670	250	5
1-1673	250	5
1-1678	250	5
1-1679	250	5
1-1680	250	5
1-1681	250	5
1-1682	250	5
1-1683	250	5
1-1687	250	5
1-1691	250	5
1-1701	250	5
1-1718	250	5
1-1719	250	5
1-1722	250	5
1-1732	250	5
1-1748	250	5
1-1780	250	5
1-1781	250	5
1-1782	250	5
1-1783	250	5
1-1785	250	5
2-203	250	5
2-251	250	5
2-328	250	5
2-583	250	5
2-631	250	5
2-708	250	5
2-821	250	5
3-139	250	5
4-434	250	5
4-451	250	5
1-344	500	5
1-1690	500	5
1-1720	500	5
1-1721	500	5

Test Example 5: Foliar treatment on upland fields

Plastic pots of 25 x 18 cm^2 in area and 7 cm in depth were filled with soil, in which the seeds of soybean (*Glycine max*), corn (*Zea mays*), entireleaf morningglory

(*Ipomoea hederacea* var. *integriuscula*), common cocklebur (*Xanthium pensylvanicum*), common ragweed (*Ambrosia artemisiifolia*), and common lambsquarters (*Chenopodium album*) were sowed, and the test plants were grown for 16 days. Each of the test compounds listed below was formulated into an emulsifiable concentrate according to Formulation Example 2, which was diluted with water to a prescribed concentration. The dilution was uniformly sprayed over the foliage of the test plants with a sprayer at a volume of 1000 liters per hectare. At this time, the unfavorable weeds and crop plants, although their growth state was different depending upon the weed species, were at the 1- to 4-leaf stage, and the plant height was 5 to 20 cm. After 18 days from the application, the herbicidal activity and phytotoxicity were examined. The results are shown in Table 10. This test was made in a greenhouse over the entire period.

TABLE 10

Test compound	Application amount of active ingredient (g/ha)	Herbicidal activity and phytotoxicity					
		Corn	Soy-bean	Common cocklebur	Entireleaf morning-glory	Common ragweed	Common lamb-squarters
1-495	63	1	1	5	5	5	5
1-496	63	1	1	5	5	5	5
1-499	63	1	1	5	5	5	4
1-503	63	1	2	5	5	5	5
1-577	63	1	2	5	5	5	5

Test Example 6: Foliar treatment on upland fields

Plastic pots of 16 x 11 cm^2 in are and 7 cm in depth were filled with soil, in which the seeds of wheat (*Triticum aestivum*), pale smartweed (*Polygonum lapathifolium*), catchweed bedstraw (*Galium aparine*), and common chickweed (*Stellaria media*) were sowed, and the test plants were grown for 29 days. Each of the test compounds listed below was formulated into an emulsifiable concentrate according to Formulation Example 2, which was diluted with water to a prescribed concentration. The dilution was uniformly sprayed over the foliage of the test plants with a sprayer at a volume of 1000

liters per hectare. At this time, the unfavorable weeds and crop plants, although their growth state was different depending upon the weed species, were at the 1- to 4-leaf stage, and the plant height was 5 to 15 cm. After 25 days from the application, the herbicidal activity and phytotoxicity were examined. The results are shown in Table 11. This test was made in a greenhouse over the entire period.

TABLE 11

Test compound	Application amount of active ingredient (g/ha)	Herbicidal activity and phytotoxicity			
		Wheat	Pale smart-weed	Catch-weed bedstraw	Common chick-weed
I-439	63	1	5	5	5
I-482	63	1	5	5	5
I-486	63	1	5	5	5
I-496	63	0	4	5	4
I-1076	63	1	5	5	5
I-1123	63	1	5	5	5
I-1441	63	1	5	5	5

Test Example 7: Soil surface treatment on upland fields

Plastic pots of 25 x 18 cm^2 in area and 7 cm in depth were filled with soil, in which the seeds of soybean (*Glycine max*), corn (*Zea mays*), common lambsquarters (*Chenopodium album*), slender amaranth (*Amaranthus gracilis*), and pale smartweed (*Polygonum lapathifolium*) were sowed. Each of the test compounds listed below was formulated into an emulsifiable concentrate according to Formulation Example 2, which was diluted with water to a prescribed concentration. The dilution was uniformly sprayed over the soil surface in the pots with a sprayer at a volume of 1000 liters per hectare. After the application, the test plants were grown in a greenhouse for 19 days, and the herbicidal activity and phytotoxicity were examined. The results are shown in Table 12.

