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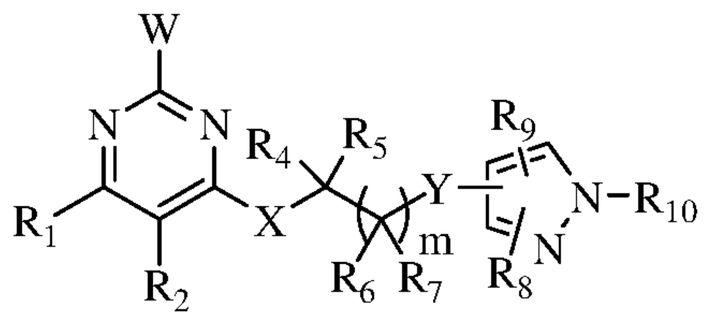
(54) Titre : COMPOSES DE PYRAZOLE SUBSTITUES CONTENANT DE LA PYRIMIDINE ET PROCEDE DE PREPARATION ET UTILISATION DE CEUX-CI

(54) Title: SUBSTITUTED PARAZOLE COMPOUNDS CONTAINING PYRIMIDINYL, THE PREPARATION AND APPLICATION THEREOF



I

(57) Abrégé/Abstract:
Disclosed is a substituted pyrazole compound containing pyrimidine, wherein the structure is as shown in formula (I). See the description for the definition of each substituent. The compound of the present invention has a broad-spectrum fungicidal, insecticidal and acaricidal activity, and has a good controlling effect on cucumber downy mildew, wheat powdery mildew, corn rust, rice blast, cucumber anthracnose, etc. The compound of the present invention also exhibits a good insecticidal activity.

(21) 2 982 206

(13) A1

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(74) Agent: ROBIC

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(81) 指定国 (除另有指明，要求每一种可提供的国家保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW。

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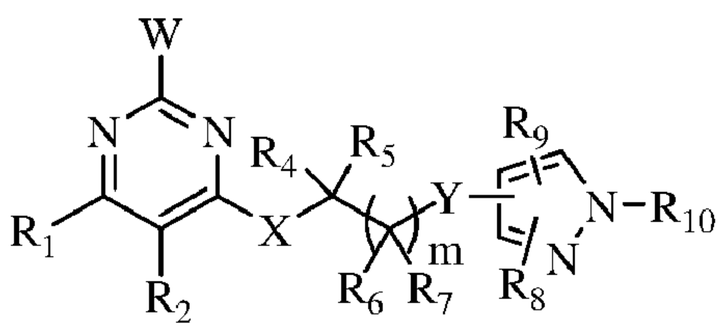
(54) Title: SUBSTITUTED PYRAZOLE COMPOUNDS CONTAINING PYRIMIDINE AND PREPARATION METHOD AND USE THEREOF

(54) 发明名称 : 含嘧啶的取代吡唑类化合物及其制备方法和用途



I

(57) Abstract: Disclosed is a substituted pyrazole compound containing pyrimidine, wherein the structure is as shown in formula (I). See the description for the definition of each substituent. The compound of the present invention has a broad-spectrum fungicidal, insecticidal and acaricidal activity, and has a good controlling effect on cucumber downy mildew, wheat powdery mildew, corn rust, rice blast, cucumber anthracnose, etc. The compound of the present invention also exhibits a good insecticidal activity.

(57) 摘要: 本发明公开了一种含嘧啶的取代吡唑类化合物，结构如通式 I 所示。式中各取代基的定义见说明书。本发明的化合物具有广谱杀菌、杀虫杀螨活性，对黄瓜霜霉病、小麦白粉病、玉米锈病、稻瘟病、黄瓜炭疽病等具有优良的防治效果。本发明的化合物同时表现出很好的杀虫活性。

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(84) **指定国** (除另有指明，要求每一种可提供的地区保护): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), 欧亚 (AM, AZ, BY, KG, KZ, RU, TJ, TM), 欧洲 (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG)。

根据细则 4.17 的声明:

— 关于申请人有权要求在先申请的优先权(细则 4.17(iii))

本国际公布:

— 包括国际检索报告(条约第 21 条(3))。

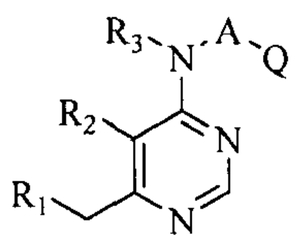
SUBSTITUTED PARAZOLE COMPOUNDS CONTAINING PYRIMIDINYL, THE PREPARATION AND APPLICATION THEREOF

FIELD OF THE INVENTION

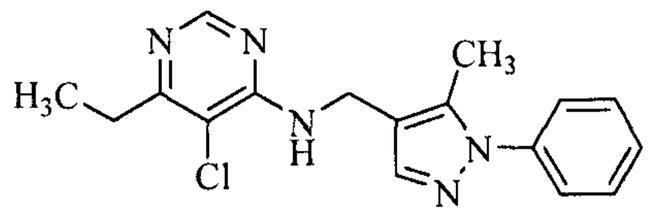
The invention relates to fungicide, insecticide and acaricide. Specifically to the prepatation of a novel substituted pyrazole compounds containing pyrimidinyl and application thereof.

BACKGROUND OF THE INVENTION

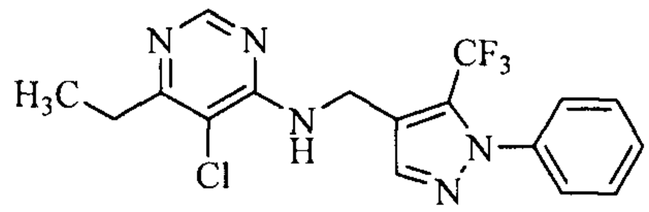
Disclosed in Patent WO9507278 were the substituted pyrazole compounds containing pyrimidinyl having general formulaand the specific compounds CK1 and CK2 applied as fungicide, insecticide and acaricide in agriculture.



general formula

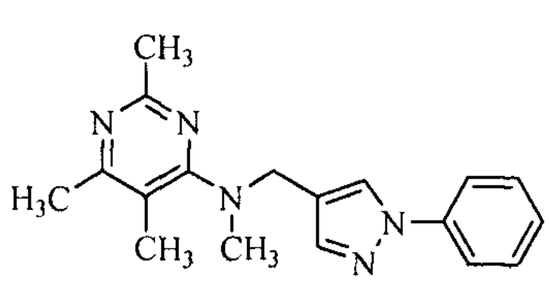


CK1

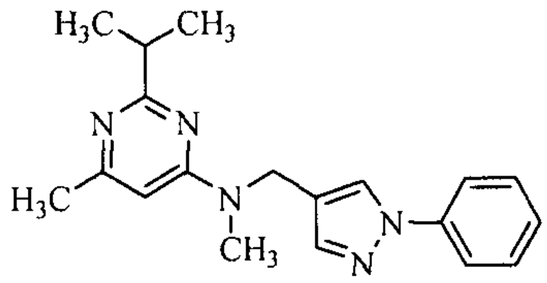


CK2

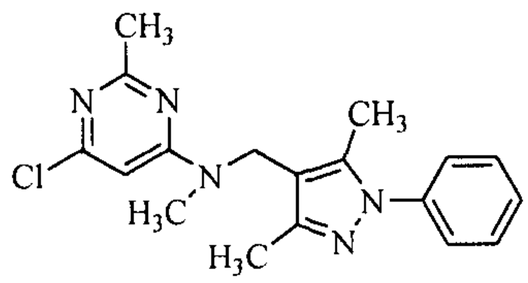
The following compounds CK3, CK4 and CK5 were retrieved via Scifinder database without specific literature disclosed.



CK3



CK4



CK5

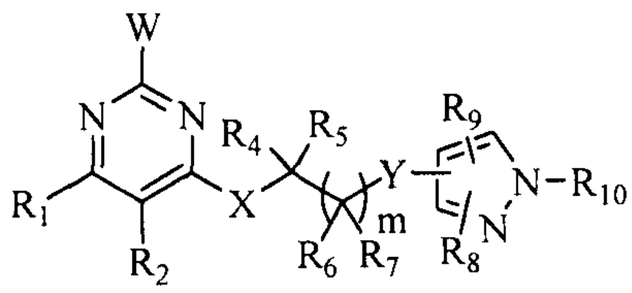
However, the substituted pyrazole compounds containing pyrimidinyl represented bygeneral formula **I** of the present invention have not been reported in prior literatures.

SUMMARY OF THE INVENTION

The object of the present invention is to provide substituted pyrazole compounds containing pyrimidinyland application thereof, whichcan be used to prepare fungicides, insecticides, and acaricides against harmful fungus, bacteria, insects and mites in agricultural or otherfields.

In order to achieve the purpose above, the detailed descriptions of the invention are as follows:

The present invention provides a kind of substituted pyrazole compounds containing pyrimidinyl having a structure as represented by general formula **I**:



I

I

Wherein:

$R_1$is selected from H, halogen, cyano, nitro,amino, carboxyl, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl,C_3-C_{12}cycloalkyl, C_1-C_{12}alkoxy, haloC_1-C_{12}alkoxy, C_1-C_{12}alkylthio, haloC_1-C_{12}alkylthio, C_1-C_{12}alkylsulfinyl, C_1-C_{12}alkylsulfonyl, C_2-C_{12}alkenyl, haloC_2-C_{12}alkenyl, C_2-C_{12}alkynyl, haloC_2-C_{12}alkynyl, C_3-C_{12}alkenoxy, haloC_3-C_{12}alkenoxy, C_3-C_{12}alkynoxy, haloC_3-C_{12}alkynoxy, C_1-C_{12}alkylamino, di(C_1-C_{12}alkyl)amino, C_1-C_{12}alkylaminocarbonyl, haloC_1-C_{12}alkylaminocarbonyl, C_1-C_{12}alkoxycarbonyl, haloC_1-C_{12}alkoxycarbonyl, C_1-C_{12}alkoxyC_1-C_{12}alkyl or C_1-C_{12}alkylthioC_1-C_{12}alkyl;

R_2 is selected from H, halogen, cyano, nitro, amino, carboxyl, CHO, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl, C_1-C_{12}alkoxy or haloC_1-C_{12}alkoxy;

R_1,R_2 and their conjointpyrimidine ring can also form a five-membered ring,six-membered ring, seven-memberedring or eight-memberedring which contains carbon atom, nitrogen atom, oxygen atom or sulphur atom;

X is selected from NR_3, O or S;

Y is selected from NR_3, O or S;

R_3 is selected from H, OH, CHO, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl, C_1-C_{12}alkoxy, haloC_1-C_{12}alkoxy, C_3-C_{12}cycloalkyl, C_1-C_{12}alkylthio, C_2-C_{12}alkenylthio, C_2-C_{12}alkenyl, C_2-C_{12}alkynyl, haloC_2-C_{12}alkenyl, haloC_2-C_{12}alkynyl, C_1-C_{12}alkoxyC_1-C_{12}alkyl, haloC_1-C_{12}alkoxyC_1-C_{12}alkyl, C_1-C_{12}alkylthioC_1-C_{12}alkyl, haloC_1-C_{12}alkylthioC_1-C_{12}alkyl, C_1-C_{12}alkylsulfinyl, haloC_1-C_{12}alkylsulfinyl, C_1-C_{12}alkylsulfonyl, haloC_1-C_{12}alkylsulfonyl, C_1-C_{12}alkylaminosulfonyl, di(C_1-C_{12}alkyl)aminosulfonyl, C_1-C_{12}alkylsulfonylaminocarbonyl, C_1-C_{12}alkylcarbonylaminosulfonyl, C_3-C_{12}cycloalkyloxycarbonyl, C_1-C_{12}alkylcarbonyl, haloC_1-C_{12}alkylcarbonyl, C_1-C_{12}alkoxycarbonyl, haloC_1-C_{12}alkoxycarbonyl, C_1-C_{12}alkylcarbonylC_1-C_{12}alkyl, C_1-C_{12}alkoxycarbonylC_1-C_{12}alkyl, C_1-C_{12}alkylaminocarbonyl, di(C_1-C_{12}alkyl)aminocarbonyl, C_2-C_{12}alkenoxycarbonyl, C_2-C_{12}alkynoxycarbonyl, C_1-C_{12}alkoxyC_1-C_{12}alkoxycarbonyl, C_1-C_{12}alkylaminothio, di(C_1-C_{12}alkyl)aminothio, unsubstituted or further substituted (hetero)arylcarbonylC_1-C_6alkyl, (hetero)arylcarbonyl, (hetero)aryloxycarbonyl, (hetero)arylC_1-C_6alkyloxycarbonyl or (hetero)arylC_1-C_6alkyl by 1 to 5 following groups: halo, nitro, cyano, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxy or haloC_1-C_6alkoxy;

R_4, R_5 may be the same or different, selected respectively from H, halogen, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl, C_1-C_{12}alkoxy or haloC_1-C_{12}alkoxy; or R_4,R_5 and their conjointcarboncan also form a C_3-C_8 cycle;

R_6, R_7 may be the same or different, selected respectively from H, halogen, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl, C_1-C_{12}alkoxy or haloC_1-C_{12}alkoxy; or R_6,R_7 and their conjointcarboncan also form a C_3-C_8 cycle;

The integer m is selected from 0 to 5;

$R_8$is selected from H, cyano, halogen, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl, C_1-C_{12}alkoxycarbonyl, haloC_1-C_{12}alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_9 is selected from H, cyano, halogen, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl, C_1-C_{12}alkoxycarbonyl, haloC_1-C_{12}alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{10} is selected from C_1-C_{12}alkyl, C_3-C_8cycloalkyl, haloC_1-C_{12}alkyl, C_1-C_{12}alkylcarbonyl, haloC_1-C_{12}alkylcarbonyl, C_1-C_{12}alkylsulfonyl, haloC_1-C_{12}alkylsulfonyl, C_1-C_{12}alkoxycarbonyl, C_1-C_{12}alkoxyC_1-C_{12}alkyl, C_1-C_{12}alkoxycarbonylC_1-C_{12}alkyl, unsubstituted or further substituted

(hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{11} is selected from halogen, OH, amino, cyano, nitro, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl, C_1-C_{12}alkoxy, haloC_1-C_{12}alkoxy, C_3-C_{12}cycloalkyl, C_1-C_{12}alkylamino, haloC_1-C_{12}alkylamino, di(C_1-C_{12}alkyl)amino, halodi(C_1-C_{12}alkyl)amino, C(=O)$NR_{12}R_{13}$, C_1-C_{12}alkylthio, haloC_1-C_{12}alkylthio, C_2-C_{12}alkenyl, C_2-C_{12}alkynyl, C_2-C_{12}alkenoxy, haloC_2-C_{12}alkenoxy, C_2-C_{12}alkynoxy, haloC_2-C_{12}alkynoxy, C_1-C_{12}alkylsulfonyl, haloC_1-C_{12}alkylsulfonyl, C_1-C_{12}alkylcarbonyl, haloC_1-C_{12}alkylcarbonyl, C_1-C_{12}alkoxycarbonyl, haloC_1-C_{12}alkoxycarbonyl, C_1-C_{12}alkoxyC_1-C_{12}alkyl, haloC_1-C_{12}alkoxyC_1-C_{12}alkyl, C_1-C_{12}alkylthioC_1-C_{12}alkyl, haloC_1-C_{12}alkylthioC_1-C_{12}alkyl, C_1-C_{12}alkoxycarbonylC_1-C_{12}alkyl, haloC_1-C_{12}alkoxycarbonylC_1-C_{12}alkyl, C_1-C_{12}alkylthiocarbonylC_1-C_{12}alkyl, haloC_1-C_{12}alkylthiocarbonylC_1-C_{12}alkyl, C_1-C_{12}alkylcarbonyloxy, haloC_1-C_{12}alkylcarbonyloxy, C_1-C_{12}alkoxycarbonyloxy, haloC_1-C_{12}alkoxycarbonyloxy, C_1-C_{12}alkylsulfonyloxy, haloC_1-C_{12}alkylsulfonyloxy, C_1-C_{12}alkoxyC_1-C_{12}alkoxy or haloC_1-C_{12}alkoxyC_1-C_{12}alkoxy;

R_{12}, R_{13} may be the same or different, selected respectively from H, C_1-C_{12}alkyl or haloC_1-C_{12}alkyl;

W is selected from H, halogen, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl, C_3-C_8cycloalkyl, C_1-C_{12}alkoxy, C_1-C_{12}alkylthio or C_1-C_{12}alkylsulfonyl;

The position of Y linked to pyrazole ring is from 3-position, 4-position or 5-position. When Y is linked to 3-position of pyrazole, R_8 is at the 4-position, $R_9$is at the 5-position; When Y is linked to 4-position of pyrazole, R_8 is at the 3-position, R_9 is at the 5-position; When Y is linked to 5-position of pyrazole, R_8 is at the 3-position, R_9 is at the 4-position;

Or the salts formed from the compounds represented by general formulaI.

In the substituted pyrazole compounds containing pyrimidinylof this invention, the preferred compounds include:in general formula **I**:

$R_1$is selected from H, halogen, cyano, nitro, amino, carboxyl, C_1-C_6alkyl, haloC_1-C_6alkyl, C_3-C_6cycloalkyl, C_1-C_6alkoxy, haloC_1-C_6alkoxy, C_1-C_6alkylthio, C_1-C_6alkylsulfinyl, C_1-C_6alkylsulfonyl, haloC_1-C_6alkylthio, C_2-C_6alkenyl, haloC_2-C_6alkenyl, C_2-C_6alkynyl, haloC_2-C_6alkynyl, C_3-C_6alkenoxy, haloC_3-C_6alkenoxy, C_3-C_6alkynoxy, haloC_3-C_6alkynoxy, C_1-C_6alkylamino, di(C_1-C_6alkyl)amino, C_1-C_6alkylaminocarbonyl, haloC_1-C_6alkylaminocarbonyl, C_1-C_6alkoxycarbonyl, haloC_1-C_6alkoxycarbonyl, C_1-C_6alkoxyC_1-C_6alkyl or C_1-C_6alkylthioC_1-C_6alkyl;

R_2 is selected from H, halogen, cyano, nitro, amino, carboxyl, CHO, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxy or haloC_1-C_6alkoxy;

R_1,R_2 and their conjointpyrimidine ring can also form a five-membered ring or six-membered ring which contains carbon atom, nitrogen atom, oxygen atom or sulphur atom;

X is selected from NR_3, O or S;

Y is selected from NR_3, O or S;

R_3 is selected from H, OH, CHO, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxy, haloC_1-C_6alkoxy, C_3-C_6cycloalkyl, C_1-C_6alkylthio, C_2-C_6alkenylthio, C_2-C_6alkenyl, C_2-C_6alkynyl, haloC_2-C_6alkenyl, haloC_2-C_6alkynyl, C_1-C_6alkoxyC_1-C_6alkyl, haloC_1-C_6alkoxyC_1-C_6alkyl, C_1-C_6alkylthioC_1-C_6alkyl, haloC_1-C_6alkylthioC_1-C_6alkyl, C_1-C_6alkylsulfinyl, haloC_1-C_6alkylsulfinyl, C_1-C_6alkylsulfonyl, haloC_1-C_6alkylsulfonyl, C_1-C_6alkylaminosulfonyl, di(C_1-C_6alkyl)aminosulfonyl, C_1-C_6alkylsulfonylaminocarbonyl, C_1-C_6alkylcarbonylaminosulfonyl, C_3-C_6cycloalkyloxycarbonyl, C_1-C_6alkylcarbonyl, haloC_1-C_6alkylcarbonyl, C_1-C_6alkoxycarbonyl, haloC_1-C_6alkoxycarbonyl,

C_1-C_6alkylcarbonylC_1-C_6alkyl, C_1-C_6alkoxycarbonylC_1-C_6alkyl, C_1-C_6alkylaminocarbonyl, di(C_1-C_6alkyl)aminocarbonyl, C_2-C_6alkenoxycarbonyl, C_2-C_6alkynoxycarbonyl, C_1-C_6alkoxyC_1-C_6alkoxycarbonyl, C_1-C_6alkylaminothio, di(C_1-C_6alkyl)aminothio, unsubstituted or further substituted (hetero)arylcarbonylC_1-C_6alkyl, (hetero)arylcarbonyl, (hetero)aryloxycarbonyl, (hetero)arylC_1-C_6alkyloxycarbonyl or (hetero)arylC_1-C_6alkyl by 1 to 5 following groups: halogen, nitro, cyano, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxy or haloC_1-C_6alkoxy;

R_4, R_5 may be the same or different, selected respectively from H, halogen, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxy or haloC_1-C_6alkoxy; or R_4,R_5 and their conjointcarboncan also form a C_3-C_6 cycle;

R_6, R_7 may be the same or different, selected respectively from H, halogen, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxy or haloC_1-C_6alkoxy; or R_6,R_7 and their conjointcarboncan also form a C_3-C_6 cycle;

The integer m is selected from 0 to 4;

R_8 is selected from H, cyano, halogen, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxycarbonyl, haloC_1-C_6alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_9 is selected from H, cyano, halogen, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxycarbonyl, haloC_1-C_6alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonylby 1 to 5 R_{11};

R_{10} is selected from C_1-C_6alkyl, C_3-C_6cycloalkyl, haloC_1-C_6alkyl, C_1-C_6alkylcarbonyl, haloC_1-C_6alkylcarbonyl, C_1-C_6alkylsulfonyl, haloC_1-C_6alkylsulfonyl, C_1-C_6alkoxycarbonyl, C_1-C_6alkoxyC_1-C_6alkyl, C_1-C_6alkoxycarbonylC_1-C_6alkyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{11} is selected from halogen, OH, amino, cyano, nitro, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxy, haloC_1-C_6alkoxy, C_3-C_6cycloalkyl, C_1-C_6alkylamino, haloC_1-C_6alkylamino, di(C_1-C_6alkyl)amino, halodi(C_1-C_6alkyl)amino, C(=O)N$R_{12}R_{13}$, C_1-C_6alkylthio, haloC_1-C_6alkylthio, C_2-C_6alkenyl, C_2-C_6alkynyl, C_2-C_6alkenoxy, haloC_2-C_6alkenoxy, C_2-C_6alkynoxy, haloC_2-C_6alkynoxy, C_1-C_6alkylsulfonyl, haloC_1-C_6alkylsulfonyl, C_1-C_6alkylcarbonyl, haloC_1-C_6alkylcarbonyl, C_1-C_6alkoxycarbonyl, haloC_1-C_6alkoxycarbonyl, C_1-C_6alkoxyC_1-C_6alkyl, haloC_1-C_6alkoxyC_1-C_6alkyl, C_1-C_6alkylthioC_1-C_6alkyl, haloC_1-C_6alkylthioC_1-C_6alkyl, C_1-C_6alkoxycarbonylC_1-C_6alkyl, haloC_1-C_6alkoxycarbonylC_1-C_6alkyl, C_1-C_6alkylthiocarbonylC_1-C_6alkyl, haloC_1-C_6alkylthiocarbonylC_1-C_6alkyl, C_1-C_6alkylcarbonyloxy, haloC_1-C_6alkylcarbonyloxy, C_1-C_6alkoxycarbonyloxy, haloC_1-C_6alkoxycarbonyloxy, C_1-C_6alkylsulfonyloxy, haloC_1-C_6alkylsulfonyloxy, C_1-C_6alkoxyC_1-C_6alkoxy or haloC_1-C_6alkoxyC_1-C_6alkoxy;

R_{12}, R_{13} may be the same or different, selected respectively from H, C_1-C_6alkyl or haloC_1-C_6alkyl;

W is selected from H, halogen, C_1-C_6alkyl, haloC_1-C_6alkyl, C_3-C_6cycloalkyl, C_1-C_6alkoxy, C_1-C_6alkylthio or C_1-C_6alkylsulfonyl;

The position of Y linked to pyrazole ring is from 3-position, 4-position or 5-position. When Y is linked to 3-position of pyrazole, $R_8$is at the 4-position, R_9 is at the 5-position; When Y is linked to 4-position of pyrazole, R_8 is at the 3-position, R_9 is at the 5-position; When Y is linked to 5-position of pyrazole, R_8 is at the 3-position, R_9 is at the 4-position;

Or the salts formed from the preferred compounds represented by general formula **I** above.

In the substituted pyrazole compounds containing pyrimidinylof this invention, the more preferred compounds include: in general formula **I**:

$R_1$is selected from H, halogen, cyano, nitro, amino, carboxyl, C_1-C_4alkyl, haloC_1-C_4alkyl,C_3-C_4cycloalkyl, C_1-C_4alkoxy, haloC_1-C_4alkoxy, C_1-C_4alkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl,haloC_1-C_4alkylthio,C_2-C_4alkenyl, haloC_2-C_4alkenyl, C_2-C_4alkynyl, haloC_2-C_4alkynyl, C_3-C_4alkenoxy, haloC_3-C_4alkenoxy, C_3-C_4alkynoxy, haloC_3-C_4alkynoxy, C_1-C_4alkylamino, di(C_1-C_4alkyl)amino, C_1-C_4alkylaminocarbonyl, haloC_1-C_4alkylaminocarbonyl, C_1-C_4alkoxycarbonyl, haloC_1-C_4alkoxycarbonyl, C_1-C_4alkoxyC_1-C_4alkyl or C_1-C_4alkylthioC_1-C_4alkyl;

R_2 is selected from H, halogen, cyano, nitro, amino, carboxyl, CHO, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy or haloC_1-C_4alkoxy;

R_1,R_2 and their conjoint pyrimidine ring can also form a five-membered ring or six-membered ring which contains carbon atom, nitrogen atom, oxygen atom or sulphur atom;

X is selected from NR_3, O or S;

R_3 is selected from H, OH, CHO, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy, haloC_1-C_4alkoxy, C_3-C_4cycloalkyl, C_1-C_4alkylthio, C_2-C_4alkenylthio, C_2-C_4alkenyl, C_2-C_4alkynyl, haloC_2-C_4alkenyl, haloC_2-C_4alkynyl, C_1-C_4alkoxyC_1-C_4alkyl, haloC_1-C_4alkoxyC_1-C_4alkyl, C_1-C_4alkylthioC_1-C_4alkyl, haloC_1-C_4alkylthioC_1-C_4alkyl, C_1-C_4alkylsulfinyl, haloC_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, haloC_1-C_4alkylsulfonyl, C_1-C_4alkylaminosulfonyl, di(C_1-C_4alkyl)aminosulfonyl, C_1-C_4alkylsulfonylaminocarbonyl, C_1-C_4alkylcarbonylaminosulfonyl, C_3-C_4cycloalkyloxycarbonyl, C_1-C_4alkylcarbonyl, haloC_1-C_4alkylcarbonyl, C_1-C_4alkoxycarbonyl, haloC_1-C_4alkoxycarbonyl, C_1-C_4alkylcarbonylC_1-C_4alkyl, C_1-C_4alkoxycarbonylC_1-C_4alkyl, C_1-C_4alkylaminocarbonyl, di(C_1-C_4alkyl)aminocarbonyl, C_2-C_4alkenoxycarbonyl, C_2-C_4alkynoxycarbonyl, C_1-C_4alkoxyC_1-C_4alkoxycarbonyl, C_1-C_4alkylaminothio, di(C_1-C_4alkyl)aminothio, unsubstituted or further substituted (hetero)arylcarbonylC_1-C_4alkyl, (hetero)arylcarbonyl, (hetero)aryloxycarbonyl, (hetero)arylC_1-C_4alkyloxycarbonyl or (hetero)arylC_1-C_4alkyl by 1 to 5 following groups: halogen, nitro, cyano, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy or haloC_1-C_4alkoxy;

R_4, R_5 may be the same or different, selected respectively from H, halogen, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy or haloC_1-C_4alkoxy; or R_4,R_5 and their conjointcarboncan also form a C_3-C_4 cycle;

R_6, R_7 may be the same or different, selected respectively from H, halogen, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy or haloC_1-C_4alkoxy; or R_6,R_7 and their conjointcarboncan also form a C_3-C_4 cycle;

The integer m is selected from 0 to 3;

R_8 is selected from H, cyano, halogen, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxycarbonyl, haloC_1-C_4alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero)aryloxycarbonyl by 1 to 5 R_{11};

R_9 is selected from H, cyano, halogen, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxycarbonyl, haloC_1-C_4alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero)aryloxycarbonyl by 1 to 5 R_{11};

R_{10} is selected from C_1-C_4alkyl, C_3-C_4cycloalkyl, haloC_1-C_4alkyl, C_1-C_4alkylcarbonyl, haloC_1-C_4alkylcarbonyl, C_1-C_4alkylsulfonyl, haloC_1-C_4alkylsulfonyl, C_1-C_4alkoxycarbonyl, C_1-C_4alkoxyC_1-C_4alkyl, C_1-C_4alkoxycarbonylC_1-C_4alkyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero)aryloxycarbonyl by 1 to 5 R_{11};

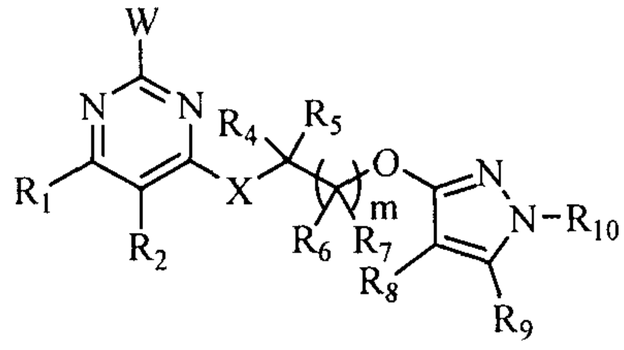
R_{11} is selected from halogen, OH, amino, cyano, nitro, C_1-C_4alkyl, haloC_1-C_4alkyl,

C_1-C_4alkoxy, haloC_1-C_4alkoxy, C_3-C_4cycloalkyl, C_1-C_4alkylamino, haloC_1-C_4alkylamino, di(C_1-C_4alkyl)amino, halodi(C_1-C_4alkyl)amino, C(=O)$NR_{12}R_{13}$, C_1-C_4alkylthio, haloC_1-C_4alkylthio, C_2-C_4alkenyl, C_2-C_4alkynyl, C_2-C_4alkenoxy, haloC_2-C_4alkenoxy, C_2-C_4alkynoxy, haloC_2-C_4alkynoxy, C_1-C_4alkylsulfonyl, haloC_1-C_4alkylsulfonyl, C_1-C_4alkylcarbonyl, haloC_1-C_4alkylcarbonyl, C_1-C_4alkoxycarbonyl, haloC_1-C_4alkoxycarbonyl, C_1-C_4alkoxyC_1-C_4alkyl, haloC_1-C_4alkoxyC_1-C_4alkyl, C_1-C_4alkylthioC_1-C_4alkyl, haloC_1-C_4alkylthioC_1-C_4alkyl, C_1-C_4alkoxycarbonylC_1-C_4alkyl, haloC_1-C_4alkoxycarbonylC_1-C_4alkyl, C_1-C_4alkylthiocarbonylC_1-C_4alkyl, haloC_1-C_4alkylthiocarbonylC_1-C_4alkyl, C_1-C_4alkylcarbonyloxy, haloC_1-C_4alkylcarbonyloxy, C_1-C_4alkoxycarbonyloxy, haloC_1-C_4alkoxycarbonyloxy, C_1-C_4alkylsulfonyloxy, haloC_1-C_4alkylsulfonyloxy, C_1-C_4alkoxyC_1-C_4alkoxy or haloC_1-C_4alkoxyC_1-C_4alkoxy;

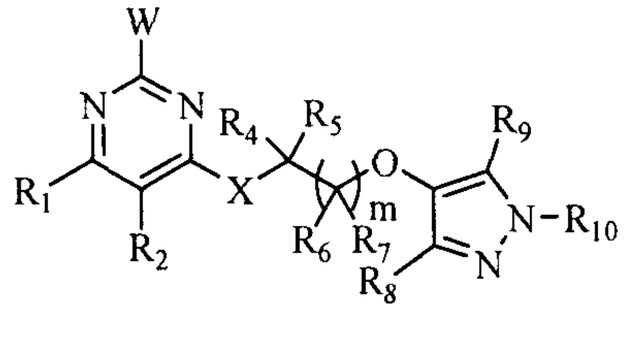
R_{12}, R_{13} may be the same or different, selected respectively from H, C_1-C_4alkyl or haloC_1-C_4alkyl;

W is selected from H, halogen, C_1-C_4alkyl, haloC_1-C_4alkyl, C_3-C_4cycloalkyl, C_1-C_4alkoxy, C_1-C_4alkylthio or C_1-C_4alkylsulfonyl;

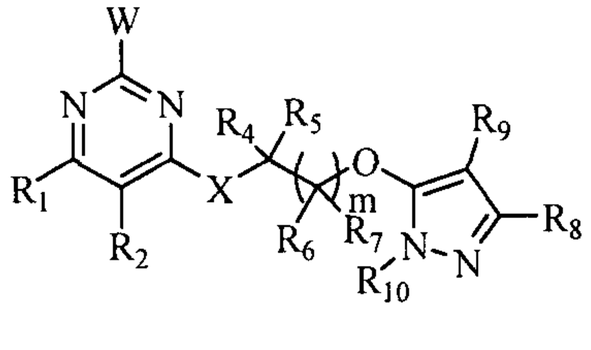
Y is O, the position of Y linked to pyrazole ring is from 3-position, 4-position or 5-position. When O is linked to 3-position of pyrazole, R_8 is at the 4-position, R_9 is at the 5-position,general formula **I** is represented by general formula **I-1**; When Y is linked to 4-position of pyrazole, R_8 is at the 3-position, R_9 is at the 5-position,general formula **I** is represented by general formula **I-2**; When Y is linked to 5-position of pyrazole, R_8 is at the 3-position, R_9 is at the 4-position, general formula **I** is represented by general formula **I-3**;



I-1



I-2



I-3

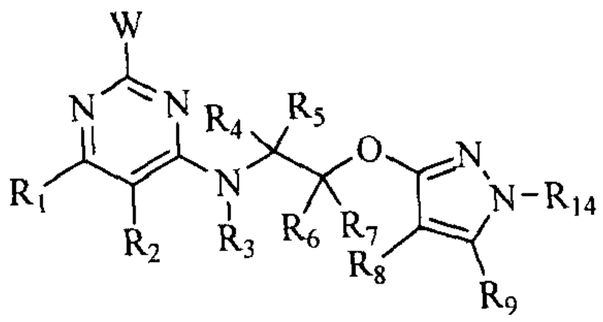
Or the salts formed from the more preferred compounds represented by general formula **I** above.

In the substituted pyrazole compounds containing pyrimidinylof this invention, the more preferred compounds include: in general formula **I**:

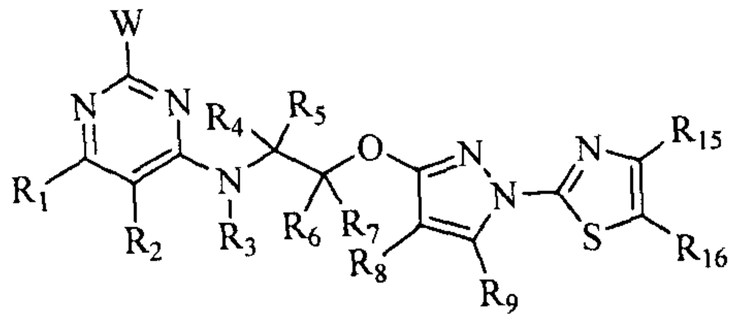
the structures of compounds of general formula**I-1** are represented by general formula **I-1A**, **I-1B**, **I-1C**, **I-1D**, **I-1E**, **I-1F**, **I-1G**, **I-1H**, **I-1I**, **I-1J**, **I-1K**, **I-1L**, **I-1M**, **I-1N**, **I-4C**, **I-4F**or **I-4G**;

the structures of compounds of general formula**I-2** are represented by general formula **I-2A**, **I-2B**, **I-2C**, **I-2D**, **I-2E**, **I-2F** or**I-2G**;

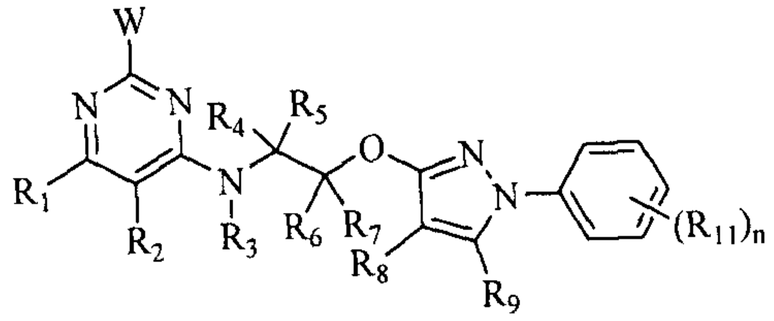
the structures of compounds of general formula**I-3** are represented by general formula **I-3A**, **I-3B**, **I-3C**, **I-3D**, **I-3E**, **I-3F** or **I-3G**:



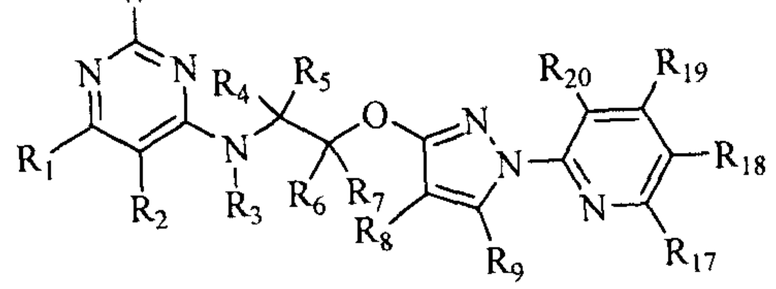
I-1A



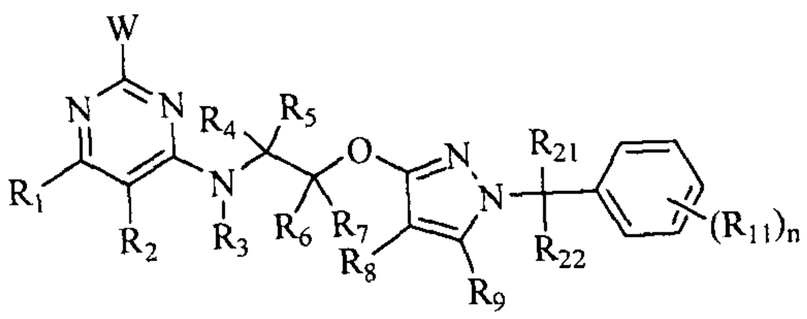
I-1B



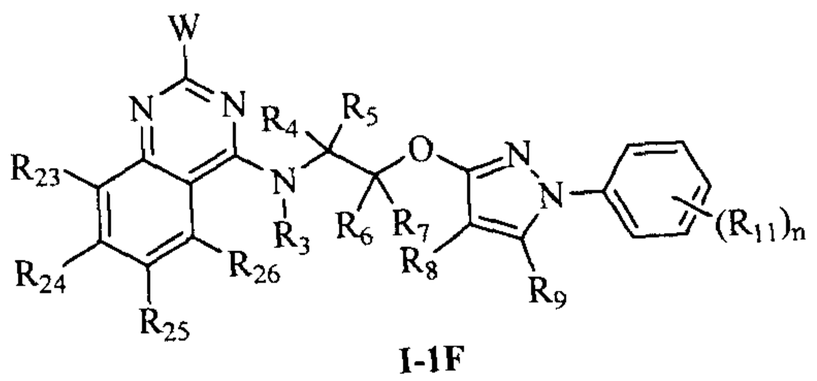
I-1C



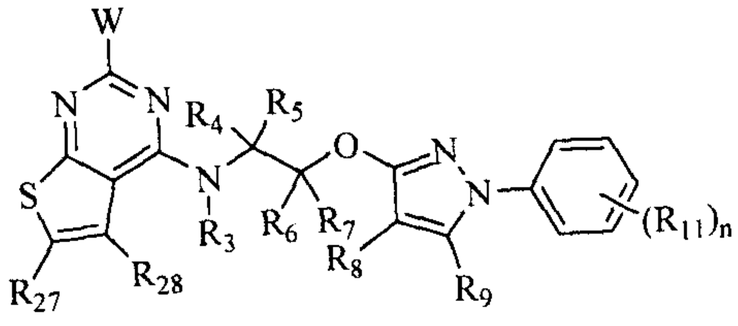
I-1D



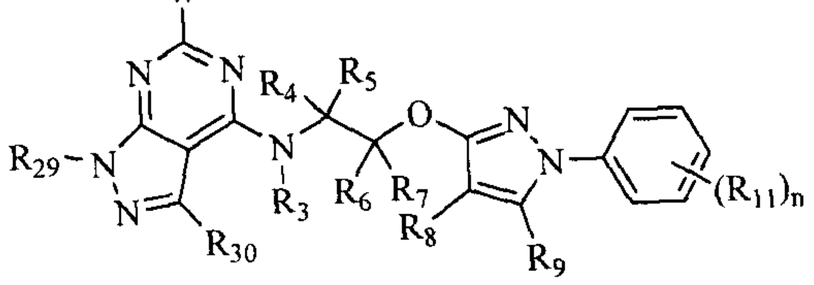
I-1E



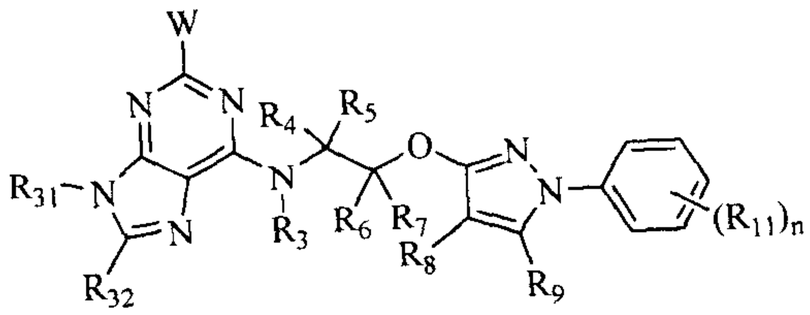
I-1F



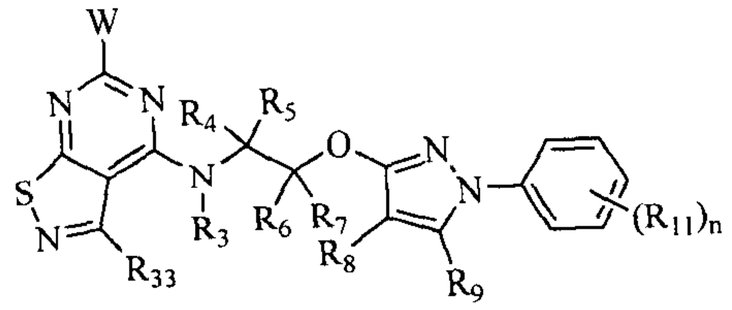
I-1G



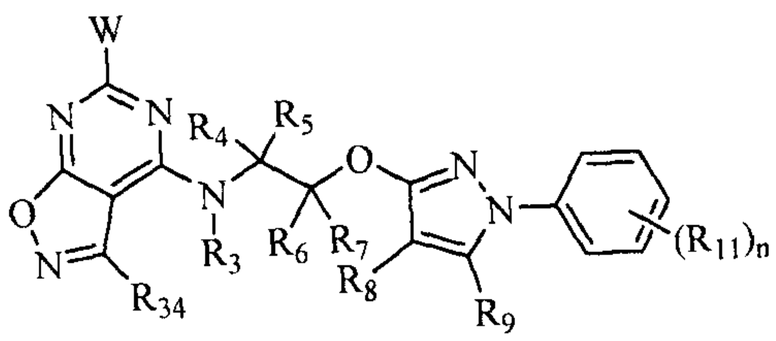
I-1H



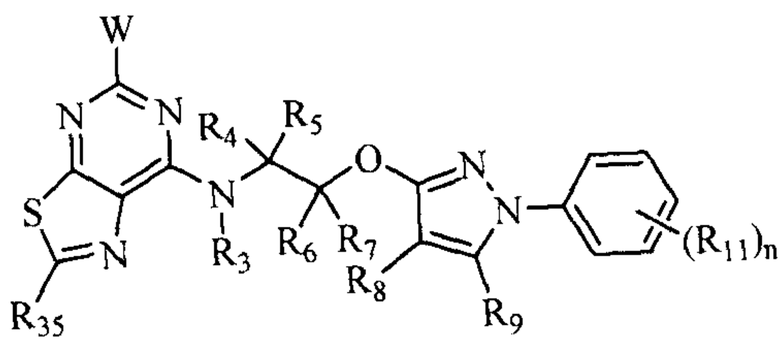
I-1I



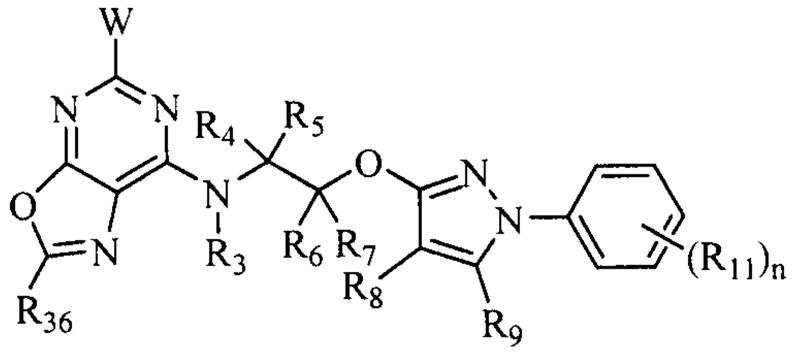
I-1J



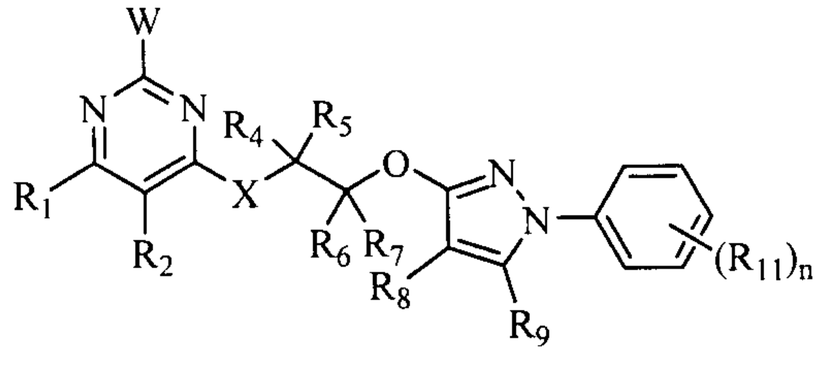
I-1K



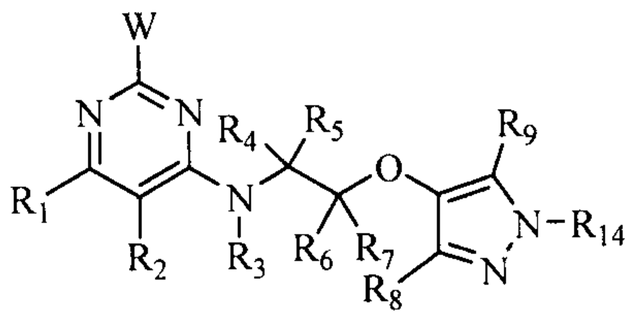
I-1L



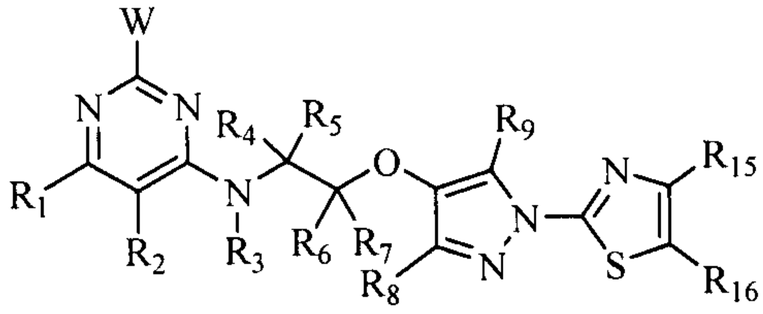
I-1M



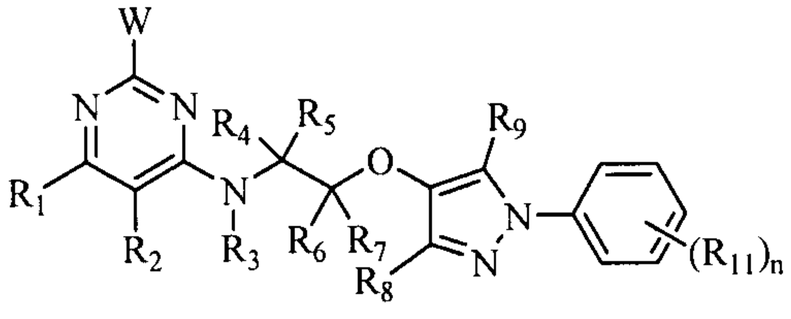
I-1N (X=O or S)