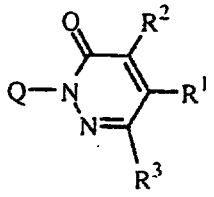
TABLE 12

Test compound	Application amount of active ingredient (g/ha)	Herbicidal activity and phytotoxicity				
		Soybean	Corn	Common lamb-squarters	Slender amaranth	Pale smart-weed
1-511	63	1	0	5	5	5
1-642	63	1	0	5	5	5
1-1279	63	0	1	5	5	5
1-1691	63	0	1	5	5	5
2-203	63	2	2	5	5	5
2-631	63	1	3	5	5	5

* C L M S *

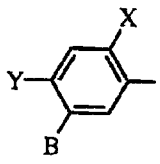
CLAIMS

1. A compound of the formula:

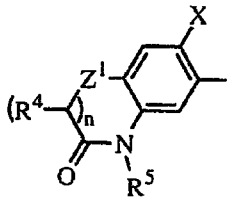


[I]

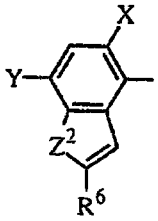
wherein R^1 is C_1-C_3 haloalkyl; R^2 and R^3 are the same or different and are hydrogen, C_1-C_3 alkyl, C_1-C_3 haloalkyl, or C_1-C_3 alkoxy C_1-C_3 alkyl; and Q is [Q-1], [Q-2], [Q-3], [Q-4], or [Q-5] of the formula:



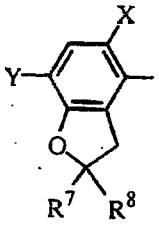
[Q – 1]



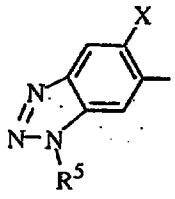
[Q – 2]



[Q – 3]



[Q – 4]



[Q – 5]

wherein X is hydrogen or halogen;

Y is halogen, nitro, cyano, or trifluoromethyl;

Z^1 is oxygen, sulfur, or NH;

Z^2 is oxygen or sulfur;

n is 0 or 1;

B is hydrogen, halogen, nitro, cyano, chlorosulfonyl, OR^{10}, SR^{10}, SO_2-

OR^{10}, $N(R^{11})R^{12}$, $SO_2N(R^{11})R^{12}$, $NR^{11}(COR^{13})$, $NR^{11}(SO_2R^{14})$, $N(SO_2R^{14})$-(SO_2R^{15}), $N(SO_2R^{14})(COR^{13})$, $NHCOOR^{13}$, $COOR^{10}$, $CON(R^{11})R^{12}$, $CSN(R^{11})R^{12}$, COR^{16}, $CR^{17}=CR^{18}COR^{16}$, $CR^{17}=CR^{18}COOR^{13}$, $CR^{17}=CR^{18}CON(R^{11})R^{12}$, CH_2CH-$WCOOR^{13}$, $CH_2CHWCON(R^{11})R^{12}$, $CR^{17}=NOR^{33}$, $CR^{17}=NN(R^{11})R^{12}$, $CR^{17}(Z^2$-$R^{34})_2$, OCO_2R^{19}, or $OCOR^{19}$;

R^4 is hydrogen or C_1-C_3 alkyl;