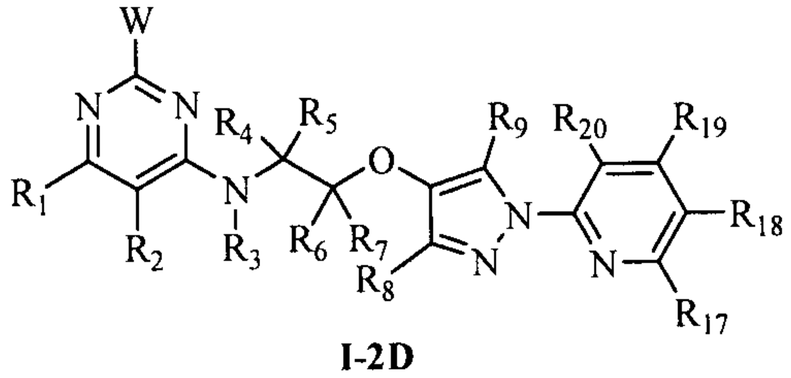
I-2A



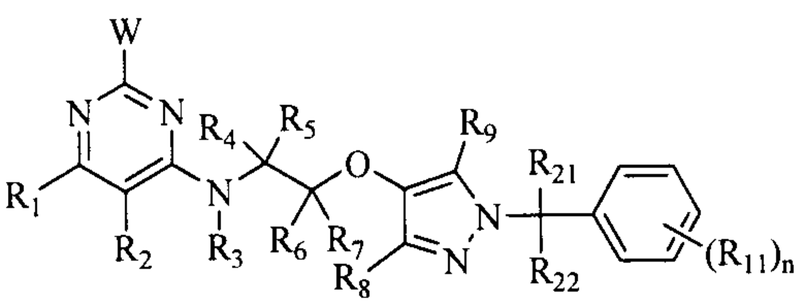
I-2B



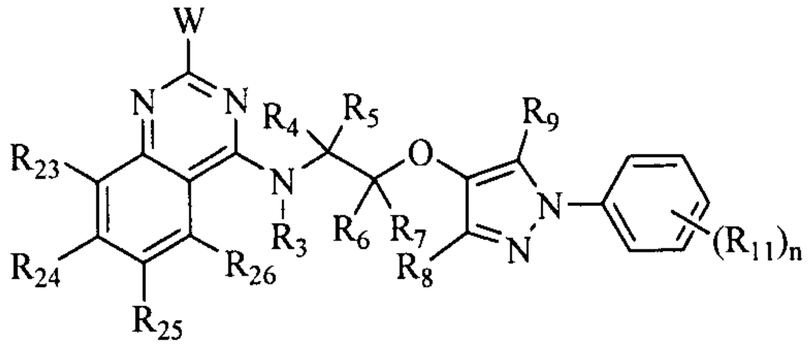
I-2C



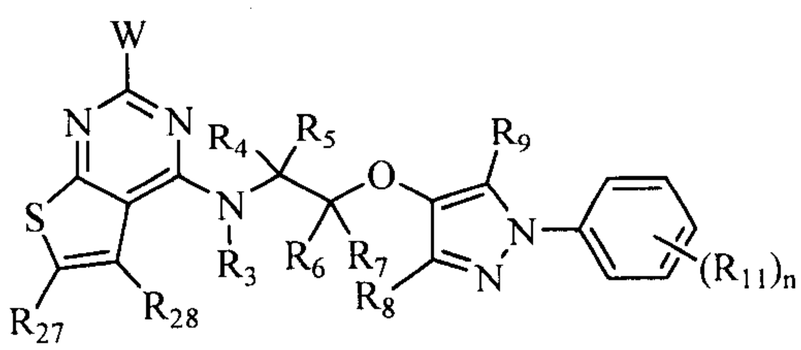
I-2D



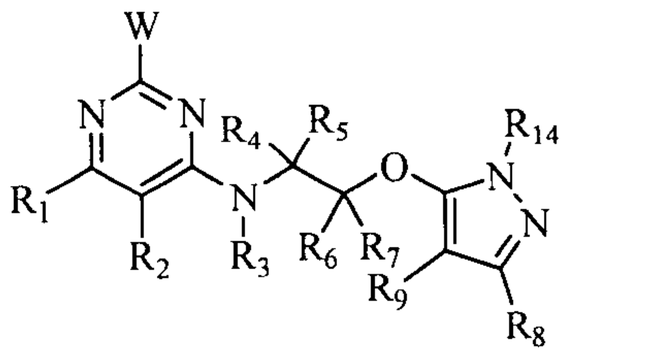
I-2E



I-2F



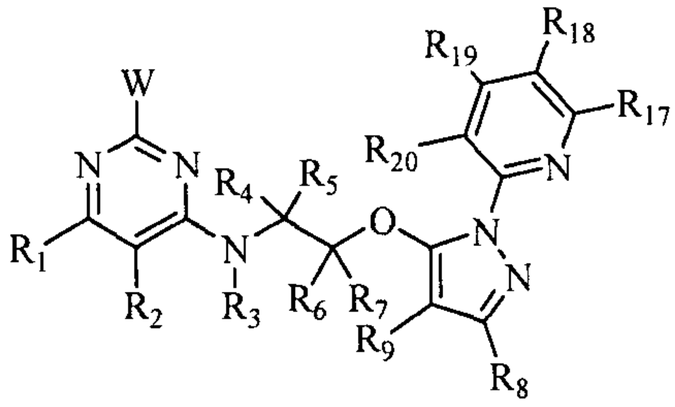
I-2G



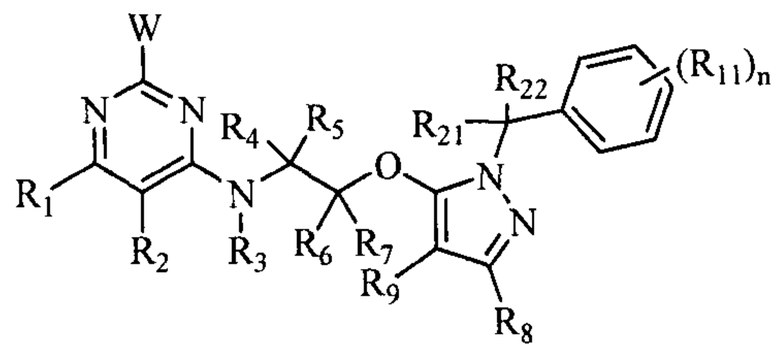
I-3A

I-3B

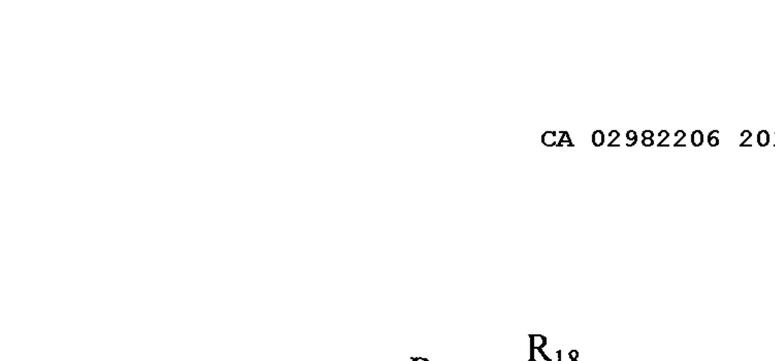
I-3C



I-3D

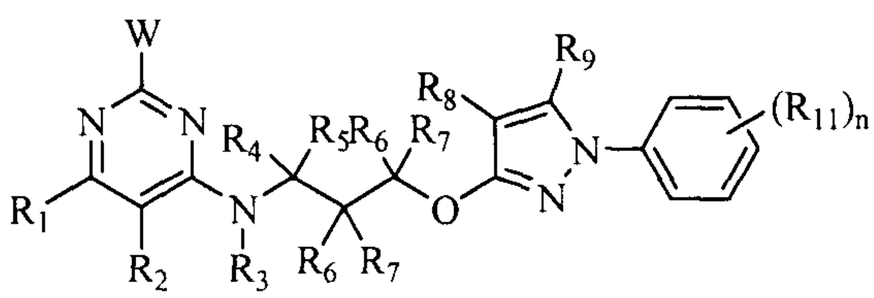


I-3E

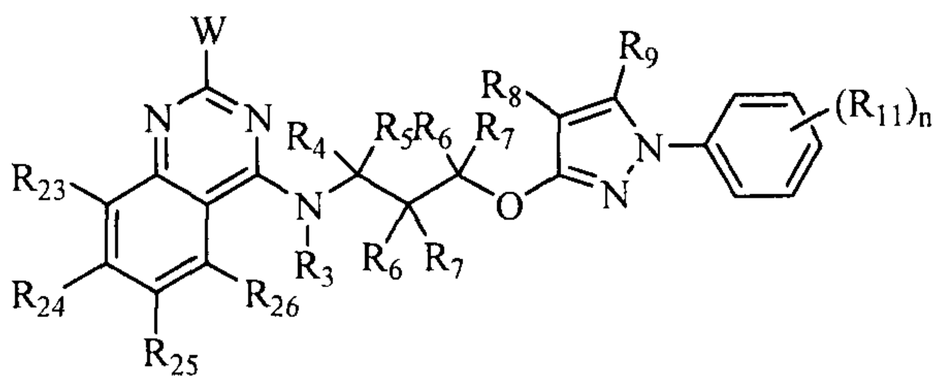


I-3F

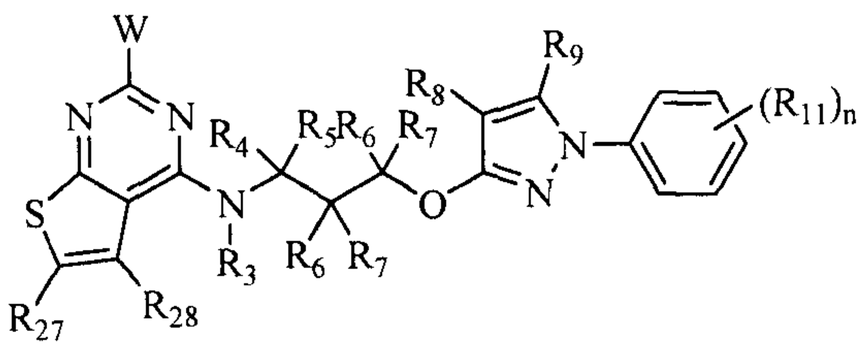
I-3G



I-4C



I-4F



I-4G

In general formula **I-1A**、**I-1B**、**I-1C**、**I-1D**、**I-1E**、**I-1F**、**I-1G**、**I-1H**、**I-1I**、**I-1J**、**I-1K**、**I-1L**、**I-1M**、**I-1N**、**I-4C**、**I-4F**、**I-4G**、**I-2A**、**I-2B**、**I-2C**、**I-2D**、**I-2E**、**I-2F**、**I-2G**、**I-3A**、**I-3B**、**I-3C**、**I-3D**、**I-3E**、**I-3F** and **I-3G**, Wherein:

$R_1$is selected from H, halogen, cyano, nitro, amino, carboxyl, C_1-C_4alkyl, haloC_1-C_4alkyl,C_3-C_4cycloalkyl, C_1-C_4alkoxy, haloC_1-C_4alkoxy, C_1-C_4alkylthio, haloC_1-C_4alkylthio,C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_2-C_4alkenyl, haloC_2-C_4alkenyl, C_2-C_4alkynyl, haloC_2-C_4alkynyl, C_3-C_4alkenoxy, haloC_3-C_4alkenoxy, C_3-C_4alkynoxy, haloC_3-C_4alkynoxy, C_1-C_4alkylamino, di(C_1-C_4alkyl)amino, C_1-C_4alkylaminocarbonyl, haloC_1-C_4alkylaminocarbonyl, C_1-C_4alkoxycarbonyl, haloC_1-C_4alkoxycarbonyl, C_1-C_4alkoxyC_1-C_4alkyl or C_1-C_4alkylthioC_1-C_4alkyl;

R_2 is selected from H, halogen, cyano, nitro, amino, carboxyl, CHO, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy or haloC_1-C_4alkoxy;

R_3 is selected from H, OH, CHO, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy, haloC_1-C_4alkoxy, C_3-C_4cycloalkyl, C_1-C_4alkylthio, C_2-C_4alkenylthio, C_2-C_4alkenyl, C_2-C_4alkynyl, haloC_2-C_4alkenyl,

haloC$_2$-C$_4$alkynyl, C$_1$-C$_4$alkoxyC$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkoxyC$_1$-C$_4$alkyl, C$_1$-C$_4$alkylthioC$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkylthioC$_1$-C$_4$alkyl, C$_1$-C$_4$alkylsulfinyl, haloC$_1$-C$_4$alkylsulfinyl, C$_1$-C$_4$alkylsulfonyl, haloC$_1$-C$_4$alkylsulfonyl, C$_1$-C$_4$alkylaminosulfonyl, di(C$_1$-C$_4$alkyl)aminosulfonyl, C$_1$-C$_4$alkylsulfonylaminocarbonyl, C$_1$-C$_4$alkylcarbonylaminosulfonyl, C$_3$-C$_4$cycloalkyloxycarbonyl, C$_1$-C$_4$alkylcarbonyl, haloC$_1$-C$_4$alkylcarbonyl, C$_1$-C$_4$alkoxycarbonyl, haloC$_1$-C$_4$alkoxycarbonyl, C$_1$-C$_4$alkylcarbonylC$_1$-C$_4$alkyl, C$_1$-C$_4$alkoxycarbonylC$_1$-C$_4$alkyl, C$_1$-C$_4$alkylaminocarbonyl, di(C$_1$-C$_4$alkyl)aminocarbonyl, C$_2$-C$_4$alkenoxycarbonyl, C$_2$-C$_4$alkynoxycarbonyl, C$_1$-C$_4$alkoxyC$_1$-C$_4$alkoxycarbonyl, C$_1$-C$_4$alkylaminothio, di(C$_1$-C$_4$alkyl)aminothio, unsubstituted or further substituted (hetero)arylcarbonylC$_1$-C$_4$alkyl, (hetero)arylcarbonyl, (hetero)aryloxycarbonyl, (hetero)arylC$_1$-C$_4$alkyloxycarbonyl or (hetero)arylC$_1$-C$_4$alkyl by 1 to 5 following groups: halogen, nitro, cyano, C$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkyl, C$_1$-C$_4$alkoxy or haloC$_1$-C$_4$alkoxy;

R$_4$, R$_5$ may be the same or different, selected respectively from H, halogen, C$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkyl, C$_1$-C$_4$alkoxy or haloC$_1$-C$_4$alkoxy; or R$_4$,R$_5$ and their conjointcarboncan also form a C$_3$-C$_4$ cycle;

R$_6$, R$_7$ may be the same or different, selected respectively from H, halogen, C$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkyl, C$_1$-C$_4$alkoxy or haloC$_1$-C$_4$alkoxy; or R$_6$,R$_7$ and their conjointcarboncan also form a C$_3$-C$_4$ cycle;

R$_8$ is selected from H, cyano, halogen, C$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkyl, C$_1$-C$_4$alkoxycarbonyl, haloC$_1$-C$_4$alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero)aryloxycarbonyl by 1 to 5 R$_{11}$;

R$_9$ is selected from H, cyano, halogen, C$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkyl, C$_1$-C$_4$alkoxycarbonyl, haloC$_1$-C$_4$alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero)aryloxycarbonyl by 1 to 5 R$_{11}$;

R$_{11}$ is selected from halogen, OH, amino, cyano, nitro, C$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkyl, C$_1$-C$_4$alkoxy, haloC$_1$-C$_4$alkoxy, C$_3$-C$_4$cycloalkyl, C$_1$-C$_4$alkylamino, haloC$_1$-C$_4$alkylamino, di(C$_1$-C$_4$alkyl)amino, halodi(C$_1$-C$_4$alkyl)amino, C(=O)NR$_{12}$R$_{13}$, C$_1$-C$_4$alkylthio, haloC$_1$-C$_4$alkylthio, C$_2$-C$_4$alkenyl, C$_2$-C$_4$alkynyl, C$_2$-C$_4$alkenoxy, haloC$_2$-C$_4$alkenoxy, C$_2$-C$_4$alkynoxy, haloC$_2$-C$_4$alkynoxy, C$_1$-C$_4$alkylsulfonyl, haloC$_1$-C$_4$alkylsulfonyl, C$_1$-C$_4$alkylcarbonyl, haloC$_1$-C$_4$alkylcarbonyl, C$_1$-C$_4$alkoxycarbonyl, haloC$_1$-C$_4$alkoxycarbonyl, C$_1$-C$_4$alkoxyC$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkoxyC$_1$-C$_4$alkyl, C$_1$-C$_4$alkylthioC$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkylthioC$_1$-C$_4$alkyl, C$_1$-C$_4$alkoxycarbonylC$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkoxycarbonylC$_1$-C$_4$alkyl, C$_1$-C$_4$alkylthiocarbonylC$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkylthiocarbonylC$_1$-C$_4$alkyl, C$_1$-C$_4$alkylcarbonyloxy, haloC$_1$-C$_4$alkylcarbonyloxy, C$_1$-C$_4$alkoxycarbonyloxy, haloC$_1$-C$_4$alkoxycarbonyloxy, C$_1$-C$_4$alkylsulfonyloxy, haloC$_1$-C$_4$alkylsulfonyloxy, C$_1$-C$_4$alkoxyC$_1$-C$_4$alkoxy or haloC$_1$-C$_4$alkoxyC$_1$-C$_4$alkoxy;

The integer *n* is selected from 0 to 5, when *n* is 0, the benzene ring is unsubstituted phenyl; when n is more than 1, R$_{11}$ may be the same or different;

R$_{12}$, R$_{13}$ may be the same or different, selected respectively from H, C$_1$-C$_4$alkyl or haloC$_1$-C$_4$alkyl;

R$_{14}$ is selected from C$_1$-C$_4$alkyl,C$_3$-C$_4$cycloalkyl, haloC$_1$-C$_4$alkyl,C$_1$-C$_4$alkylcarbonyl, haloC$_1$-C$_4$alkylcarbonyl, C$_1$-C$_4$alkylsulfonyl, haloC$_1$-C$_4$alkylsulfonyl, C$_1$-C$_4$alkoxycarbonyl, C$_1$-C$_4$alkoxyC$_1$-C$_4$alkyl or C$_1$-C$_4$alkoxycarbonylC$_1$-C$_4$alkyl;

R$_{15}$, R$_{16}$ may be the same or different, selected respectively from H, halogen, amino, cyano, nitro, C$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkyl, C$_1$-C$_4$alkoxy, haloC$_1$-C$_4$alkoxy, C$_1$-C$_4$alkylthio, halo C$_1$-C$_4$alkylthio, C$_3$-C$_4$cycloalkyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl

by 1 to 5 R_{11};

R_{17}, R_{18}, R_{19}, R_{20} may be the same or different, selected respectively from H, halogen, cyano, nitro, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy or haloC_1-C_4alkoxy;

R_{21}, R_{22} may be the same or different, selected respectively from H, halogen, OH, cyano, nitro, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy, haloC_1-C_4alkoxy, C_1-C_4alkylthio, haloC_1-C_4alkylthio, C_3-C_4cycloalkyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{23}, R_{24}, R_{25}, R_{26} may be the same or different, selected respectively from H, halogen, OH, amino, cyano, nitro, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy, haloC_1-C_4alkoxyor C_3-C_4cycloalkyl;

R_{27}, R_{28} may be the same or different, selected respectively from H, halogen, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy, haloC_1-C_4alkoxy, C_1-C_4alkylthio, haloC_1-C_4alkylthio, C_3-C_4cycloalkyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero)aryloxycarbonyl by 1 to 5 R_{11};

R_{29} is selected from C_1-C_4alkyl, haloC_1-C_4alkyl,C_3-C_4cycloalkyl, C_1-C_4alkylsulfonyl, haloC_1-C_4alkylsulfonyl, C_1-C_4alkylcarbonyl, haloC_1-C_4alkylcarbonyl, C_1-C_4alkoxycarbonyl, haloC_1-C_4alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{30} is selected from H, cyano, halogen, C_1-C_4alkyl, haloC_1-C_4alkyl,C_1-C_4alkoxycarbonyl, haloC_1-C_4alkoxycarbonyl,unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{31} is selected from C_1-C_4alkyl, haloC_1-C_4alkyl,C_3-C_4cycloalkyl, C_1-C_4alkylsulfonyl, haloC_1-C_4alkylsulfonyl, C_1-C_4alkylcarbonyl, haloC_1-C_4alkylcarbonyl, C_1-C_4alkoxycarbonyl, haloC_1-C_4alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{32} is selected from H, cyano, halogen, C_1-C_4alkyl, haloC_1-C_4alkyl,unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{33}, R_{34} may beselected respectively fromC_1-C_4alkyl, haloC_1-C_4alkyl,C_3-C_4cycloalkyl, C_1-C_4alkylcarbonyl,haloC_1-C_4alkylcarbonyl,C_1-C_4alkoxycarbonyl, haloC_1-C_4alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{35}, R_{36} may beselected respectively fromH, cyano, halogen, C_1-C_4alkyl, haloC_1-C_4alkyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

W is selected from H, halogen, C_1-C_4alkyl, haloC_1-C_4alkyl,C_3-C_4cycloalkyl,C_1-C_4alkoxy, haloC_1-C_4alkoxy or C_1-C_4alkylsulfonyl;

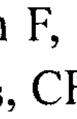
Or the salts formed from the more preferred compounds represented by general formula above, with hydrochloric acid, sulfuric acid, phosphoric acid, formic acid, acetic acid, trifluoroacetic acid, oxalic acid, methylsulfonic acid, *p*-toluenesulfonic acid, benzoic acid, alizaric acid, maleic acid, fumaric acid,sorbic acid, malic acid or citric acid.

In the substituted pyrazole compounds containing pyrimidinylof this invention, the more preferred compounds include: the compounds represented by general formula **I-1A**, **I-1B**, **I-1C**, **I-1D**, **I-1E**, **I-1F**, **I-1G**, **I-1H**, **I-1I**, **I-1J**, **I-1K**, **I-1L**, **I-1M**, **I-1N**, **I-2A**, **I-2B**, **I-2C**, **I-2D**, **I-2E**, **I-2F**, **I-2G**, **I-3A**, **I-3B**, **I-3C**, **I-3D**, **I-3E**, **I-3F**, **I-3G**, **I-4C**, **I-4F**or **I-4G**:

wherein:

R_1 is selected from H, F, Cl, Br, I, CN, NO_2, NH_2, carboxyl, CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, CH_2F, CH_2Cl, CHF_2, CF_3, CH_2CF_3, CH_2OCH_3, $CH_2OCH_2CH_3$ or $CH_2OCH_2CF_3$;

R_2 is selected from H, F, Cl, Br, I, CN, NO_2, NH_2, carboxyl, CHO, CH_3, C_2H_5, OCH_3, OC_2H_5 or OCH_2CF_3;

$R_3$is selected from H, OH, CHO, $COCH_3$, COC_2H_5, COC_3H_7, $COCF_3$, COPh, CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, CF_3, CH_2CF_3, OCH_3, OC_2H_5, OCH_2CF_3,  , SCH_3, SC_2H_5, $CH_2CH{=}CH_2$, $CH_2C \equiv CH$,SO_2CH_3,$SO_2CH_2CH_3$, $SO_2CH_2CF_3$, SO_2NHCH_3, $SO_2NHC_2H_5$, $SO_2N(CH_3)_2$, $SO_2N(C_2H_5)_2$, $CONHSO_2CH_3$, $COOCH_3$, $COOC_2H_5$, $COOC_3H_7$-n, $COOC_3H_7$-i, $CONHCH_3$, $CON(CH_3)_2$, $COOCH{=}CH_2$, $COOC{\equiv}CH$, $SNHCH_3$, $SNHC_2H_5$ or $SN(CH_3)_2$;

R_4, R_5 may be the same or different, selected respectively fromH, F, Cl, Br, I, CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, OCH_3, OC_2H_5, n-C_3H_7O, i-C_3H_7O, n-C_4H_9O, s-C_4H_9O, i-C_4H_9O or t-C_4H_9O;

R_6, R_7 may be the same or different, selected respectively from H, F, Cl, Br, I, CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, OCH_3, OC_2H_5, n-C_3H_7O, i-C_3H_7O, n-C_4H_9O, s-C_4H_9O, i-C_4H_9O or t-C_4H_9O;

R_8 is selected from H, CN, F, Cl, Br, I, CH_3, C_2H_5or CF_3;

R_9 is selected from H, CN, F, Cl, Br, I, CH_3, C_2H_5or CF_3;

R_{11} is selected from F, Cl, Br, I, CN, NH_2, NO_2,CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CF_3, CCl_3, CF_2Cl, $CFCl_2$, OCH_3, OCH_2CH_3, n-C_3H_7O, i-C_3H_7O, n-C_4H_9O, s-C_4H_9O, i-C_4H_9O, t-C_4H_9O, OCF_3, OCH_2CF_3, $COOCH_3$, $COOC_2H_5$, $CONH_2$, $CONHCH_3$, $CONHC_2H_5$ or $CON(CH_3)_2$;

The integer n is selected from 0 to 5, when n is 0, the benzene ring is unsubstituted phenyl; when n is more than 1, R_{11} may be the same or different;

R_{14} is selected from CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, cyclopropyl, cyclobutyl, CH_2F, CH_2Cl, CHF_2, CF_3 or CH_2CF_3;

R_{15}, R_{16} may be the same or different, selected respectively from H, F, Cl, Br, I, NH_2, CN, NO_2,CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, CF_3, CCl_3, CF_2Cl, $CFCl_2$, CH_2CF_3, OCH_3, OCH_2CH_3, n-C_3H_7O, i-C_3H_7O, n-C_4H_9O, s-C_4H_9O, i-C_4H_9O, t-C_4H_9O, OCF_3, OCH_2CF_3, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{17}, R_{18}, R_{19}, R_{20} may be the same or different, selected respectively from H, F, Cl, Br, I, CN, NO_2, CH_3, CF_3, OCH_3 or OCF_3;

R_{21}, R_{22} may be the same or different, selected respectively from H,F, Cl, Br, I, OH, CN, NO_2, CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CF_3, CCl_3, CF_2Cl, $CFCl_2$, CH_2CF_3, OCH_3, OCH_2CH_3, n-C_3H_7O, i-C_3H_7O, n-C_4H_9O, s-C_4H_9O, i-C_4H_9O, t-C_4H_9O, OCF_3, OCH_2CF_3, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{23}, R_{24}, R_{25}, R_{26} may be the same or different, selected respectively from H, F, Cl, Br, I, NH_2, CN, NO_2,CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CF_3, CCl_3, CF_2Cl, $CFCl_2$,OCH_3, OCH_2CH_3, n-C_3H_7O, i-C_3H_7O, n-C_4H_9O, s-C_4H_9O, i-C_4H_9O, t-C_4H_9O, OCF_3 or OCH_2CF_3;

R_{27}, R_{28} may be the same or different, selected respectively from H, F, Cl, Br, I,CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CF_3, CCl_3, CF_2Cl, $CFCl_2$,CH_2CF_3,OCH_3,

OCH_2CH_3, n-C_3H_7O, i-C_3H_7O, n-C_4H_9O, s-C_4H_9O, i-C_4H_9O, t-C_4H_9O, OCF_3, OCH_2CF_3, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{29} is selected from CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, CF_3, CCl_3, CF_2Cl, $CFCl_2$, cyclopropyl, SO_2CH_3, $SO_2CH_2CH_3$, $COCH_3$, COC_2H_5, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{30} is selected from H, CN, F, Cl, Br, I, CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, CF_3, CCl_3, CF_2Cl, $CFCl_2$,unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{31} is selected from CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CF_3, CCl_3, CF_2Cl, $CFCl_2$, cyclopropyl, SO_2CH_3, $SO_2CH_2CH_3$, $COCH_3$, COC_2H_5, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{32} is selected from H, CN, F, Cl, Br, I,CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CF_3, CCl_3, CF_2Cl, $CFCl_2$,unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{33}, R_{34} may beselected respectively fromCH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CF_3, CCl_3, CF_2Cl, $CFCl_2$, cyclopropyl, $COCH_3$, COC_2H_5, $COOCH_3$, $COOC_2H_5$, $COOCH_2CF_3$, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{35}, R_{36} may beselected respectively fromH, CN, F, Cl, Br, I,CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, CF_3, CCl_3, CF_2Cl, $CFCl_2$, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

W is selected from H, F, Cl, Br, I,CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, CH_2F, CH_2Cl, CHF_2, CF_3, CH_2CF_3, OCH_3, OC_2H_5, SCH_3, SC_2H_5, SO_2CH_3 or $SO_2CH_2CH_3$;

Or the salts formed from the more preferred compounds represented bygeneral formula above, with hydrochloric acid, sulfuric acid, phosphoric acid, formic acid, acetic acid, trifluoroacetic acid, oxalic acid, methylsulfonic acid, *p*-toluenesulfonic acid, benzoic acid, alizaric acid, maleic acid, fumaric acid, sorbic acid, malic acid or citric acid.

In the substituted pyrazole compounds containing pyrimidinylof this invention, the more preferred compounds include: the compounds represented by general formula **I-1C**, **I-1F**, **I-1G**, **I-2C**, **I-2F**, **I-2G**, **I-4C**, **I-4F** or **I-4G**:

wherein:

R_1 is selected from H, F, Cl, Br, I, CH_3, C_2H_5 or CHF_2;

R_2 is selected from H, F, Cl, Br, I, NO_2, NH_2, CHO, CH_3, C_2H_5, OCH_3 or OC_2H_5;

R_3 is selected from H, CH_3, $COCH_3$, $COCF_3$, OCH_3, SCH_3, $CH_2CH{=}CH_2$, SO_2CH_3, SO_2NHCH_3, $SO_2N(CH_3)_2$, $COOCH_3$, $CONHCH_3$, $CON(CH_3)_2$, $SNHCH_3$ or $SN(CH_3)_2$;

R_4, R_5 may be the same or different, selected respectively fromH, F, Cl, Br or CH_3;

R_6, $R_7$are H;

R_8 is H;

$R_9$is H;

R_{11} is selected from F, Cl, Br, I, CN, NO_2,CH_3, CF_3, OCH_3 or OCF_3;

The integer n is selected from 0 to 5, when n is 0, the benzene ring is unsubstituted phenyl; when n is more than 1, R_{11} may be the same or different;

R_{23}, R_{24}, R_{25}, R_{26} may be the same or different, selected respectively from H, F, Cl, Br, I or CH_3;

R_{27}, R_{28} may be the same or different, selected respectively from H, F, Cl, Br or I;

W is selected from H, F, Cl, Br, I or CH_3;

Or the salts formed from the more preferred compounds represented bygeneral formula above, with hydrochloric acid, sulfuric acid, phosphoric acid, formic acid, acetic acid, trifluoroacetic acid, oxalic acid, methylsulfonic acid, *p*-toluenesulfonic acid, benzoic acid, alizaric acid, maleic acid, fumaric acid, sorbic acid, malic acid or citric acid.

In the substituted pyrazole compounds containing pyrimidinylof this invention, the most preferred compounds include:the compounds represented by general formula**I-1C, I-1F, I-1G, I-2C, I-2G, I-4C, I-4F or I-4G**:

wherein

R_1 is selected from F, Cl, Br, I, CH_3, C_2H_5 or CHF_2;

R_2 is selected from F, Cl, Br, I, NO_2, NH_2, CHO, CH_3 or OCH_3;

R_3 is selected from H, CH_3, $COCH_3$, OCH_3, $CH_2CH{=}CH_2$, SO_2CH_3, $COOCH_3$, $CONHCH_3$, $CON(CH_3)_2$ or $SN(CH_3)_2$;

R_4, R_5 may be the same or different, selected respectively fromH or CH_3;

R_6, $R_7$are H;

R_8 is H;

$R_9$is H;

R_{11} is selected from F, Cl, Br, I, CN, NO_2, CH_3, CF_3,OCH_3 or OCF_3;

The integer n is selected from 1 to 5, when n is more than 1, R_{11} may be the same or different;

R_{23}, R_{24}, R_{25}, R_{26} are H;

R_{27} is H;

R_{28} is H;

W is selected from H, F, Cl, Br or I;

Or the salts formed from the most preferred compounds represented bygeneral formula above, with hydrochloric acid, sulfuric acid, phosphoric acid, formic acid, acetic acid, trifluoroacetic acid, oxalic acid, methylsulfonic acid, *p*-toluenesulfonic acid, benzoic acid, alizaric acid, maleic acid, fumaric acid, sorbic acid, malic acid or citric acid.

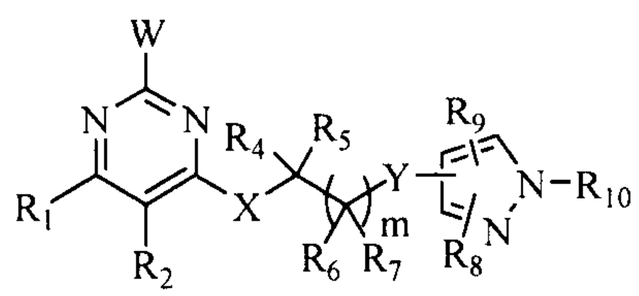
The terms used above to definite the compounds of general formula **I**are as follows:

The “halogen” or “halo” is fluorine, chlorine, bromine or iodine.The “alkyl” stands for straight or branched chain alkyl, such as methyl, ethyl, propyl, isopropyl or *tert*-butyl.The “cycloalkyl” is substituted or unsubstituted cyclic alkyl, such as cyclopropyl, cyclopentyl or cyclohexyl. The substitute(s) is(are) methyl, halogen, etc.The “haloalkyl” stands for straight or branched chain alkyl, in which hydrogen atoms can be all or partly substituted with halogen, such as chloromethyl, dichloromethyl, trichloromethyl, fluoromethyl, difluoromethyl, trifluoromethyl, etc.The “alkylsulfinyl” means a straight-chain or branched alkyl is linked to the structure by (-SO-), such as methylsulfinyl.The “haloalkylsulfinyl” stands for a straight-chain or branchedalkylsulfinyl, in which hydrogen atoms may be all or partly substituted with halogen.The “haloalkylsulfonyl” stands for a straight-chain or branchedalkylsulfonyl, in which hydrogen atoms may be all or partly substituted with halogen.The “alkylaminothio” refers to -$SNHCH_3$, -$SNHC_2H_5$. The

"dialkylaminothio" refers to -SN(CH_3)$_2$, -SN(C_2H_5)$_2$. The "alkylaminosulfonyl" refersto alkyl-NH-SO_2-.The "dialkylaminosulfonyl" refersto (alkyl)$_2$-N-SO_2-.The "alkylsulfonylaminocarbonyl" refersto alkyl-SO_2-NH-CO-.The"alkylcarbonylaminosulfonyl" refersto alkyl-CO-NH-SO_2-. The "alkylcarbonylalkyl" refers to alkyl-CO-alkyl-. The "alkylsulfonyloxy"such as alkyl-S(O)$_2$-O-. The "haloalkylsulfonyloxy"standsforin which hydrogen atoms may be all or partly substituted with halogen, such asCF_3-SO_2-O-. The "cycloalkyloxycarbonyl" means cyclopropyloxycarbonyl, cyclohexyloxycarbonyl, etc. The "alkoxy" refers to straight or branched chain alkyl, which is linked to the structure by oxygen atom.The "haloalkoxy" refers to straight or branched chain alkoxy, in which hydrogen atoms may be all or partly substituted with halogen, such as chloromethoxy, dichloromethoxy, trichloromethoxy, fluoromethoxy, difluoromethoxy, trifluoromethoxy, chlorofluoromethoxy, trifluoroethoxy, etc.The "haloalkoxycarbonyl" refers to straight or branched chain alkoxycarbonyl, in which hydrogen atoms can be all or partly substituted with halogen, such as $ClCH_2CH_2OCO$-、CF_3CH_2OCO-, etc. The "alkoxyalkyl" means alkyl-O-alkyl-, such as -CH_2OCH_3. The "haloalkoxyalkyl"refers to alkoxyalkyl, in which hydrogen atom may be all or partyl substituted with halogen, such as-$CH_2OCH_2CH_2Cl$, -$CH_2OCH_2CF_3$, etc. The "alkoxycarbonylalkyl"refers toalkoxycarbonyl-alkyl-, such as -CH_2COOCH_3. The "haloalkoxycarbonylalkyl"refers to alkoxycarbonylalkyl, in alkoxycarbonyl hydrogen atom may be all or partyl substituted with halogen, such as-$CH_2COOCH_2CF_3$. The "alkylcarbonyloxy":such as -$OCOCH_3$, etc. The "haloalkylcarbonyloxy" refers toalkylcarbonyloxy, in which hydrogen atom may be all or partyl substituted with halogen, such as -$OCOCF_3$, etc. The "alkoxycarbonyloxy" refers to alkoxycarbonyl-oxy, such as -$OCOOCH_3$. The "haloalkoxycarbonyloxy" refers toalkoxycarbonyloxy, in which hydrogen atom may be all or partyl substituted with halogen, such as -$OCOOCF_3$. The "alkylthiocarbonylalkyl" refers to alkylthiocarbonyl-alkyl-, such as -CH_2COSCH_3. The "haloalkylthiocarbonylalkyl" refers toalkylthiocarbonylalkyl, in which hydrogen atoms may be all or partly substituted with halogen, such as-$CH_2COSCH_2CF_3$. The "alkoxyalkoxy" stands for -OCH_2OCH_3, etc. The "haloalkoxyalkoxy" refers toalkoxyalkoxy, in which hydrogen atoms may be all or partly substituted with halogen, such as-OCH_2OCF_3. The "alkoxyalkoxycarbonyl" : such as-$COOCH_2CH_2OCH_3$, etc. The "alkylthio" refers to straight or branched chain alkyl, which is linked to the structure by sulfur atom.The "haloalkylthio" refers to straight or branched chain alkylthio, in which hydrogen atoms may be all or partly substituted with halogen, such as chloromethylthio, dichloromethylthio, trichloromethylthio, fluoromethylthio, difluoromethylthio, trifluoromethylthio, chlorofluoromethylthio, etc.The "alkylthioalkyl" means alkyl-S-alkyl-, such as -CH_2SCH_3. The "haloalkylthioalkyl"refers to alkylthioalkyl, in which hydrogen atoms may be all or partyl substituted with halogen, such as-$CH_2SCH_2CH_2Cl$, -$CH_2SCH_2CF_3$. The "alkylamino" refers to straight or branched chain alkyl, which is linked to the structure by nitrogen atom.The "haloalkylamino" refers to straight or branched chain alkylamino, in which hydrogen atoms may be all or partly substituted with halogen. The "dialkylamino": such as -N(CH_3)$_2$， -N(CH_3CH_2)$_2$. The "dihaloalkylamino"refers to dialkylamino, in which hydrogen atoms may be all or partyl substituted with halogen, such as -N(CF_3)$_2$， -N(CH_2CF_3)$_2$. The "alkenyl" refers to straight or branched chain alkenyl, such as ethenyl, 1-propenyl, 2-propenyl and different isomer of butenyl, pentenyl and hexenyl. Alkenyl also includes polyene, such as propa-1,2-dienyl and hexa-2,4-dienyl. The "haloalkenyl" stands for straight or branched chain alkenyl, in which hydrogen atoms can be all or partly substituted with halogen. The "alkenoxyl"refers to straight or branched chain alkenyl which is linked to the structure by oxygen. The "haloalkenoxyl"stands for a straight-chain or branchedalkenoxyl, in which hydrogen atoms may be all or partly substituted with

halogen.The "alkenylthio" refers to straight or branched chain alkenyl,which is linked to the structure by sulfur atom.Such as -$SCH_2CH=CH_2$. The "alkenoxylcarbonyl" means$CH_2=CHCH_2OCO$-, etc. The "alkynyl" refers to straight or branched chain alkynyl, such as ethynyl, 1-propynyl, 2-propynyl and different isomer of butynyl, pentynyl and hexynyl. Alkynyl also includes groups including more than one triple bonds, such as hexa-2,5-diynyl. The "haloalkynyl" stands for straight or branched chain alkynyl, in which hydrogen atoms can be all or partly substituted with halogen. The "alkynoxyl"refers to straight or branched chain alkynes which is linked to the structure by oxygen.The "haloalkynoxyl"stands for a straight-chain or branchedalkynoxyl, in which hydrogen atoms may be all or partly substituted with halogen.The "alkynoxylcarbonyl" means -$COOCH_2C\equiv CH$, etc. The "alkylsulfonyl" means a straight-chain or branched alkyl which is linked to the structure by (-SO_2-), such as methylsulfonyl.The "haloalkylsulfonyl" stands for a straight-chain or branchedalkylsulfonyl, in which hydrogen atoms may be all or partly substituted with halogen.The "alkylcarbonyl" means alkyl is linked to the structure by carbonyl, such as-$COCH_3$， -$COCH_2CH_3$.The "haloalkylcarbonyl" stands for a straight-chain or branchedalkylcarbonyl, in which hydrogen atoms may be all or partly substituted with halogen, such as-$COCF_3$. The "alkoxycarbonyl" means alkoxy is linked to the structure by carbonyl. such as -$COOCH_3$, -$COOCH_2CH_3$.The "aminocarbonyl": such asNH_2CO-. The "alkylaminocarbonyl" means alkyl-NH-CO-, such as -$CONHCH_3$, -$CONHCH_2CH_3$.The "dialkylaminocarbonyl": such as -$CON(CH_3)_2$,-$CON(CH_2CH_3)_2$. The "aryl" in (hetero)aryl, (hetero)arylalkyl, (hetero)arylcarbonyl, (Hetero) arylmethylcarbonyl, (hetero)arylcarbonylalkyl, (hetero)aryloxycarbonyl, (Hetero)arylalkyloxycarbonyl includes phenyl or naphthyl etc.The "heteroaryl" stands for five member ring or six member ring containing one or more N, O, S hetero atoms,such as furyl,pyrazolyl, thiazolyl, pyridinyl,pyrimidinyl, pyrazinyl,pyridazinyl,triazinyl, quinolinyl, etc."(Hetero)aryl"refers to phenyl, etc. "(Hetero)arylalkyl"means benzyl, phenylethyl, 4-chlorobenzyl, 2-chloro-pyridin-5-ylmethyl, 2-chloro-thiazol-5-ylmethyl, etc. "(Hetero)arylcarbonyl"refers to benzoyl, 4-Cl-benzoyl, etc. "(Hetero) arylmethylcarbonyl"refers to $PhCH_2CO$-. "(Hetero)arylcarbonylalkyl"refers to $PhCOCH_2$-. "(Hetero)aryloxycarbonyl":such as phenoxycarbonyl, *p*-chlorophenoxycarbonyl, *p*-nitrophenoxycarbonyl, naphthyloxycarbonyl, etc. Arylalkyloxycarbonyl means benzyloxycarbonyl, *p*-chlorobenzyloxycarbonyl, *p*-trifluoromethylbenzyloxycarbonyl, etc. "(Hetero)arylalkyloxycarbonyl"refers to -$COOCH_2Ph$, -$COOCH_2$-4-Cl-Ph, etc.

In the generalformula **I**, some of preferred substituents of R_1, R_2, $R_3(X=NR_3)$, $R_4(R_5)$, $R_6(R_7)$, R_8, R_9, R_{10} and w are separately listed in table1, table2, table3, table4, table5, table6, table7 , table8 and table9, but without being restricted thereby.