R^5 is hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_8 cycloalkylalkyl, C_3-C_6 alkenyl, C_3-C_6 haloalkenyl, C_3-C_6 alkynyl, C_3-C_6 haloalkynyl, cyano C_1-C_6 alkyl, C_2-C_8 alkoxyalkyl, C_3-C_8 alkoxyalkoxyalkyl, carboxy C_1-C_6 alkyl, (C_1-C_6 alkoxy)-carbonyl C_1-C_6 alkyl, {(C_1-C_4 alkoxy) C_1-C_4 alkoxy}carbonyl C_1-C_6 alkyl, (C_3-C_8 cycloalkoxy)carbonyl C_1-C_6 alkyl, $CH_2CON(R^{11})R^{12}$, $CH_2COON(R^{11})R^{12}$, $CH(C_1$-C_4 alkyl)$CON(R^{11})R^{12}$, $CH(C_1$-C_4 alkyl)$COON(R^{11})R^{12}$, C_2-C_8 alkylthioalkyl, or hydroxy C_1-C_6 alkyl;

R^6 is C_1-C_6 alkyl, C_1-C_6 haloalkyl, formyl, cyano, carboxyl, hydroxy C_1-C_6 alkyl, C_1-C_6 alkoxy C_1-C_6 alkyl, C_1-C_6 alkoxy C_1-C_6 alkoxy C_1-C_6 alkyl, (C_1-C_6 alkyl)carbonyloxy C_1-C_6 alkyl, (C_1-C_6 haloalkyl)carbonyloxy C_1-C_6 alkyl, (C_1-C_6 alkoxy)carbonyl, or (C_1-C_6 alkyl)carbonyl;

R^7 is hydrogen or C_1-C_6 alkyl; and

R^8 is hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, hydroxy C_1-C_6 alkyl, C_2-C_8 alkoxyalkyl, C_3-C_{10} alkoxyalkoxyalkyl, (C_1-C_5 alkyl)carbonyloxy C_1-C_6 alkyl, (C_1-C_6 haloalkyl)carbonyloxy C_1-C_6 alkyl, carboxyl, carboxy C_1-C_6 alkyl, (C_1-C_8 alkoxy)-carbonyl, (C_1-C_6 haloalkoxy)carbonyl, (C_3-C_{10} cycloalkoxy)carbonyl, (C_3-C_8 alkenyl-oxy)carbonyl, (C_3-C_8 alkynyloxy)carbonyl, aminocarbonyl, (C_1-C_6 alkyl)amino-carbonyl, di(C_1-C_6 alkyl)aminocarbonyl, (C_1-C_6 alkyl)aminocarbonyloxy C_1-C_6 alkyl, or di(C_1-C_6 alkyl)aminocarbonyloxy C_1-C_6 alkyl;

wherein R^{10} is hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_8 cycloalkyl, benzyl, C_3-C_6 alkenyl, C_3-C_6 haloalkenyl, C_3-C_6 alkynyl, C_3-C_6 haloalkynyl, cyano C_1-C_6 alkyl, C_2-C_8 alkoxyalkyl, C_2-C_8 alkylthioalkyl, carboxy C_1-C_6 alkyl, (C_1-C_8

alkoxy)carbonyl C_1-C_6 alkyl, (C_1-C_6 haloalkoxy)carbonyl C_1-C_6 alkyl, {(C_1-C_4 alkoxy) C_1-C_4 alkoxy}carbonyl C_1-C_6 alkyl, (C_3-C_8 cycloalkoxy)carbonyl C_1-C_6 alkyl, (C_1-C_6 alkyl)carbonyl C_1-C_6 alkyl, (C_1-C_6 haloalkyl)carbonyl C_1-C_6 alkyl, {(C_1-C_4 alkoxy) C_1-C_4 alkyl}carbonyl C_1-C_6 alkyl, (C_3-C_8 cycloalkyl)carbonyl C_1-C_6 alkyl, $CH_2CON(R^{11})R^{12}$, $CH_2COON(R^{11})R^{12}$, $CH(C_1\text{-}C_4\text{ alkyl})CON(R^{11})R^{12}$, $CH(C_1\text{-}C_4\text{ alkyl})COON(R^{11})R^{12}$, {($C_1$-$C_6$ alkoxy)carbonyl C_1-C_6 alkyl}oxycarbonyl C_1-C_6 alkyl, or hydroxy C_1-C_6 alkyl;

R^{11} and R^{12} are independently hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_6 alkenyl, C_3-C_6 alkynyl, cyano C_1-C_6 alkyl, C_2-C_8 alkoxyalkyl, C_2-C_8 alkylthioalkyl, carboxy C_1-C_6 alkyl, (C_1-C_6 alkoxy)carbonyl C_1-C_6 alkyl, (C_3-C_8 cycloalkoxy)carbonyl C_1-C_6 alkyl, {(C_1-C_4 alkoxy) C_1-C_4 alkoxy}carbonyl C_1-C_6 alkyl, or R^{11} and R^{12} are combined together to form tetramethylene, pentamethylene, or ethyleneoxyethylene;

R^{13} is hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_8 cycloalkyl, or C_3-C_6 alkenyl;

R^{14} and R^{15} are independently C_1-C_6 alkyl, C_1-C_6 haloalkyl, or phenyl optionally substituted with methyl or nitro;

R^{16} is hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_2-C_6 haloalkynyl, C_2-C_8 alkoxyalkyl, or hydroxy C_1-C_6 alkyl;

R^{17} and R^{18} are independently hydrogen or C_1-C_6 alkyl;

R^{19} is C_1-C_6 alkyl;

R^{33} is hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_8 cycloalkyl, C_3-C_6 alkenyl, C_3-C_6 haloalkenyl, C_3-C_6 alkynyl, C_3-C_6 haloalkynyl, cyano C_1-C_6 alkyl, or (C_1-C_6 alkoxy)carbonyl C_1-C_6 alkyl;

R^{34} is C_1-C_6 alkyl, or two R^{34}'s are combined together to form $(CH_2)_2$ or $(CH_2)_3$; and

W is hydrogen, chlorine, or bromine.

2. A compound according to claim 1, wherein R^1 is trifluoromethyl.

3. A compound according to claim 1, wherein R^2 is hydrogen or C_1-C_3 alkyl, and R^3 is hydrogen or C_1-C_3 alkyl.

4. A compound according to claim 1, wherein R^1 is trifluoromethyl, R^2 is hydrogen or C_1-C_3 alkyl, and R^3 is hydrogen or C_1-C_3 alkyl.

5. A compound according to claim 1, 2, 3, or 4, wherein Q is [Q-1].

6. A compound according to claim 1, 2, 3, or 4, wherein Q is [Q-2].

7. A compound according to claim 1, 2, 3, or 4, wherein Q is [Q-3].

8. A compound according to claim 1, 2, 3, or 4, wherein Q is [Q-4].

9. A compound according to claim 1, 2, 3, or 4, wherein Q is [Q-5].

10. A compound according to claim 5, wherein B is OR^{10}.

11. A compound according to claim 5, wherein B is SR^{10}.

12. A compound according to claim 5, wherein B is $N(R^{11})R^{12}$.

13. A compound according to claim 5, wherein B is $NR^{11}(SO_2R^{14})$.

14. A compound according to claim 5, wherein B is $COOR^{10}$.

15. A compound according to claim 5, wherein X is fluorine and Y is chlorine.

16. A compound according to claim 5, wherein X is fluorine, Y is chlorine, and B is OR^{10}.

17. A compound according to claim 6, wherein Z^1 is oxygen and n is 1.

18. A compound according to claim 1, which is 7-fluoro-6-(5-trifluoromethyl-3-pyridazinon-2-yl)-4-propargyl-2H-1,4-benzoxazin-3-one (compound 2-631).

19. A compound according to claim 1, which is 7-fluoro-6-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)-4-propargyl-2H-1,4-benzoxazin-3-one (compound 2-251).

20. A compound according to claim 1, which is 6-(5-trifluoromethyl-3-pyridazinon-2-yl)-4-propargyl-2H-1,4-benzoxazin-3-one (compound 2-583).

21. A compound according to claim 1, which is 6-(4-methyl-5-trifluoro-

methyl-3-pyridazinon-2-yl)-4-propargyl-2H-1,4-benzoxazin-3-one (compound 2-203).