I

Table 1 R_1 substituents

R_1	**R_1**	**R_1**	**R_1**
H	F	Cl	Br
I	CH_3	C_2H_5	*n*-C_3H_7
i-C_3H_7	*n*-C_4H_9	*s*-C_4H_9	*i*-C_4H_9

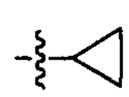
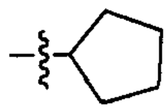
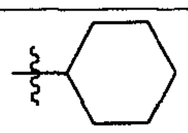
t-C_4H_9	CF_3	CCl_3	CHF_2
CH_2Cl	$CHBr_2$	CF_3CH_2	$CH(CH_3)F$
$CH(CH_3)Cl$	$CH(CH_3)Br$	$C(CH_3)_2F$	$CH=CH_2$
$C\equiv CH$	SCH_3	$SOCH_3$	SO_2CH_3
CN	NO_2	NH_2	COOH
$COOCH_3$	$COOC_2H_5$	CH_3NH	C_2H_5NH
OCH_3	OC_2H_5	OCF_3	$OCH_2CH=CH_2$
$OCH_2CH=CHCl$	$OCH_2C\equiv CH$	$OCH_2C\equiv C$-I	$OCH_2C\equiv CCH_3$
$CONH_2$	$CONHCH_3$	$CON(CH_3)_2$	$NHCH_3$
NHC_2H_5	$N(CH_3)_2$	$N(C_2H_5)_2$	CH_2OCH_3
$CH_2OCH_2CH_3$	$CH_2CH_2OCH_3$	$CH_2CH_2OCH_2CH_3$	$CH_2CH_2CH_2OCH_3$
$CH_2CH_2CH_2OCH_2CH_3$			

Table 2 R_2 substituents

R_2	**R_2**	**R_2**	**R_2**
H	F	Cl	Br
I	CN	NO_2	NH_2
CHO	CH_3	C_2H_5	*n*-C_3H_7
i-C_3H_7	*n*-C_4H_9	*s*-C_4H_9	*i*-C_4H_9
t-C_4H_9	OCH_3	OC_2H_5	OC_3H_7-*n*
OC_3H_7-*i*	OC_4H_9-*n*	OC_4H_9-*i*	OC_4H_9-*t*
OCH_2F	$OCHF_2$	OCF_3	OCH_2CF_3

Table 3 R_3 substituents

R_3	**R_3**	**R_3**	**R_3**
H	OH	-C(=O)H	CBr_3
CH_3	C_2H_5	*n*-C_3H_7	*i*-C_3H_7
n-C_4H_9	*i*-C_4H_9	*t*-C_4H_9	CCl_3
CH_2Br	CHF_2	$CHBr_2$	CF_3
CH_2Cl	$CHCl_2$	CCl_3	CH_2F
OCH_3	OC_2H_5	$OCH(CH_3)_2$	$OC(CH_3)_3$
OCF_3	OCH_2CF_3	OCH_2F	$OCHF_2$
SCH_3	SC_2H_5	$SCH_2CH=CH_2$	$CH=CH_2$
$CH_2CH=CH_2$	$CH_2CH=CCl_2$	$C\equiv CH$	$CH_2C\equiv CH$
$CH_2C\equiv C$-I	CH_2OCH_3	$CH_2OCH_2CH_3$	$CH_2CH_2OCH_3$
$CH_2CH_2OCH_2CH_3$	CH_2OCH_2Cl	$CH_2OCH_2CH_2Cl$	$CH_2CH_2OCH_2Cl$
CH_2SCH_3	$CH_2SCH_2CH_3$	$CH_2CH_2SCH_3$	$CH_2CH_2SCH_2CH_3$
CH_2SCH_2Cl	$CH_2SCH_2CH_2Cl$	$CH_2CH_2SCH_2Cl$	$SOCH_3$
SOC_2H_5	$SOCF_3$	$SOCH_2CF_3$	SO_2CH_3
$SO_2C_2H_5$	SO_2CF_3	$SO_2CH_2CF_3$	$SO_2NHCOCH_3$
SO_2NHCH_3	$SO_2N(CH_3)_3$	$CONHSO_2CH_3$	$COCH_3$
COC_2H_5	CO-*n*-C_3H_7	CO-*i*-C_3H_7	CO-*n*-C_4H_9
CO-*i*-C_4H_9	CO-*t*-C_4H_9	$COCF_3$	$COCH_2Cl$
$COOCH_3$	$COOC_2H_5$	COO-*n*-C_3H_7	COO-*t*-C_4H_9

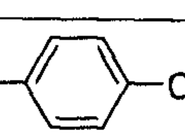
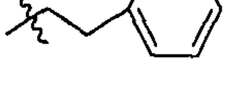
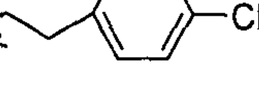
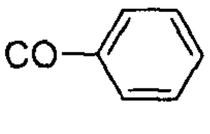
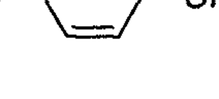
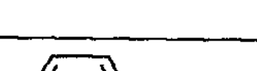
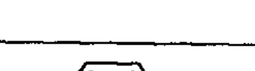
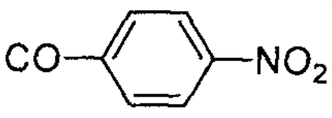
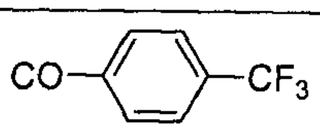
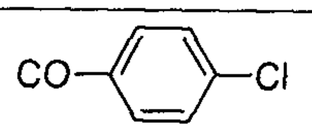
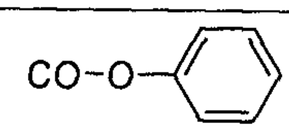
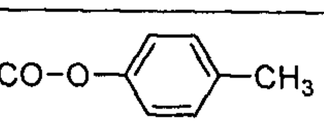
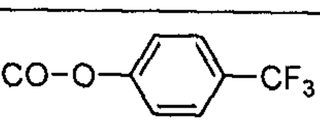
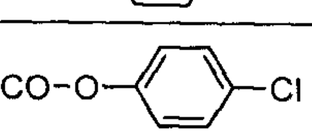
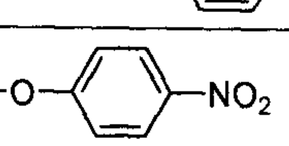
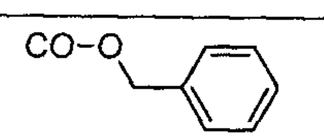
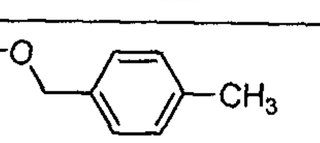
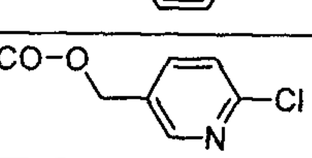
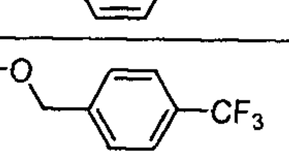
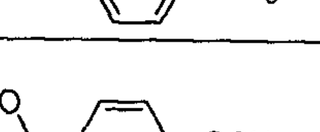
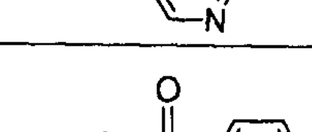
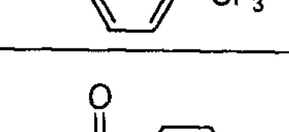
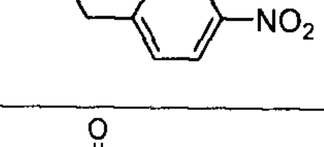
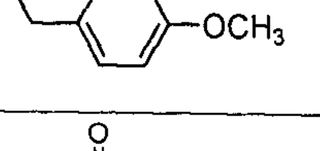
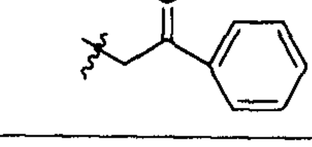
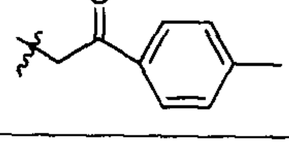
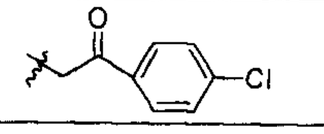
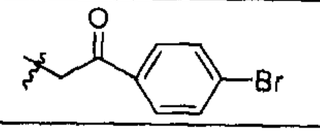
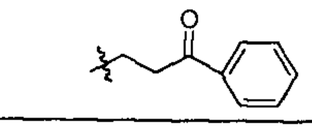
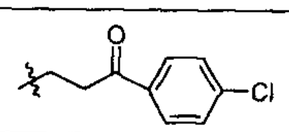
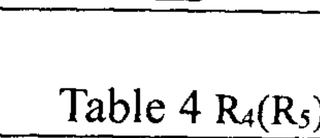
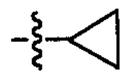
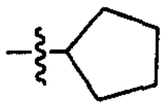
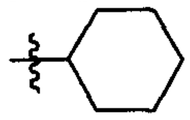
$COOCF_3$	$COOCH_2CH_2Cl$	$COOCH_2CF_3$	CH_2COOCH_3
$CH_2COOC_2H_5$	CH_2COCH_3	$CH_2COC_2H_5$	$CONHCH_3$
$CONHC_2H_5$	$CONH\text{-}t\text{-}C_4H_9$	$CON(CH_3)_2$	$CON(C_2H_5)_2$
$COOCH_2CH{=}CH_2$	$COOCH_2C{\equiv}CH$	$COOCH_2OCH_3$	$COOCH_2CH_2OCH_3$
$SNHCH_3$	$SNHC_2H_5$	$SN(CH_3)_2$	$SN(C_2H_5)_2$
			
			
			
			
			
			
			
			
			
			

Table 4 $R_4(R_5)$ substituents

$R_4(R_5)$	**$R_4(R_5)$**	**$R_4(R_5)$**	**$R_4(R_5)$**
H	F	Cl	Br
I	CH_3	C_2H_5	$n\text{-}C_3H_7$
$i\text{-}C_3H_7$	$n\text{-}C_4H_9$	$s\text{-}C_4H_9$	$i\text{-}C_4H_9$
$t\text{-}C_4H_9$	CF_3	CCl_3	CHF_2
CH_2Cl	$CHBr_2$	CF_3CH_2	$CH(CH_3)F$
$CH(CH_3)Cl$	$CH(CH_3)Br$	$C(CH_3)_2F$	OCH_3
OC_2H_5	$n\text{-}C_3H_7O$	$i\text{-}C_3H_7O$	$n\text{-}C_4H_9O$
$s\text{-}C_4H_9O$	$i\text{-}C_4H_9O$	$t\text{-}C_4H_9O$	OCF_3

OCH_2CF_3			
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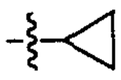
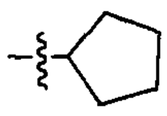
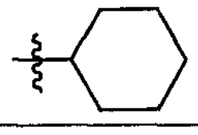
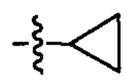
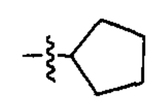
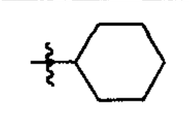
			

Table 5 $R_6(R_7)$ substituents

$R_6(R_7)$	**$R_6(R_7)$**	**$R_6(R_7)$**	**$R_6(R_7)$**
H	F	Cl	Br
I	CH_3	C_2H_5	*n*-C_3H_7
i-C_3H_7	*n*-C_4H_9	*s*-C_4H_9	*i*-C_4H_9
t-C_4H_9	CF_3	CCl_3	CHF_2
CH_2Cl	$CHBr_2$	CF_3CH_2	$CH(CH_3)F$
$CH(CH_3)Cl$	$CH(CH_3)Br$	$C(CH_3)_2F$	OCH_3
OC_2H_5	*n*-C_3H_7O	*i*-C_3H_7O	*n*-C_4H_9O
s-C_4H_9O	*i*-C_4H_9O	*t*-C_4H_9O	OCF_3
OCH_2CF_3			
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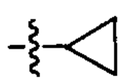
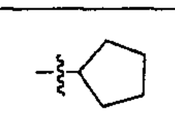
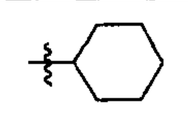
			

Table 6 R_8 substituents

R_8	**R_8**	**R_8**	**R_8**
H	CN	CH_3	C_2H_5
n-C_3H_7	*i*-C_3H_7	*n*-C_4H_9	*s*-C_4H_9
i-C_4H_9	*t*-C_4H_9	CF_3	CCl_3
CHF_2	CH_2F	CH_2Cl	CH_2CF_3
CF_2CF_3	$COOCH_3$	Ph	Ph-4-Cl

Table 7 R_9 substituents

R_9	**R_9**	**R_9**	**R_9**
H	CN	CH_3	C_2H_5
n-C_3H_7	*i*-C_3H_7	*n*-C_4H_9	*s*-C_4H_9
i-C_4H_9	*t*-C_4H_9	CF_3	CCl_3
CHF_2	CH_2F	CH_2Cl	CH_2CF_3
CF_2CF_3	$COOCH_3$	Ph	Ph-4-Cl

Table 8 R_{10} substituents

R_{10}	**R_{10}**	**R_{10}**	**R_{10}**	**R_{10}**
CH_3	Et	n-Pr	i-Pr	n-Bu
i-Bu	s-Bu	t-Bu	CH_2F	CHF_2
CF_3	CH_2CF_3	$COCH_3$	COEt	CO-n-Pr
CO- n-Bu	CO-t-Bu	$COCF_3$	CO_2CH_3	CO_2Et
CO_2-n-Pr	CO_2- i-Pr	CO_2-t-Bu	$CO_2CH_2CF_3$	CH_2OCH_3

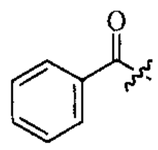
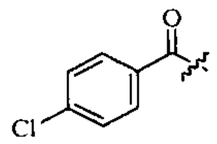
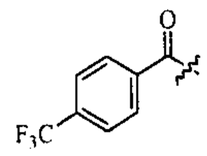
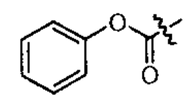
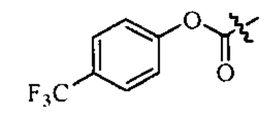
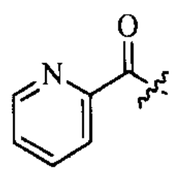
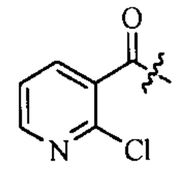
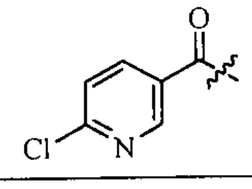
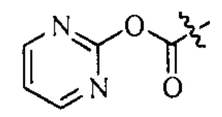
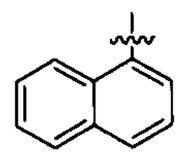
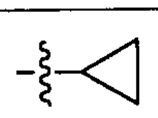
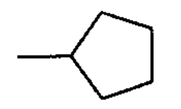
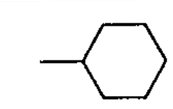
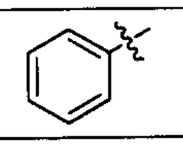
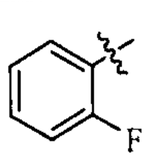
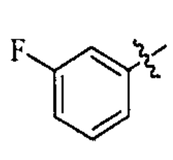
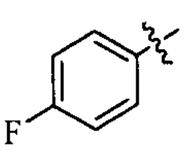
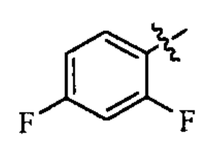
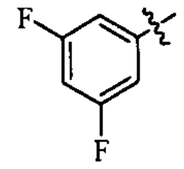
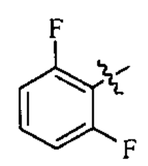
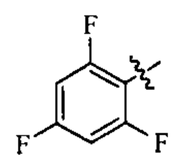
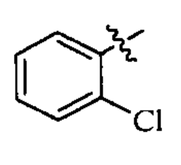
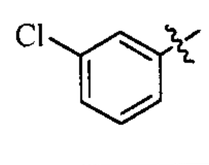
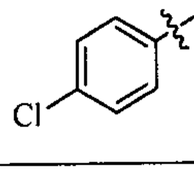
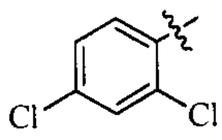
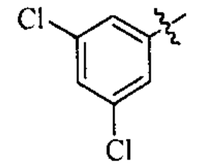
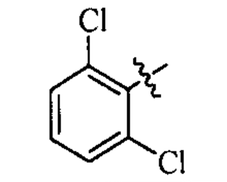
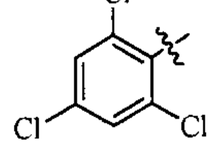
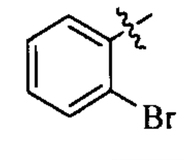
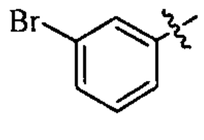
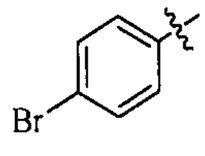
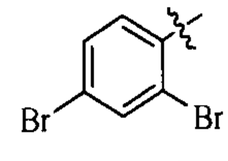
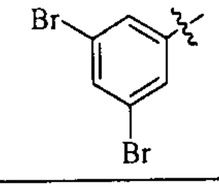
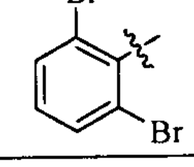
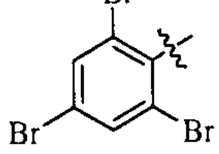
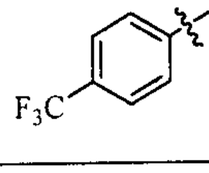
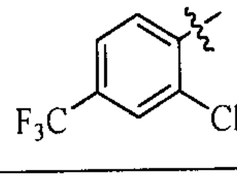
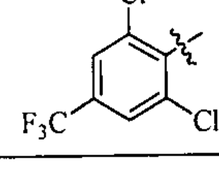
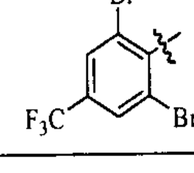
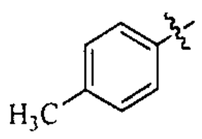
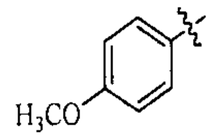
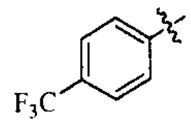
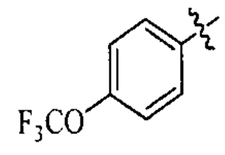
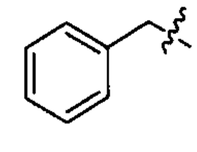
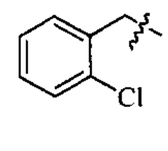
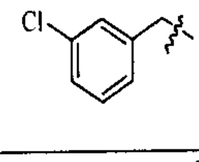
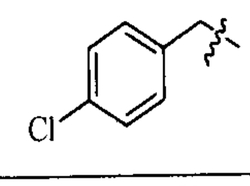
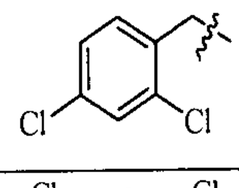
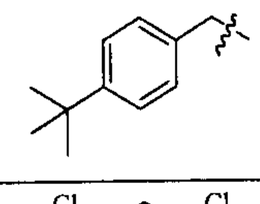
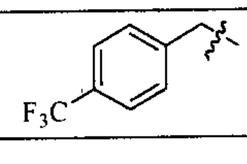
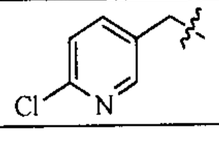
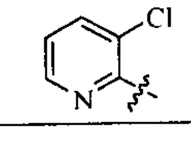
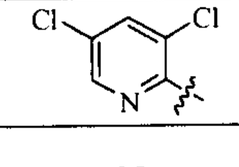
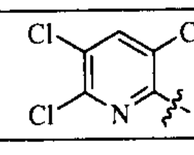
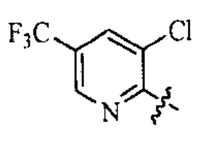
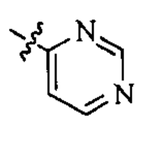
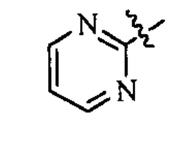
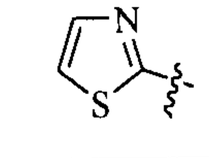
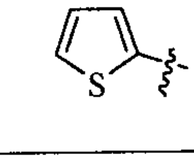
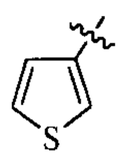
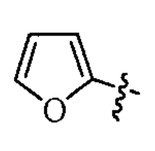
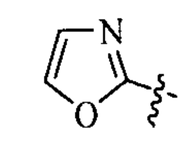
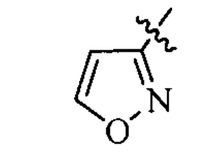
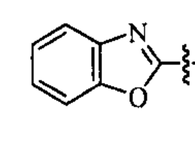
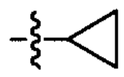
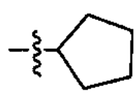
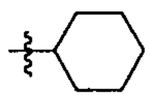
				
				
				
				
				
				
				
				
				
				
				
				
				

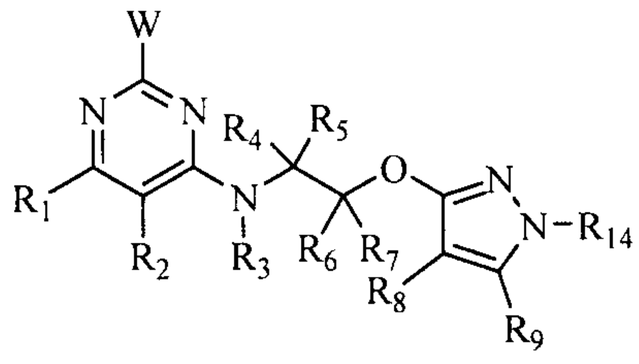
Table 9 W substituents

W	W	W	W	W
H	*i*-C_3H_7	CHF_2	OCH_3	SCH_3
F	*n*-C_4H_9	$CHBr_2$	OC_2H_5	SC_2H_5
Cl	*i*-C_4H_9	CF_3	OC_3H_7-*n*	SC_3H_7-*n*
Br	CH_3	$CH(CH_3)F$	OC_3H_7-*i*	SC_3H_7-*i*
I	C_2H_5	$CH(CH_3)Cl$	OC_4H_9-*n*	SC_4H_9-*n*

	$CHCl_2$	$CH(CH_3)Br$	OC_4H_9-*i*	SC_4H_9-*i*
	CCl_3	$CH(n\text{-}C_4H_9)F$	OC_4H_9-*t*	SC_4H_9-*t*
		$C(CH_3)_2F$	OCF_3	SO_2CH_3
		n-C_3H_7	OCH_2CF_3	*t*-C_4H_9

In the generalformula **I**, some of the present invention compounds are also explained bythe following compounds listed in Table10 to Table 128,but without being restricted thereby.In the generalformula **I-1A, I-1B, I-1C, I-1D, I-1E, I-1F, I-1G, I-1H, I-1I, I-1J, I-1K, I-1L, I-1M, I-1N, I-2A, I-2B, I-2C, I-2D, I-2E, I-2F, I-2G, I-3A, I-3B, I-3C, I-3D, I-3E, I-3For I-3G,** $W=R_6=R_7=R_8=R_9=R_{23}=R_{24}=R_{25}=R_{26}=R_{27}=H$.