22. A compound according to claim 1, which is 2-(4-chloro-2-fluoro-5-isopropoxyphenyl)-4-methyl-5-trifluoromethylpyridazin-3-one (compound 1-476).

23. A compound according to claim 1, which is 2-(4-chloro-2-fluoro-5-methoxyphenyl)-4-methyl-5-trifluoromethylpyridazin-3-one (compound 1-474).

24. A compound according to claim 1, which is 2-(4-chloro-2-fluoro-5-ethoxyphenyl)-4-methyl-5-trifluoromethylpyridazin-3-one (compound 1-475).

25. A compound according to claim 1, which is 2-(4-chloro-2-fluoro-5-propargyloxyphenyl)-4-methyl-5-trifluoromethylpyridazin-3-one (compound 1-486).

26. A compound according to claim 1, which is methyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenoxyacetate (compound 1-495).

27. A compound according to claim 1, which is ethyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenoxyacetate (compound 1-496).

28. A compound according to claim 1, which is propyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenoxyacetate (compound 1-497).

29. A compound according to claim 1, which is isopropyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenoxyacetate (compound 1-500).

30. A compound according to claim 1, which is butyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenoxyacetate (compound 1-498).

31. A compound according to claim 1, which is pentyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenoxyacetate (compound 1-499).

32. A compound according to claim 1, which is cyclopentyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenoxyacetate (compound 1-501).

33. A compound according to claim 1, which is ethyl 2-{2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenoxy}propionate (compound 1-504).

34. A compound according to claim 1, which is methyl 2-{2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenoxy}propionate (compound 1-503).

35. A compound according to claim 1, which is ethyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenylthioacetate (compound 1-577).

36. A compound according to claim 1, which is methyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenylthioacetate (compound 1-576).

37. A compound according to claim 1, which is ethyl 2-{2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenylthio}propionate (compound 1-585).

38. A compound according to claim 1, which is methyl 2-{2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenylthio}propionate (compound 1-584).

39. A compound according to claim 1, which is methyl 2-{2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenoxy}propionate (compound 1-1140).

40. A compound according to claim 1, which is ethyl 2-{2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenoxy}propionate (compound 1-1141).

41. A compound according to claim 1, which is ethyl 2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenylthioacetate (compound 1-1214).

42. A compound according to claim 1, which is methyl 2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenylthioacetate (compound 1-1213).

43. A compound according to claim 1, which is ethyl 2-{2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenylthio}propionate (compound 1-1222).

44. A compound according to claim 1, which is methyl 2-{2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenylthio}propionate (compound 1-1221).

45. A compound according to claim 1, which is isopropyl 2-{2-chloro-4-

fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenylthio}propionate (compound 1-1226).

46. A compound according to claim 1, which is ethyl 2-{2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenylamino}propionate (compound 1-420).

47. A compound according to claim 1, which is ethyl 2-{2-chloro-4-fluoro-5-(5-trifluoromethyl-3-pyridazinon-2-yl)phenylamino}propionate (compound 1-1057).

48. A compound according to claim 1, which is N-{2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenyl}methanesulfonamide (compound 1-367).

49. A compound according to claim 1, which is N-{2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenyl}chloromethanesulfonamide (compound 1-369).

50. A compound according to claim 1, which is N-{2-chloro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)phenyl}methanesulfonamide (compound 1-398).

51. A compound according to claim 1, which is methyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)benzoate (compound 1-641).

52. A compound according to claim 1, which is ethyl 2-chloro-4-fluoro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)benzoate (compound 1-642).

53. A compound according to claim 1, which is ethyl 2-chloro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)benzoate (compound 1-621).

54. A compound according to claim 1, which is isopropyl 2-chloro-5-(4-methyl-5-trifluoromethyl-3-pyridazinon-2-yl)benzoate (compound 1-625).

55. A compound according to claim 1, which is 2-(4-chloro-2-fluoro-5-propargyloxyphenyl)-6-methyl-5-trifluoromethylpyridazin-3-one (compound 1-1441).