In general formula **I-IA**,



I-1A

$R_1=Cl$, $R_2=Cl$, $R_3=R_4=R_5=H$, the substituents R_{14} refer to Table 10, the representative compounds are coded as**10-1—10-15**.

Table 10

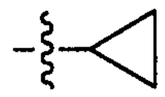
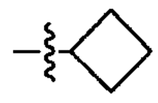
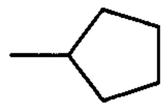
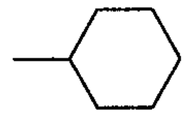
No.	**R_{14}**	**No.**	**R_{14}**	**No.**	**R_{14}**
10-1	CH_3	**10-2**	C_2H_5	**10-3**	*n*-C_3H_7
10-4	*i*-C_3H_7	**10-5**	*n*-C_4H_9	**10-6**	*s*-C_4H_9
10-7	*i*-C_4H_9	**10-8**	*t*-C_4H_9	**10-9**	CF_3
10-10	CH_2CF_3	**10-11**	CF_2CF_3	**10-12**	
10-13		**10-14**		**10-15**	

Table 11: in general formula **I-IA**, $R_1=CH_3$, $R_2=Cl$, $R_3=R_4=R_5=H$, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **11-1—11-15**.

Table 12: in general formula **I-IA**, $R_1=C_2H_5$, $R_2=Cl$, $R_3=R_4=R_5=H$, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **12-1—12-15**.

Table 13: in general formula **I-IA**, $R_1=CHF_2$, $R_2=Cl$, $R_3=R_4=R_5=H$, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **13-1—13-15**.

Table 14: in general formula **I-IA**, $R_1=CF_3$, $R_2=Cl$, $R_3=R_4=R_5=H$, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **14-1—14-15**.

Table 15: in general formula **I-IA**, $R_1=Cl$, $R_2=Cl$, $R_3=R_4=H$, $R_5=CH_3$, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **15-1—15-15**.

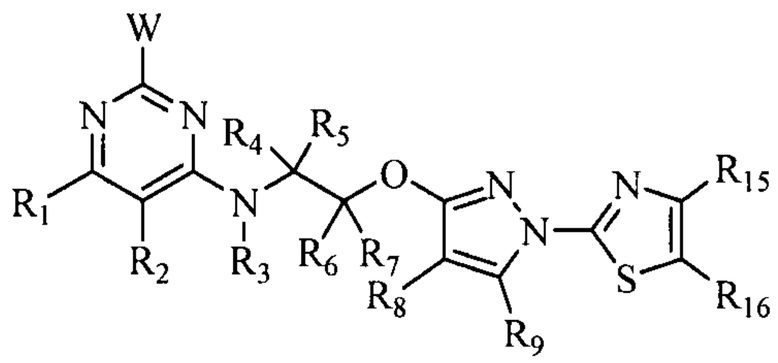
Table 16: in general formula **I-IA**, R_1=CH_3, R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1**—**10-15** in table 10 in turn, the representative compounds are coded as **16-1**—**16-15**.

Table 17: ingeneral formula **I-IA**, R_1=C_2H_5, R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1**—**10-15** in table 10 in turn, the representative compounds are coded as **17-1**—**17-15**.

Table 18: in general formula **I-IA**, R_1=CHF_2, R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1**—**10-15** in table 10 in turn, the representative compounds are coded as **18-1**—**18-15**.

Table 19: in general formula **I-IA**, R_1=CF_3, R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1**—**10-15** in table 10 in turn, the representative compounds are coded as **19-1**—**19-15**.

In general formula **I-IB**,



I-1B

R_1=Cl,R_2=Cl, R_3=R_4=R_5=H, the substituentsR_{15} and R_{16} refer to Table 20, the representative compounds are coded as**20-1**—**20-10**.

Table 20

No.	R_{15}	R_{16}
20-1	H	H
20-2	H	Br
20-3	H	CH_3
20-4	H	NO_2
20-5	H	CN
20-6	H	CF_3
20-7	Cl	H
20-8	CH_3	H
20-9	CF_3	H
20-10	CF_3	CO_2CH_3

Table 21: in general formula **I-IB**, R_1=CH_3,R_2=Cl, R_3=R_4=R_5=H, the substituents R_{15} and R_{16} are consistent with those in Table 20 and corresponding to **20-1**—**20-10** in table 20 in turn, the representative compounds are coded as **21-1**—**21-10**.

Table 22: in general formula **I-IB**, R_1=C_2H_5, R_2=Cl, R_3=R_4=R_5=H, the substituents R_{15} and R_{16} are consistent with those in Table 20 and corresponding to **20-1**—**20-10** in table 20 in turn, the representative compounds are coded as **22-1**—**22-10**.

Table 23: in general formula **I-IB**, R_1=CHF_2, R_2=Cl, R_3=R_4=R_5=H, the substituents R_{15} and R_{16} are consistent with those in Table 20 and corresponding to **20-1**—**20-10** in table 20 in turn, the representative compounds are coded as **23-1**—**23-10**.

Table 24: in general formula **I-IB**, R_1=CF_3, R_2=Cl, R_3=R_4=R_5=H, the substituents R_{15} and R_{16} are consistent with those in Table 20 and corresponding to **20-1—20-10** in table 20 in turn, the representative compounds are coded as **24-1—24-10**.

Table 25: in general formula **I-IB**, R_1=Cl,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{15} and R_{16} are consistent with those in Table 20 and corresponding to **20-1—20-10** in table 20 in turn, the representative compounds are coded as **25-1—25-10**.

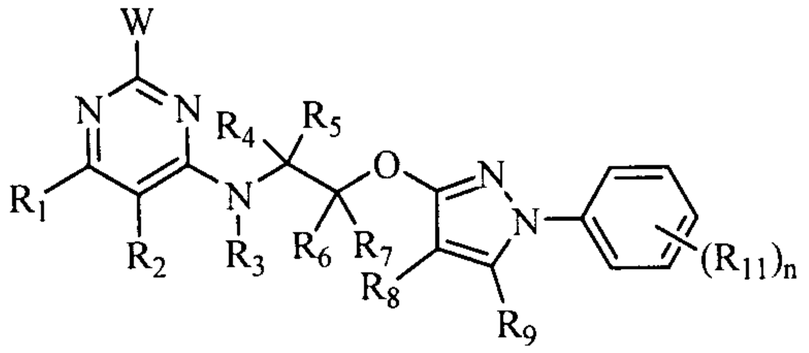
Table 26: in general formula **I-IB**, R_1=CH_3,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{15} and R_{16} are consistent with those in Table 20 and corresponding to **20-1—20-10** in table 20 in turn, the representative compounds are coded as **26-1—26-10**.

Table 27: in general formula **I-IB**, R_1=C_2H_5, R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{15} and $R_{16}$are consistent with those in Table 20 and corresponding to **20-1—20-10** in table 20 in turn, the representative compounds are coded as **27-1—27-10**.

Table 28: in general formula **I-IB**, R_1=CHF_2,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{15} and R_{16} are consistent with those in Table 20 and corresponding to **20-1—20-10** in table 20 in turn, the representative compounds are coded as **28-1—28-10**.

Table 29: in general formula**I-IB**, R_1=CF_3,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{15} and R_{16} are consistent with those in Table 20 and corresponding to **20-1—20-10** in table 20 in turn, the representative compounds are coded as **29-1—29-10**.

In general formula **I-IC**,



I-1C

R_1=Cl,R_2=Cl, R_3=R_4=R_5=H, the substituents $(R_{11})n$ refer to Table 30, the representative compounds are coded as**30-1—30-279**.

Table 30

No.	**$(R_{11})n$**	**No.**	**$(R_{11})n$**	**No.**	**$(R_{11})n$**
30-1	H	30-2	2-F	30-3	3-F
30-4	4-F	30-5	2,3-2F	30-6	2,4-2F
30-7	2,5-2F	30-8	2,6-2F	30-9	3,4-2F
30-10	3,5-2F	30-11	2,3,4-3F	30-12	2,3,5-3F
30-13	2,4,5-3F	30-14	2,3,6-3F	30-15	2,4,6-3F
30-16	3,4,5-3F	30-17	2-Cl	30-18	3-Cl
30-19	4-Cl	30-20	2,3-2Cl	30-21	2,4-2Cl
30-22	2,5-2Cl	30-23	2,6-2Cl	30-24	3,4-2Cl
30-25	3,5-2Cl	30-26	2,3,4-3Cl	30-27	2,3,5-3Cl
30-28	2,4,5-3Cl	30-29	2,3,6-3Cl	30-30	2,4,6-3Cl
30-31	3,4,5-3Cl	30-32	2-Br	30-33	3-Br
30-34	4-Br	30-35	2,3-Br	30-36	2,4-2Br
30-37	2,5-2Br	30-38	2,6-2Br	30-39	3,4-2Br
30-40	3,5-2Br	30-41	2,3,4-3Br	30-42	2,3,5-3Br
30-43	2,4,5-3Br	30-44	2,3,6-3Br	30-45	2,4,6-3Br

30-46	3,4,5-3Br	30-47	2-CN	30-48	3-CN
30-49	4-CN	30-50	2-NO_2	30-51	3-NO_2
30-52	4-NO_2	30-53	2,4-2NO_2	30-54	2,4,6-3NO_2
30-55	2-CH_3	30-56	3-CH_3	30-57	4-CH_3
30-58	2,3-2CH_3	30-59	2,4-2CH_3	30-60	2,5-2CH_3
30-61	2,6-2CH_3	30-62	3,4-2CH_3	30-63	3,5-2CH_3
30-64	2-C_2H_5	30-65	3-C_2H_5	30-66	4-C_2H_5
30-67	2-CF_3	30-68	3-CF_3	30-69	4-CF_3
30-70	2-OCH_3	30-71	3-OCH_3	30-72	4-OCH_3
30-73	2-SCH_3	30-74	3-SCH_3	30-75	4-SCH_3
30-76	2-OCF_3	30-77	3-OCF_3	30-78	4-OCF_3
30-79	2-SCF_3	30-80	3-SCF_3	30-81	4-SCF_3
30-82	2-OC_2H_5	30-83	3-OC_2H_5	30-84	4-OC_2H_5
30-85	2-$NHCH_3$	30-86	3-$NHCH_3$	30-87	4-$NHCH_3$
30-88	2-$N(CH_3)_2$	30-89	3-$N(CH_3)_2$	30-90	4-$N(CH_3)_2$
30-91	2-$COCH_3$	30-92	3-$COCH_3$	30-93	4-$COCH_3$
30-94	2-COC_2H_5	30-95	3-COC_2H_5	30-96	4-COC_2H_5
30-97	2-SO_2CH_3	30-98	3-SO_2CH_3	30-99	4-SO_2CH_3
30-100	2-$OCHF_2$	30-101	3-$OCHF_2$	30-102	4-$OCHF_2$
30-103	2-$SO_2C_2H_5$	30-104	3-$SO_2C_2H_5$	30-105	4-$SO_2C_2H_5$
30-106	2-CO_2CH_3	30-107	3-CO_2CH_3	30-108	4-CO_2CH_3
30-109	2-$CO_2C_2H_5$	30-110	3-$CO_2C_2H_5$	30-111	4-$CO_2C_2H_5$
30-112	2-CH_2OCH_3	30-113	3-CH_2OCH_3	30-114	4-CH_2OCH_3
30-115	2-$OCOCH_3$	30-116	3-$OCOCH_3$	30-117	4-$OCOCH_3$
30-118	2-$OCOCH_2CH_3$	30-119	3-$OCOCH_2CH_3$	30-120	4-$OCOCH_2CH_3$
30-121	2-OCO_2CH_3	30-122	3-OCO_2CH_3	30-123	4-OCO_2CH_3
30-124	2-OCH_2OCH_3	30-125	3-OCH_2OCH_3	30-126	4-OCH_2OCH_3
30-127	2-OCF_2OCF_3	30-128	3-OCF_2OCF_3	30-129	4-OCF_2OCF_3
30-130	2-COPh	30-131	3-COPh	30-132	4-COPh
30-133	2-$COCH_2Ph$	30-134	3-$COCH_2Ph$	30-135	4-$COCH_2Ph$
30-136	2-NHPh	30-137	3-NHPh	30-138	4-NHPh
30-139	2-OPh	30-140	3-OPh	30-141	4-OPh
30-142	2-CONHPh	30-143	3-CONHPh	30-144	4-CONHPh
30-145	2-CO_2Ph	30-146	3-CO_2Ph	30-147	4-CO_2Ph
30-148	2-$CONH_2$	30-149	3-$CONH_2$	30-150	4-$CONH_2$
30-151	2-Cl-4-F	30-152	2-Cl-4-Br	30-153	2-Cl-4-CH_3
30-154	2-Cl-4-CF_3	30-155	2-Cl-4-NO_2	30-156	2-Cl-4-CN
30-157	2-Cl-4-OCF_3	30-158	2-F-4-Cl	30-159	2-Br-4-Cl
30-160	2-CH_3-4-Cl	30-161	2-CF_3-4-Cl	30-162	2-NO_2-4-Cl
30-163	2-CN-4-Cl	30-164	2-OCF_3-4-Cl	30-165	2,6-2Cl-4-NO_2
30-166	2,6-2Cl-4-CF_3	30-167	2,6-2Cl-4-CN	30-168	2,6-2Cl-4-$COCH_3$
30-169	2,6-2Cl-4-$CONH_2$	30-170	2,4-2Cl-6-NO_2	30-171	2,4-2Cl-6-CN
30-172	2,4-2Cl-6-CF_3	30-173	2,4-2F-6-NO_2	30-174	2,6-2F-4-NO_2
30-175	2-NO_2-4-F	30-176	2-NO_2-4-Br	30-177	2-NO_2-4-CF_3
30-178	2-NO_2-4-CN	30-179	2-NO_2-4-$COCH_3$	30-180	2-NO_2-4-$CONH_2$

30-181	2-NO_2-4-CH_3	30-182	2-NO_2-4-OCH_3	30-183	2-NO_2-4-SCH_3
30-184	2-NO_2-4-NCH_3	30-185	2-F-4-NO_2	30-186	2-Br-4-NO_2
30-187	2-CF_3-4-NO_2	30-188	2-CN-4-NO_2	30-189	2-$COCH_3$-4-NO_2
30-190	2-$CONH_2$-4-NO_2	30-191	2-CH_3-4-NO_2	30-192	2-Cl-4-F-6-NO_2
30-193	2-Cl-4-Br-6-NO_2	30-194	2-Cl-4-CH_3-6-NO_2	30-195	2-Cl-4-CF_3-6-NO_2
30-196	2-Cl-4,6-2NO_2	30-197	2-Cl-4-CN-6-NO_2	30-198	2-Cl-4-OCF_3-6-NO_2
30-199	2-F-4-Cl-6-NO_2	30-200	2-Br-4-Cl-6-NO_2	30-201	2-CH_3-4-Cl-6-NO_2
30-202	2-CF_3-4-Cl-6-NO_2	30-203	4-Cl-2,6-2NO_2	30-204	2-CF_3-4-CN
30-205	2-CN-4-CF_3	30-206	4-CF_3-2,6-2NO_2	30-207	4-CN-2,6-2NO_2
30-208	4-CH_3-2,6-2NO_2	30-209	4-OCF_3-2,6-2NO_2	30-210	4-OCH_3-2,6-2NO_2
30-211	4-SCH_3-2,6-2NO_2	30-212	4-$NHCH_3$-2,6-2NO_2	30-213	4-F-2,6-2NO_2
30-214	2-CF_3-4,6-2NO_2	30-215	2-CN-4,6-2NO_2	30-216	2-CH_3-4,6-2NO_2
30-217	2-F-4,6-2NO_2	30-218	2-OCF_3-4,6-2NO_2	30-219	2-CF_3-4-Br
30-220	3-CF_3-4-NO_2	30-221	2-CN-4-Cl-6-NO_2	30-222	2-OCF_3-4-Cl-6-NO_2
30-223	3-CF_3-4-CN	30-224	3-CN-4-CF_3	30-225	2-CF_3-4-Br-6-NO_2
30-226	3-NO_2-4-CF_3	30-227	2-NO_2-4-CN-5-CF_3	30-228	2-NO_2-4-CF_3-5-CN
30-229	4-OCF_3-2,6-2Br	30-230	2-CH_3-4-Cl-5-$CH_2CO_2C_2H_5$	30-231	2,4-2Cl-3-CH_3
30-232	2,4-2Cl-3-CH_3-6-NO_2	30-233	2-Cl-3-CH_3	30-234	2-CH_3-3-Cl
30-235	2-CH_3-3-Cl-4,6-2NO_2	30-236	2-CH_3-3-Cl -4-NO_2	30-237	2-CH_3-3-Cl-6-NO_2
30-238	2-Cl-3-CH_3-4,6-2NO_2	30-239	2-Cl-3-CH_3-4-NO_2	30-240	2-Cl-3-CH_3-6-NO_2
30-241	2-Br-4-NO_2-6-CN	30-242	3-Cl-4-CF_3-2,6-2NO_2	30-243	2NO_2-4,5-2Cl
30-244	2-NO_2-3,5-2Cl	30-245	2,5-2Cl-4-NO_2	30-246	2,5-2Cl-6-NO_2
30-247	2,3-2Cl-4-NO_2	30-248	2,3-2Cl-6-NO_2	30-249	3,4-2Cl-2,6-2NO_2
30-250	2,5-2Cl-4,6-2NO_2	30-251	2,4,5-3Cl-6-NO_2	30-252	2,3,4-3Cl-5-NO_2
30-253	2,3,4-3Cl-6-NO_2	30-254	2,3,5-3Cl-4,6-2CN	30-255	2,5-2Cl-4-OCF_2OCF_3
30-256	2,6-2Br-4-NO_2	30-257	2-F-4-NO_2-6-Cl	30-258	2-Cl-4-NO_2-6-SCN
30-259	2-Br-4-NO_2-6-Cl	30-260	2-Cl-4-NO_2-6-OCH_3	30-261	2-Cl-4-NO_2-6-SCH_3
30-262	2-Cl-4-NO_2-6-$NHCH_3$	30-263	2-Cl-4-NO_2-6-SO_2CH_3	30-264	2-Cl-4-SO_2CH_3
30-265	2,6-2Cl-4-SO_2CH_3	30-266	2,6-2Cl-4-CH_3	30-267	2,6-2Cl-4-CO_2CH_3
30-268	2,6-2Cl-4-$CONHCH_3$	30-269	2,6-2Cl-4-$CON(CH_3)_2$	30-270	2,6-2Cl-4-$CF(CF_3)_2$
30-271	2-Cl-4-$CF(CF_3)_2$-6-Br	30-272	2-F-4-$CF(CF_3)_2$-6-Br	30-273	2-F-4-$CF(CF_3)_2$-6-Cl
30-274	2,6-2F-4-$CF(CF_3)_2$-6-Cl	30-275	2,4,5-3Cl-3,6-2CN	30-276	2,3,5-3F-4,6-2CN
30-277	2-SO_2NH_2	30-278	3-SO_2NH_2	30-279	4-SO_2NH_2

Table 30-1: in general formula **I-IC**,R_1=Cl, R_2=CH_3, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **30-1-1—30-1-279**.

Table 30-2: in general formula **I-IC**,R_1=Cl, R_2=OCH_3, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **30-2-1—30-2-279**.

Table 30-3: in general formula **I-IC**,R_1=Cl, R_2=CHO, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **30-3-1—30-3-279**.

Table 30-4: in general formula **I-IC**,R_1=Cl, R_2=Br, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the

representative compounds are coded as **30-4-1—30-4-279**.

Table 31: in general formula **I-IC**, R_1=CH_3,R_2=Cl, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **31-1—31-279**.

Table 32: in general formula **I-IC**, R_1=C_2H_5, R_2=Cl, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **32-1—32-279**.

Table 33: in general formula **I-IC**, R_1=CHF_2, R_2=Cl, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **33-1—33-279**.

Table 34: in general formula **I-IC**, R_1=CF_3, R_2=Cl, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **34-1—34-279**.

Table 35: in general formula **I-IC**, R_1=Cl,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **35-1—35-279**.

Table 36: in general formula **I-IC**, R_1=CH_3,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **36-1—36-279**.

Table 37: in general formula **I-IC**, R_1=C_2H_5, R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **37-1—37-279**.

Table 38: in general formula **I-IC**, R_1=CHF_2, R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **38-1—38-279**.

Table 39: in general formula **I-IC**, R_1=CF_3, R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **39-1—39-279**.

Table 40: in general formula **I-IF**,R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **40-1—40-279**.

Table 41: in general formula **I-IF**,R_3=R_4=H, R_5=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **41-1—41-279**.

Table 42: in general formula **I-IG**,R_3=R_4=R_5=H, R_{28}=Cl, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **42-1—42-279**.

Table 43: in general formula **I-IG**, R_3=R_4=R_5=H, R_{28}=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **43-1—43-279**.

Table 44: in general formula **I-IG**, R_3=R_4=H, R_5=CH_3, R_{28}=Cl, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **44-1—44-279**.

Table 45: in general formula **I-IG**,R_3=R_4=H, R_5=CH_3, R_{28}=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the

representative compounds are coded as **45-1—45-279**.

Table 46: in general formula **I-2A**,R_1=Cl,R_2=Cl, R_3=R_4=R_5=H, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **46-1—46-15**.

Table 47: in general formula **I-2A**, R_1=CH_3,R_2=Cl, R_3=R_4=R_5=H, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **47-1—47-15**.

Table 48: in general formula **I-2A**,R_1=C_2H_5,R_2=Cl, R_3=R_4=R_5=H, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **48-1—48-15**.

Table 49: in general formula **I-2A**, R_1=CHF_2, R_2=Cl, R_3=R_4=R_5=H, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **49-1—49-15**.

Table 50: in general formula **I-2A**, R_1=CF_3, R_2=Cl, R_3=R_4=R_5=H, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **50-1—50-15**.

Table 51: in general formula **I-2A**,R_1=Cl,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **51-1—51-15**.

Table 52: in general formula **I-2A**,R_1=CH_3,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **52-1—52-15**.

Table 53: in general formula **I-2A**,R_1=C_2H_5,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **53-1—53-15**.

Table 54: in general formula **I-2A**, R_1=CHF_2, R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **54-1—54-15**.

Table 55: in general formula **I-2A**, R_1=CF_3, R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **55-1—55-15**.

Table 56: in general formula **I-2C**, R_1=Cl,R_2=Cl, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **56-1—56-279**.

Table 57: in general formula **I-2C**, R_1=CH_3,R_2=Cl, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **57-1—57-279**.