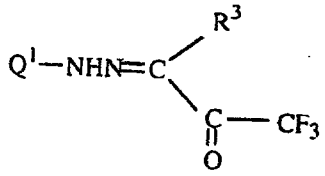
56. A herbicidal composition comprising a herbicidally effective amount of the compound according to claim 1, and an inert carrier or diluent.

57. A method for controlling unfavorable weeds, which comprises

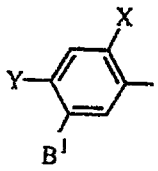
applying a herbicidally effective amount of the compound according to claim 1 to an area where the unfavorable weeds grow or will grow.

58. Use of the compound according to claim 1 as a herbicide.

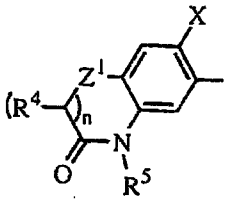
59. A compound of the formula:



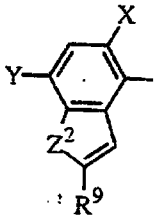
wherein R^3 is as defined in claim 1, and Q^1 is [Q^1-1], [Q-2], [Q^1-3], [Q-4], or [Q-5] of the formula:



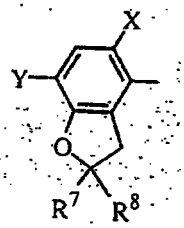
[Q^1-1]



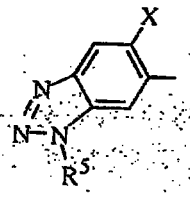
[Q-2]



[Q^1-3]



[Q-4]



[Q-5]

wherein X, Y, Z^1, Z^2, n, R^4, R^5, R^7, and R^8 are as defined in claim 1;

B^1 is hydrogen, halogen, nitro, cyano, OR^{27}, SR^{27}, SO_2OR^{27}, $NR^{11}(R^{12})$, $SO_2NR^{11}(R^{12})$, $NR^{11}(COR^{13})$, $NR^{11}(SO_2R^{14})$, $N(SO_2R^{14})(SO_2R^{15})$, $N(SO_2R^{14})$-(COR^{13}), $NHCOOR^{13}$, $COOR^{27}$, $CONR^{11}(R^{12})$, $CSNR^{11}(R^{12})$, $CR^{17}=CR^{18}COOR^{13}$, $CR^{17}=CR^{18}CONR^{11}(R^{12})$, $CH_2CHWCOOR^{13}$, $CH_2CHWCONR^{11}(R^{12})$, $CR^{17}=N$-OR^{33}, $CR^{17}=NNR^{11}(R^{12})$, $CR^{17}(Z^2R^{34})_2$, OCO_2R^{19}, or $OCOR^{19}$; and

R^9 is C_1-C_6 alkyl, C_1-C_6 haloalkyl, cyano, carboxyl, hydroxy C_1-C_6 alkyl, C_1-C_6 alkoxy C_1-C_6 alkyl, C_1-C_6 alkoxy C_1-C_6 alkoxy C_1-C_6 alkyl, (C_1-C_6 alkyl) carbonyloxy C_1-C_6 alkyl, (C_1-C_6 haloalkyl)carbonyloxy C_1-C_6 alkyl, (C_1-C_6 alkoxy) carbonyl, or (C_1-C_6 alkyl)carbonyl;

wherein R^{27} is hydrogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_8 cycloalkyl, benzyl, C_3-C_6 alkenyl, C_3-C_6 haloalkenyl, C_3-C_6 alkynyl, C_3-C_6 haloalkynyl, cyano C_1-C_6 alkyl, C_2-C_8 alkoxyalkyl, C_2-C_8 alkylthioalkyl, carboxy C_1-C_6 alkyl, (C_1-C_8 alkoxy)carbonyl C_1-C_6 alkyl, (C_1-C_6 haloalkoxy)carbonyl C_1-C_6 alkyl, {(C_1-C_4 alkoxy) C_1-C_4 alkoxy}carbonyl C_1-C_6 alkyl, (C_3-C_8 cycloalkoxy)carbonyl C_1-C_6 alkyl, CH_2CO-$N(R^{11})R^{12}$, $CH_2COON(R^{11})R^{12}$, $CH(C_1$-C_4 alkyl)$CON(R^{11})R^{12}$, $CH(C_1$-C_4 alkyl) $COON(R^{11})R^{12}$, {(C_1-C_6 alkoxy)carbonyl C_1-C_6 alkyl}oxycarbonyl C_1-C_6 alkyl, or hydroxy C_1-C_6 alkyl; and R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{17}, R^{18}, R^{19}, R^{33}, R^{34}, and Z^2 are as defined in claim 1.

DESCRIPTION

PYRIDAZIN-3-ONE DERIVATIVES, THEIR USE, AND INTERMEDIATES FOR THEIR PRODUCTION

Technical Field

The present invention relates to pyridazin-3-one derivatives, their use as herbicides, and intermediates for their production.

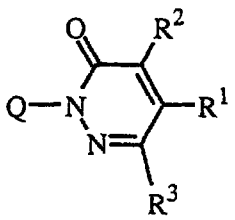
Background Art

EP-A-0029123 discloses a process for the preparation of substituted anilines and novel substituted anilines. In particular, it teaches that certain substituted anilines obtained by this process are useful as important starting materials for the preparation of novel substituted pyridazin-3-one derivatives having herbicidal activity in postemergence application. These pyridazin-3-one derivatives are, however, different from those of the present invention in that they have a substituted phenoxyphenyl group as an essential structural element at position 2 of the pyridazinone ring and further have quite distinct substituents on the pyridazinone ring.

Disclosure of Invention

The present inventors have intensively studied to find a compound having excellent herbicidal activity. As a result, they have found that pyridazin-3-one derivatives represented by formula [1] as depicted below have excellent herbicidal activity, thereby completing the present invention.

Thus the present invention provides a compound of the formula:

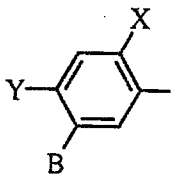


[1]

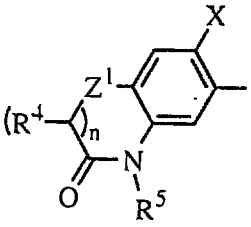
wherein R^1 is C_1-C_3 haloalkyl; R^2 and R^3 are the same or different and are hydrogen, C_1-C_3 alkyl, C_1-C_3 haloalkyl, or C_1-C_3 alkoxy C_1-C_3 alkyl; and Q is [Q-1], [Q-2],

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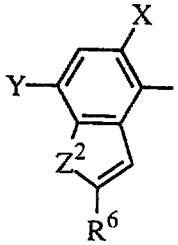
[Q-3], [Q-4], or [Q-5] of the formula:



[Q-1]



[Q-2]



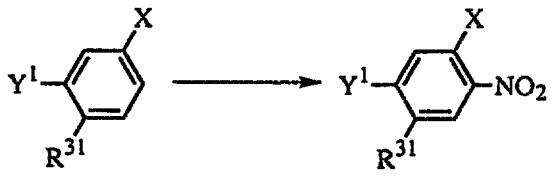
[Q-3]

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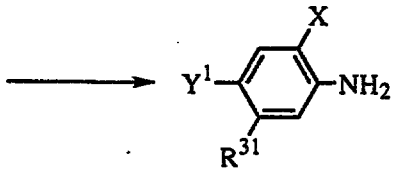
REPLACEMENT SHEET
27 JAN 1999

4,640,707, USP 4,720,297, USP 5,169,431; and JP-A 63-156787/1988.

Some examples of compound [91] can also be produced according to the following scheme:



[94] [95]



[96]

wherein R^{31} is COR^{16} or $COOR^{10}$.

Process for Producing Compound [95] from Compound [94]

Compound [95] can be produced by reacting compound [94] with nitric acid in a solvent.