Table 58: in general formula **I-2C**, R_1=C_2H_5,R_2=Cl, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **58-1—58-279**.

Table 59: in general formula **I-2C**, R_1=CHF_2, R_2=Cl, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **59-1—59-279**.

Table 60: in general formula **I-2C**, R_1=CF_3, R_2=Cl, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **60-1—60-279**.

Table 61: in general formula **I-2C**,R_1=Cl,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **61-1—61-279**.

Table 62: in general formula **I-2C**, R_1=CH_3,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **62-1—62-279**.

Table 63: in general formula **I-2C**, R_1=C_2H_5,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **63-1—63-279**.

Table 64: in general formula **I-2C**, R_1=CHF_2, R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **64-1—64-279**.

Table 65: in general formula **I-2C**, R_1=CF_3, R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **65-1—65-279**.

Table 66: in general formula **I-2F**, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **66-1—66-279**.

Table 67: in general formula **I-2F**,R_3=R_4=H, R_5=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **67-1—67-279**.

Table 68: in general formula **I-2G**, R_3=R_4=R_5=H, R_{28}=Cl, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **68-1—68-279**.

Table 69: in general formula **I-2G**,R_3=R_4=R_5=H, R_{28}=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **69-1—69-279**.

Table 70: in general formula **I-2G**, R_3=R_4=H, R_5=CH_3, R_{28}=Cl, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **70-1—70-279**.

Table 71: in general formula **I-2G**, R_3=R_4=H, R_5=CH_3, R_{28}=CH_3, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **71-1—71-279**.

Table 72: in general formula **I-3A**,R_1=Cl,R_2=Cl, R_3=R_4=R_5=H, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **72-1—72-15**.

Table 73: in general formula **I-3A**,R_1=CH_3,R_2=Cl, R_3=R_4=R_5=H, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **73-1—73-15**.

Table 74: in general formula **I-3A**, R_1=C_2H_5,R_2=Cl, R_3=R_4=R_5=H, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **74-1—74-15**.

Table 75: in general formula **I-3A**, R_1=CHF_2, R_2=Cl, R_3=R_4=R_5=H, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **75-1—75-15**.

Table 76: in general formula **I-3A**, R_1=CF_3, R_2=Cl, R_3=R_4=R_5=H, the substituents R_{14} are

consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **76-1—76-15**.

Table 77: in general formula **I-3A**,R_1=Cl,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **77-1—77-15**.

Table 78: in general formula **I-3A**,R_1=CH_3,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **78-1—78-15**.

Table 79: in general formula **I-3A**,R_1=C_2H_5,R_2=Cl,R_3=R_4=H, R_5=CH_3, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **79-1—79-15**.

Table 80: in general formula **I-3A**,R_1=CHF_2, R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **80-1—80-15**.

Table 81: in general formula **I-3A**, R_1=CF_3, R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents R_{14} are consistent with those in Table 10 and corresponding to **10-1—10-15** in table 10 in turn, the representative compounds are coded as **81-1—81-15**.

Table 82: in general formula **I-3C**,R_1=Cl,R_2=Cl, R_3=R_4=R_5=H, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **82-1—82-279**.

Table 83: in general formula **I-3C**, R_1=CH_3,R_2=Cl, R_3=R_4=R_5=H, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **83-1—83-279**.

Table 84: in general formula **I-3C**, R_1=C_2H_5,R_2=Cl, R_3=R_4=R_5=H, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **84-1—84-279**.

Table 85: in general formula **I-3C**,R_1=CHF_2,R_2=Cl, R_3=R_4=R_5=H, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **85-1—85-279**.

Table 86: in general formula **I-3C**,R_1=CF_3,R_2=Cl, R_3=R_4=R_5=H, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **86-1—86-279**.

Table 87: in general formula **I-3C**, R_1=Cl,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **87-1—87-279**.

Table 88: in general formula **I-3C**, R_1=CH_3,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **88-1—88-279**.

Table 89: in general formula **I-3C**, R_1=C_2H_5,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **89-1—89-279**.

Table 90: in general formula **I-3C**, R_1=CHF_2,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **90-1—90-279**.

Table 91: in general formula **I-3C**, R_1=CF_3,R_2=Cl, R_3=R_4=H, R_5=CH_3, the substituents (R_{11})nare consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn,

the representative compounds are coded as **91-1—91-279**.

Table 92: in general formula **I-3F**,R_3=R_4=R_5=H, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **92-1—92-279**.

Table 93: in general formula **I-3F**,R_3=R_4=H, R_5=CH_3, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **93-1—93-279**.

Table 94: in general formula **I-3G**, R_3=R_4=R_5=H, R_{28}=Cl, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **94-1—94-279**.

Table 95: in general formula **I-3G**, R_3=R_4=R_5=H, R_{28}=CH_3, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **95-1—95-279**.

Table 96: in general formula **I-3G**, R_3=R_4=H, R_5=CH_3, R_{28}=Cl, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **96-1—96-279**.

Table 97: in general formula **I-3G**,R_3=R_4=H, R_5=CH_3, R_{28}=CH_3, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **97-1—97-279**.

Table 98: ingeneral formula **I-1C**,R_1=CH_3,R_2=Cl, R_3=R_4=H, R_5=F, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **98-1—98-279**.

Table 99: in general formula**I-1C**, R_1=C_2H_5,R_2=Cl, R_3=R_4=H, R_5=F, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **99-1—99-279**.

Table 100: in general formula **I-1C**, R_1=CHF_2,R_2=Cl, R_3=R_4=H, R_5=F, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **100-1—100-279**.

Table 101: in general formula **I-1C**, R_1=CH_3,R_2=Cl, R_3=R_4=R_5=F,the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **101-1—101-279**.

Table 102: in general formula **I-1C**, R_1=C_2H_5,R_2=Cl, R_3=R_4=R_5=F, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **102-1—102-279**.

Table 103: in general formula **I-1C**, R_1=CHF_2, R_2=Cl, R_3=R_4=R_5=F, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **103-1—103-279**.

Table 104: in general formula **I-1H**, R_3=R_4=R_5=H, R_{29}=CH_3, R_{30}=H, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **104-1—104-279**.

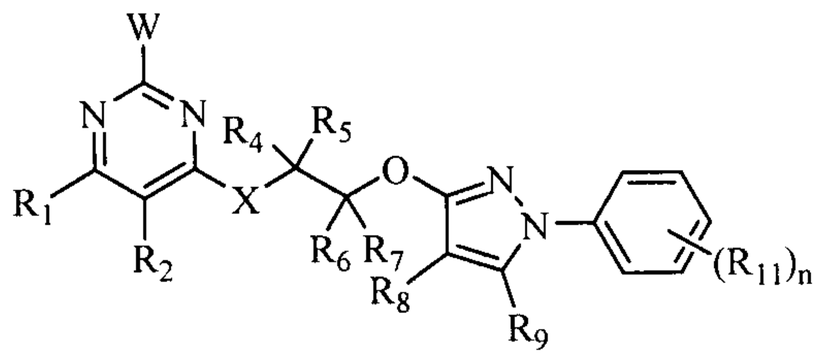
Table 105: in general formula **I-1I**,R_3=R_4=R_5=H, R_{31}=CH_3, R_{32}=H, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **105-1—105-279**.

Table 106: in general formula **I-1J**, R_3=R_4=R_5=H, R_{33}=H, the substituents (R_{11})n are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **106-1—106-279**.

Table 107: in general formula **I-1K**, R_3=R_4=R_5=H, R_{34}=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **107-1—107-279**.

Table 108: in general formula **I-1L**,R_3=R_4=R_5=H, R_{35}=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **108-1—108-279**.

Table 109: in general formula **I-1M**, R_3=R_4=R_5=H, R_{36}=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **109-1—109-279**.



I-1N (X=O or S)

Table 110: in general formula **I-1N**,R_1=CH_3, R_2=Cl, R_3=R_4=R_5=H, X=O, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **110-1—110-279**.

Table 111: in general formula **I-1N**, R_1=C_2H_5, R_2=Cl, R_3=R_4=R_5=H, X=O, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **111-1—111-279**.

Table 112: in general formula **I-1N**, R_1=CHF_2,R_2=Cl, R_3=R_4=R_5=H, X=O, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **112-1—112-279**.

Table 113: in general formula **I-1N**, R_1=CH_3, R_2=Cl, R_3=R_4=R_5=H, X=S, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **113-1—113-279**.

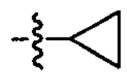
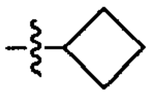
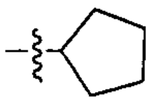
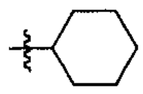
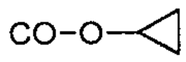
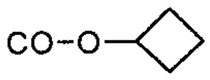
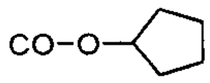
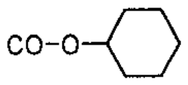
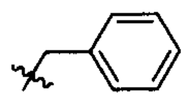
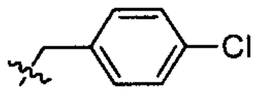
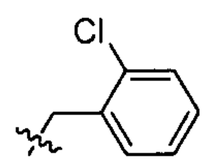
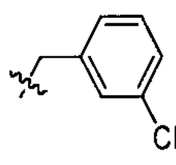
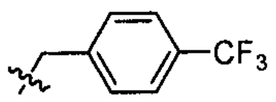
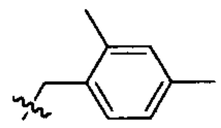
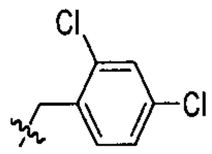
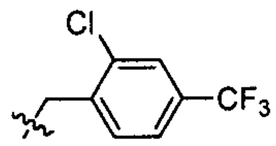
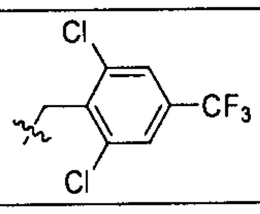
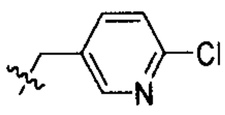
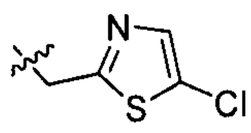
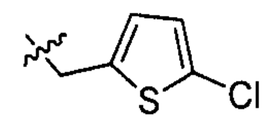
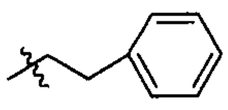
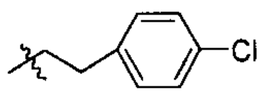
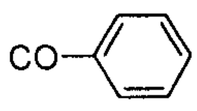
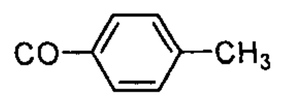
Table 114: in general formula**I-1N**, R_1=C_2H_5, R_2=Cl, R_3=R_4=R_5=H, X=S, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **114-1—114-279**.

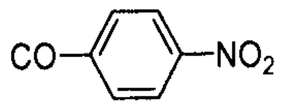
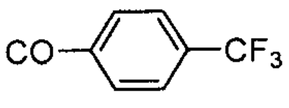
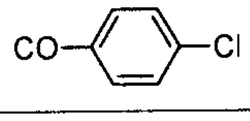
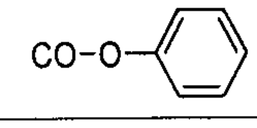
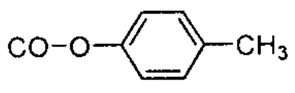
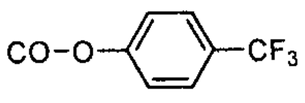
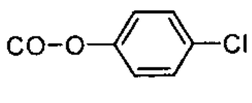
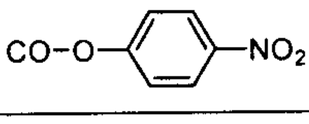
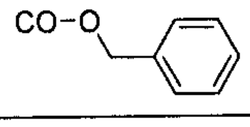
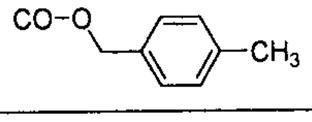
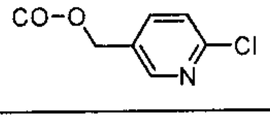
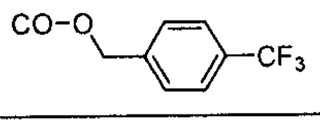
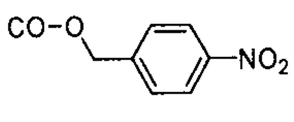
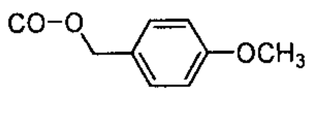
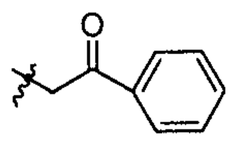
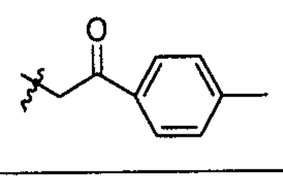
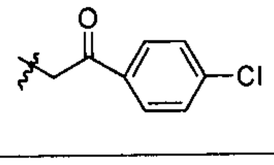
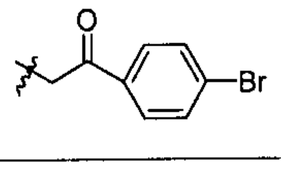
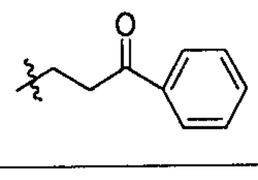
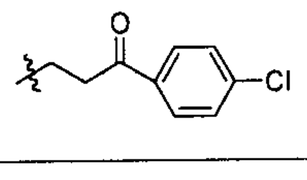
Table 115: in general formula **I-1N**, R_1=CHF_2, R_2=Cl, R_3=R_4=R_5=H, X=S, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **115-1—115-279**.

In general formula **I-1C**, R_1=CH_3, R_2=Cl, R_4=R_5=H, $(R_{11})n$=4-CH_3, the substituents R_3(except H)refer to Table 116, the representative compounds are coded as**116-1—116-140**.

Table 116

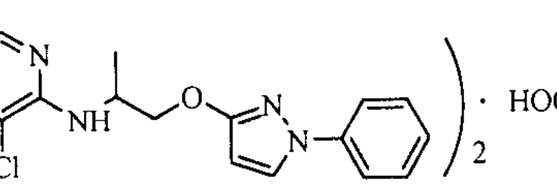
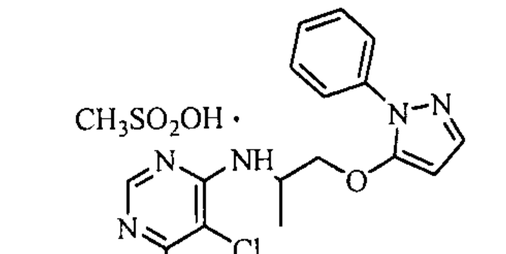
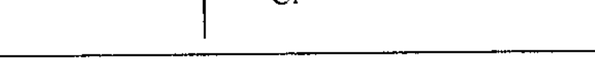
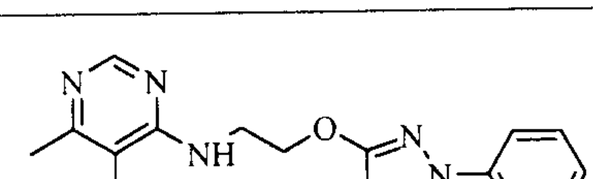
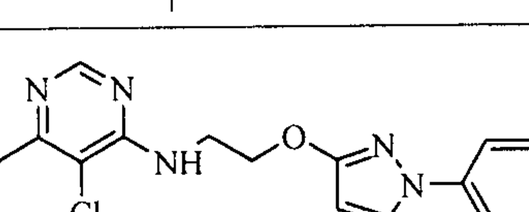
No.	**R_3**	**No.**	R_3	**No.**	**R_3**	**No.**	**R_3**
116-1	S-i-C_3H_7	116-2	OH	116-3	-C(=O)H	116-4	CBr_3
116-5	CH_3	116-6	C_2H_5	116-7	n-C_3H_7	116-8	i-C_3H_7

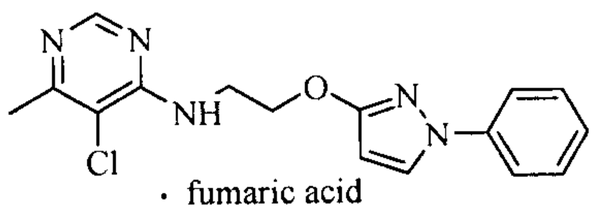
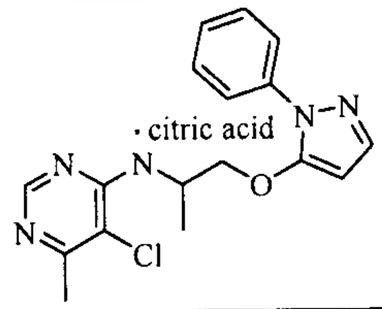
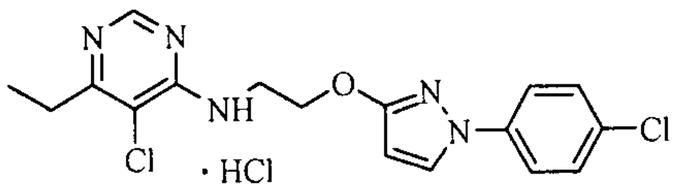
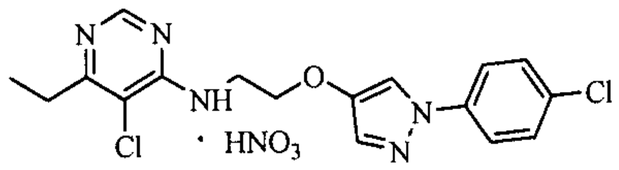
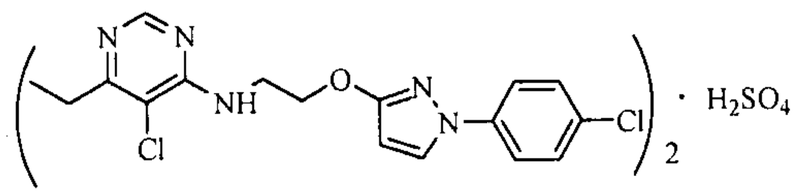
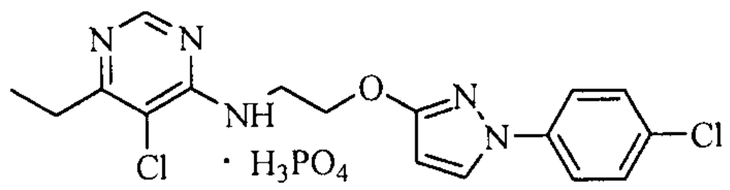
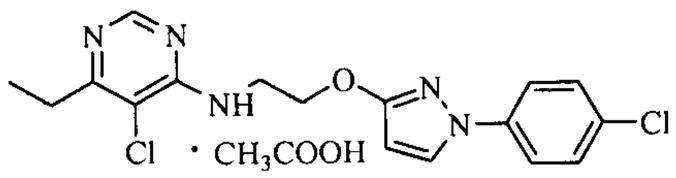
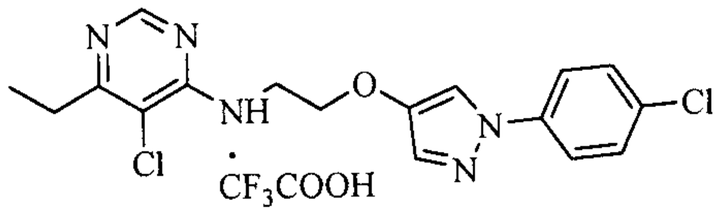
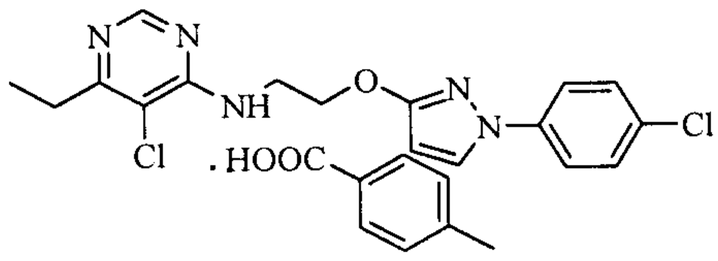
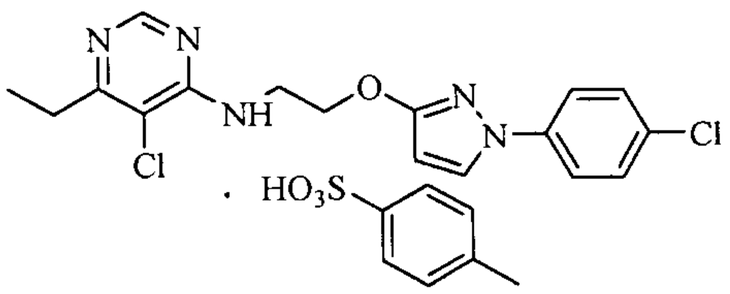
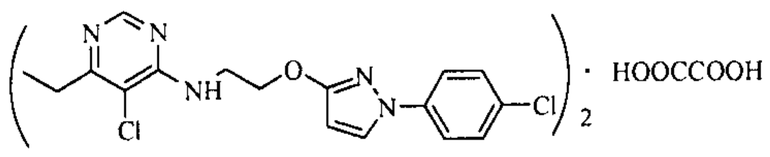
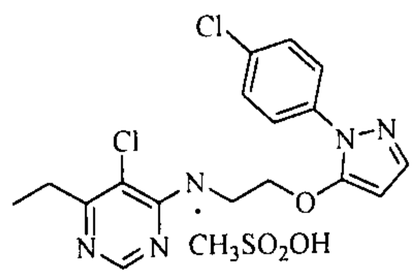
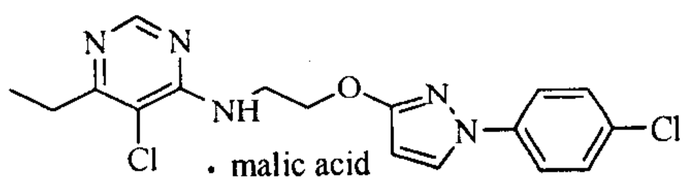
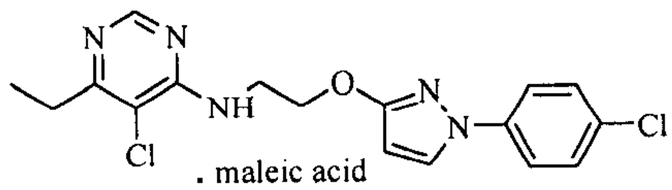
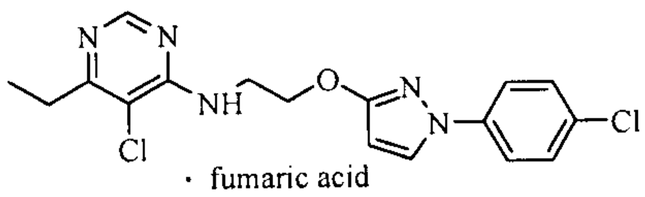
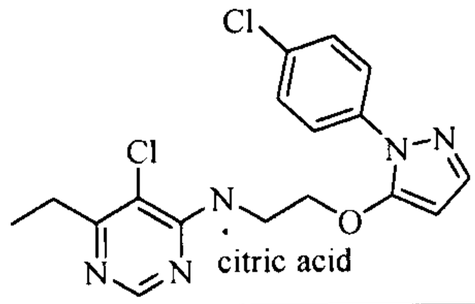
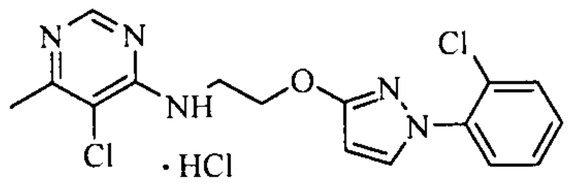
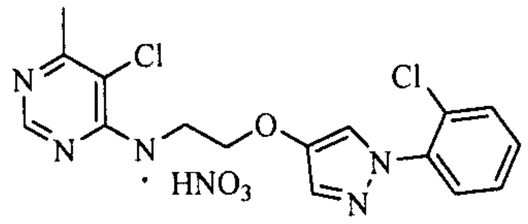
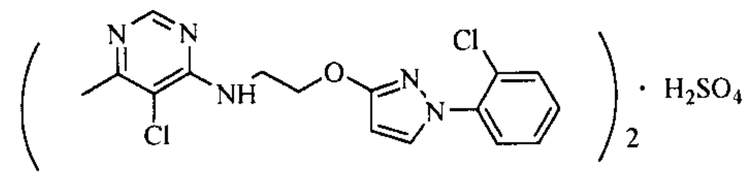
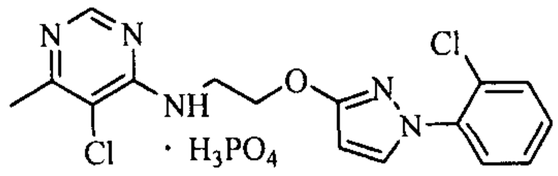
116-9	n-C_4H_9	116-10	i-C_4H_9	116-11	t-C_4H_9	116-12	CI_3
116-13	CH_2Br	116-14	CHF_2	116-15	$CHBr_2$	116-16	CF_3
116-17	CH_2Cl	116-18	$CHCl_2$	116-19	CCl_3	116-20	CH_2F
116-21	OCH_3	116-22	OC_2H_5	116-23	$OCH(CH_3)_2$	116-24	$OC(CH_3)_3$
116-25	OCF_3	116-26	OCH_2CF_3	116-27	OCH_2F	116-28	$OCHF_2$
116-29	SCH_3	116-30	SC_2H_5	116-31	$SCH_2CH=CH_2$	116-32	$CH=CH_2$
116-33	$CH_2CH=CH_2$	116-34	$CH_2CH=CCl_2$	116-35	$C\equiv CH$	116-36	$CH_2C\equiv CH$
116-37	$CH_2C\equiv C$-I	116-38	CH_2OCH_3	116-39	$CH_2OCH_2CH_3$	116-40	$CH_2CH_2OCH_3$
116-41	$CH_2CH_2OCH_2CH_3$	116-42	CH_2OCH_2Cl	116-43	$CH_2OCH_2CH_2Cl$	116-44	$CH_2CH_2OCH_2Cl$
116-45	CH_2SCH_3	116-46	$CH_2SCH_2CH_3$	116-47	$CH_2CH_2SCH_3$	116-48	$CH_2CH_2SCH_2CH_3$
116-49	CH_2SCH_2Cl	116-50	$CH_2SCH_2CH_2Cl$	116-51	$CH_2CH_2SCH_2Cl$	116-52	$SOCH_3$
116-53	SOC_2H_5	116-54	$SOCF_3$	116-55	$SOCH_2CF_3$	116-56	SO_2CH_3
116-57	$SO_2C_2H_5$	116-58	SO_2CF_3	116-59	$SO_2CH_2CF_3$	116-60	$SO_2NHCOCH_3$
116-61	SO_2NHCH_3	116-62	$SO_2N(CH_3)_3$	116-63	$CONHSO_2CH_3$	116-64	$COCH_3$
116-65	COC_2H_5	116-66	CO-n-C_3H_7	116-67	CO-i-C_3H_7	116-68	CO-n-C_4H_9
116-69	CO-i-C_4H_9	116-70	CO-t-C_4H_9	116-71	$COCF_3$	116-72	$COCH_2Cl$
116-73	$COOCH_3$	116-74	$COOC_2H_5$	116-75	COO-n-C_3H_7	116-76	COO-t-C_4H_9
116-77	$COOCF_3$	116-78	$COOCH_2CH_2Cl$	116-79	$COOCH_2CF_3$	116-80	CH_2COOCH_3
116-81	$CH_2COOC_2H_5$	116-82	CH_2COCH_3	116-83	$CH_2COC_2H_5$	116-84	$CONHCH_3$
116-85	$CONHC_2H_5$	116-86	CONH-t-C_4H_9	116-87	$CON(CH_3)_2$	116-88	$CON(C_2H_5)_2$
116-89	$COOCH_2CH=CH_2$	116-90	$COOCH_2C\equiv CH$	116-91	$COOCH_2OCH_3$	116-92	$COOCH_2CH_2OCH_3$
116-93	$SNHCH_3$	116-94	$SNHC_2H_5$	116-95	$SN(CH_3)_2$	116-96	$SN(C_2H_5)_2$
116-97		116-98		116-99		116-100	
116-101		116-102		116-103		116-104	
116-105		116-106		116-107		116-108	
116-109		116-110		116-111		116-112	
116-113		116-114		116-115		116-116	
116-117		116-118		116-119		116-120	