The reaction temperature is usually in the range of 0° to 100°C. The reaction time is usually in the range of a moment to 24 hours. The amounts of the reagents to be used in the reaction, although the proportion of 1 mole of nitric acid to 1 mole of compound [94] is ideal, can be freely changed depending upon the reaction conditions.

Examples of the solvent which can be used include acidic solvents such as mixtures of nitric acid and sulfuric acid.

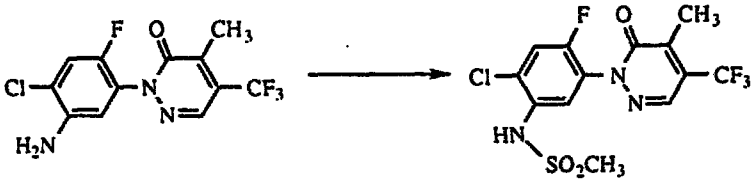
(see Organic Synthesis Collective, Vol. 1, p. 372)

Process for Producing Compound [96] from Compound [95]

Compound [96] can be produced by reducing compound [95] in a mixture of acetic acid, iron powder, and water.

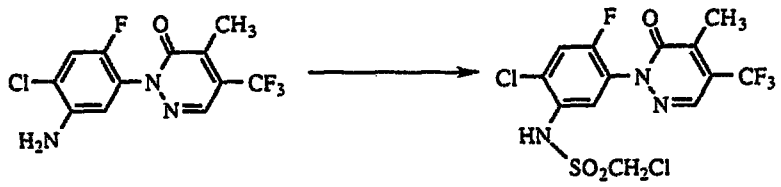
The reaction temperature is usually in the range of 0° to 100°C. The reaction time is usually in the range of a moment to 24 hours.

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Production Example 35 (Production of Compound 1-369)

This example followed the procedures of Production Example 34, except that 0.23 g (1.6 mmol) of chloromethylsulfonyl chloride was used in place of methanesulfonyl chloride, which afforded 0.38 g (0.91 mmol) of compound 1-369.



Production Example 36 (Production of Compound 1-391)

First, 32.3 g of 5-amino-2-chloro-4-fluorophenol was mixed with 150 ml of concentrated hydrochloric acid, and the mixture was stirred at 50°C for 30 minutes, to which a solution of 15 g of sodium nitrite dissolved in 40 ml of water was added dropwise at 0°C over 10 minutes. After stirring at 0°C for 1 hour, the mixture was cooled to –50°C. Then, a solution of 132 g of tin (II) chloride dissolved in 132 g of concentrated sulfuric acid was rapidly added dropwise at –50°C, and the mixture was gradually warmed to room temperature and stirred for 1 hour. The solids formed were collected by filtration and dried at 80°C under reduced pressure to give 75 g of the crude 2-fluoro-4-chloro-5-hydroxyphenylhydrazine hydrochloride crystals.

^{1}H-NMR (DMSO-d_6, TMS δ (ppm)) 3-5 (2H, br), 6.73 (1H, d), 7.22 (1H, d), 8.20 (1H, s), 9-11 (2H, br)

Then, 49.2 g of sodium acetate and 40.5 g of 1,1-dibromo-3,3,3-trifluoroacetone were dissolved in 400 ml of water, and the solution was heated at 80° to 90°C for 40 minutes. The solution was cooled to 0°C, to which 75 g of the crude 2-fluoro-4-chloro-5-hydroxyphenylhydrazine hydrochloride crystals obtained above was added, and

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(54) Title: PYRIDAZIN-3-ONE DERIVATIVES, THEIR USE, AND INTERMEDIATES FOR THEIR PRODUCTION

(57) Abstract

Novel pyridazin-3-one derivatives of formula (1) are provided, which are useful as active ingredients of herbicides, wherein R^1 is haloalkyl; R^2 and R^3 are the same or different and are hydrogen, alkyl, haloalkyl, or alkoxyalkyl; and Q is [Q-1], [Q-2], [Q-3], [Q-4], or [Q-5]. Also provided are their use and intermediates for their production.

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