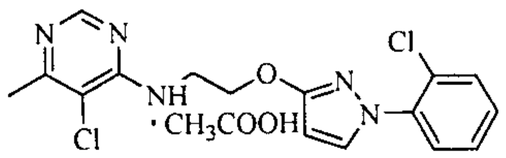
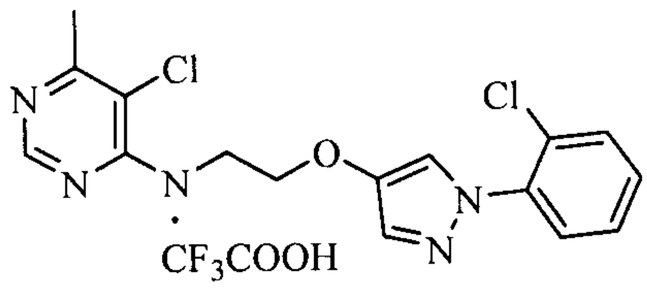
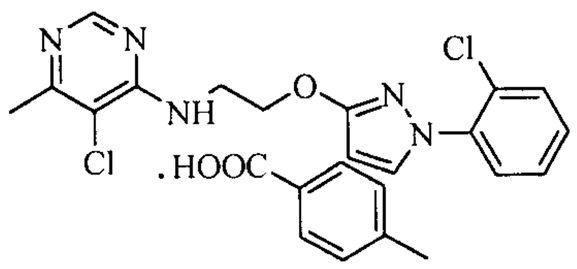
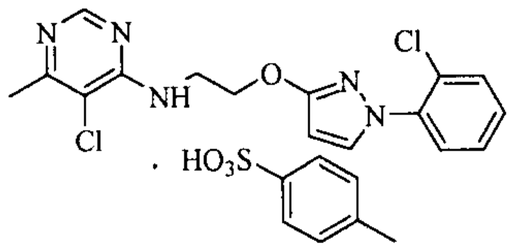
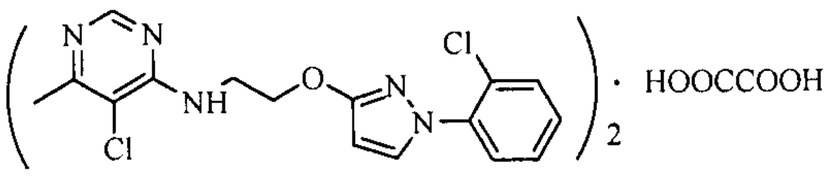
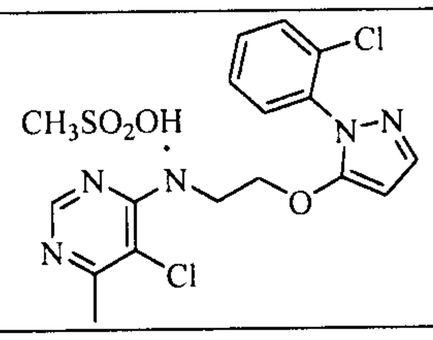
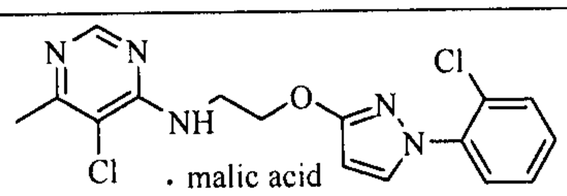
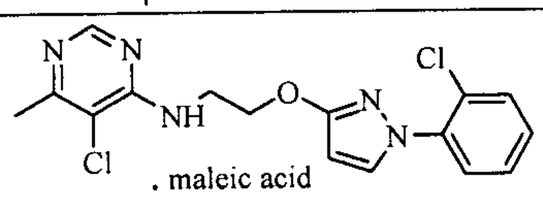
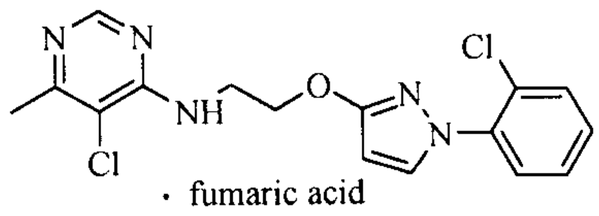
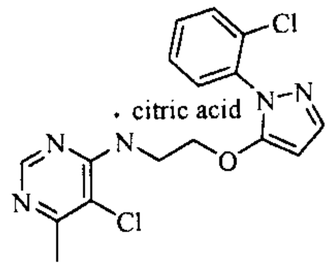
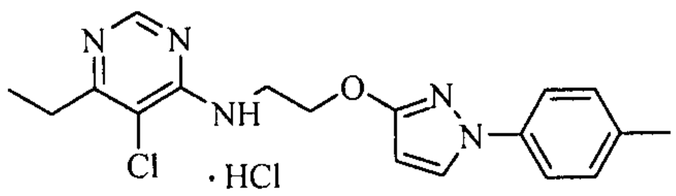
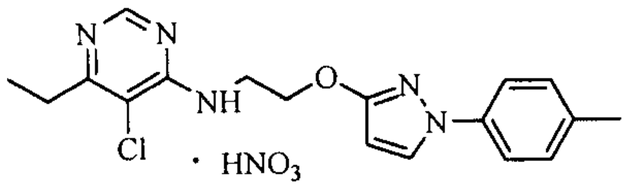
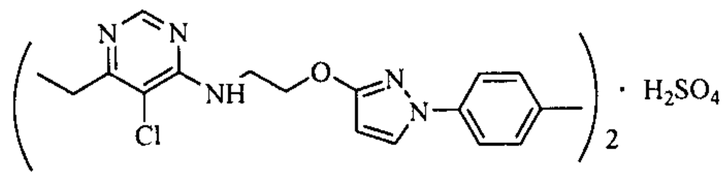
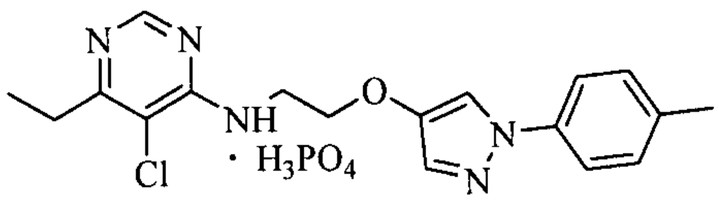
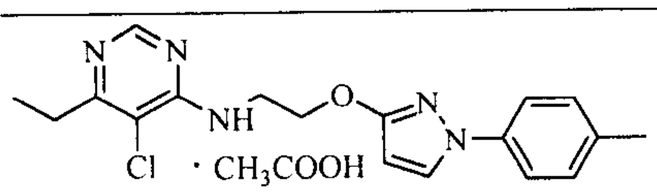
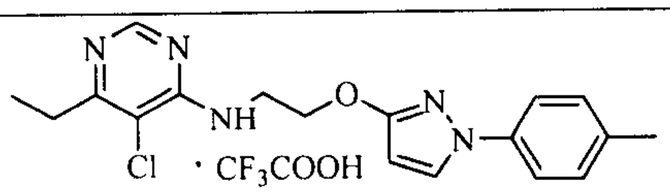
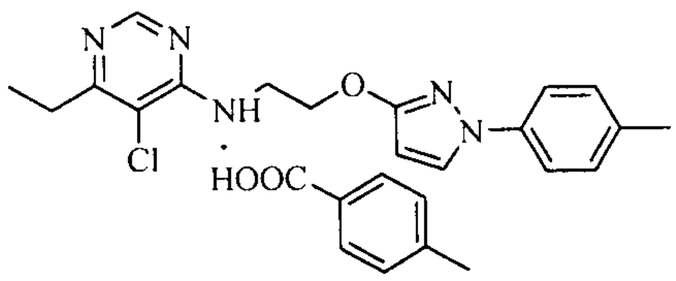
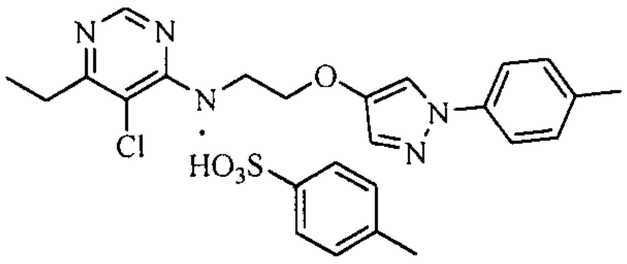
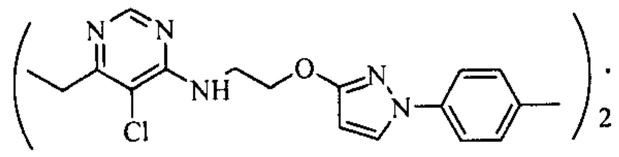
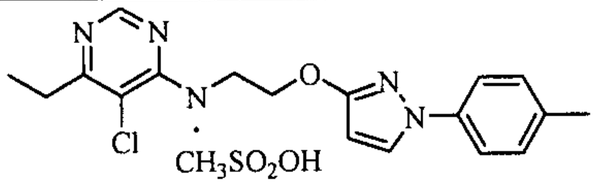
116-121		116-122		116-123		116-124	
116-125		116-126		116-127		116-128	
116-129		116-130		116-131		116-132	
116-133		116-134		116-135		116-136	
116-137		116-138		116-139		116-140	

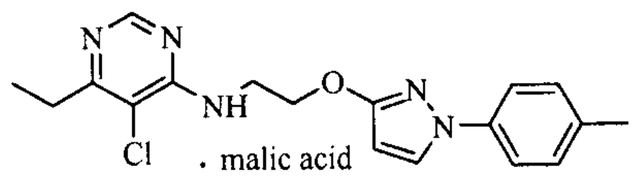
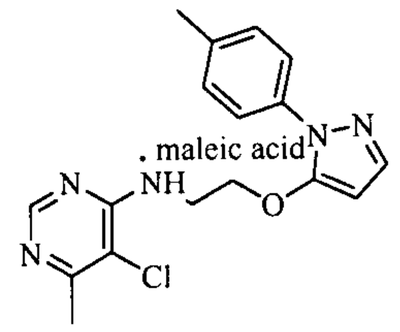
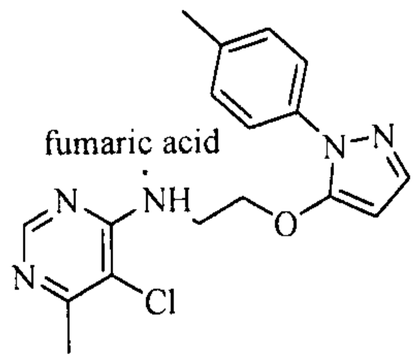
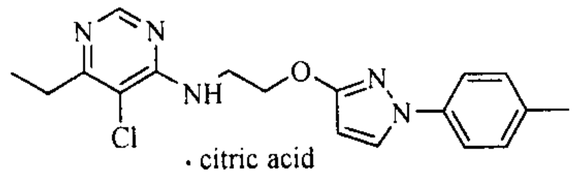
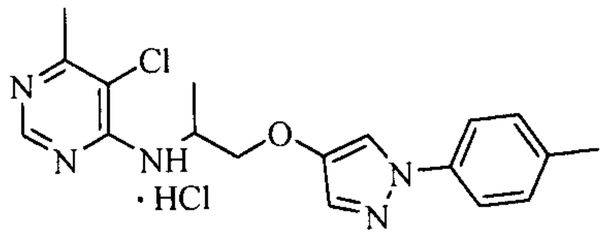
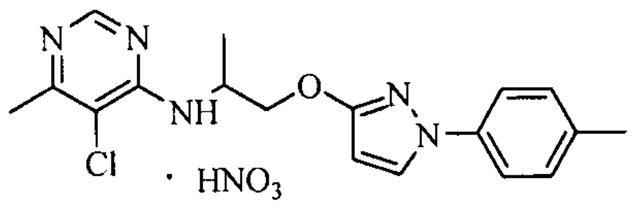
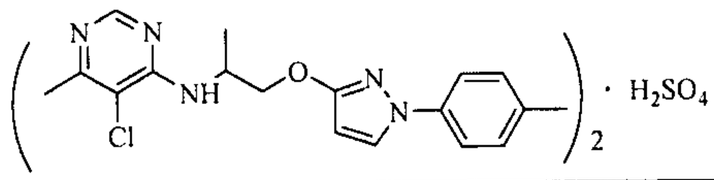
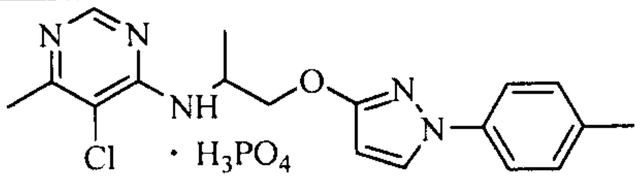
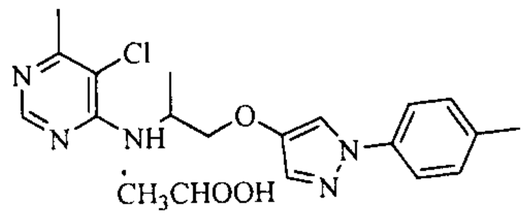
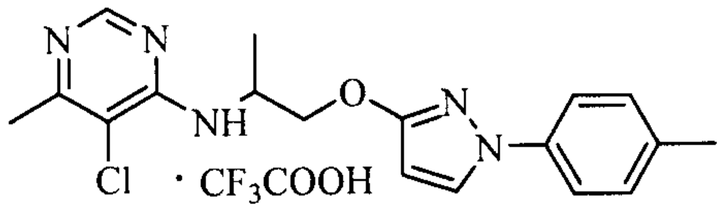
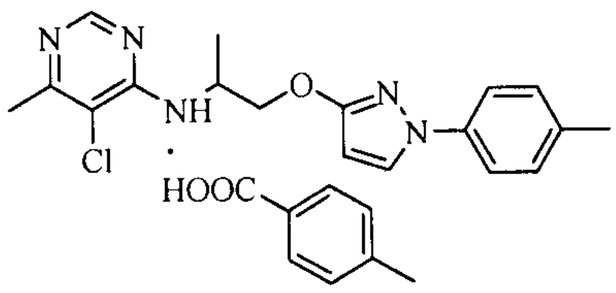
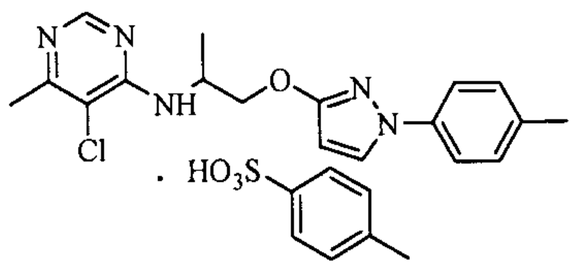
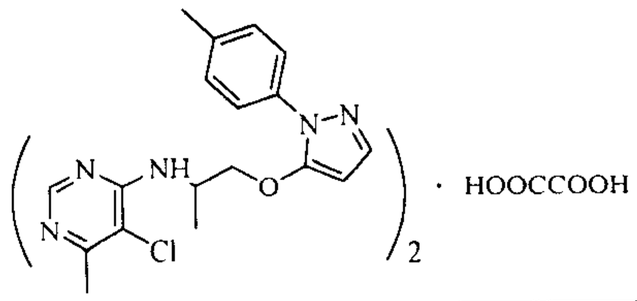
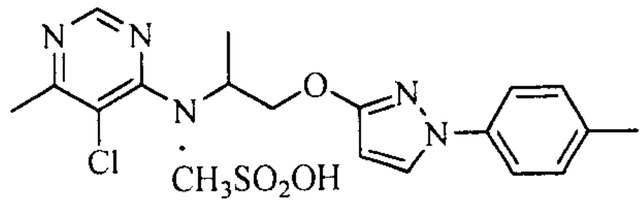
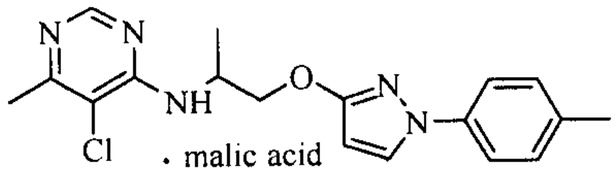
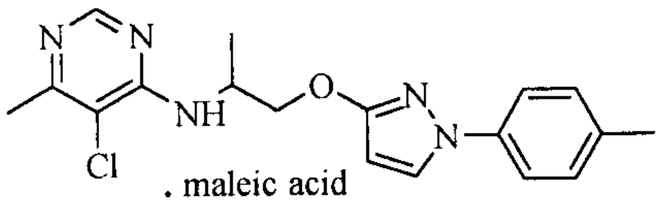
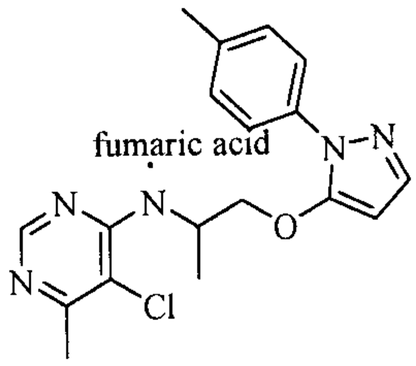
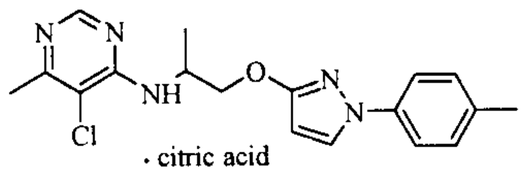
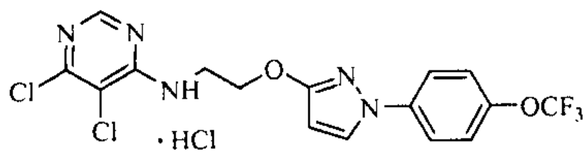
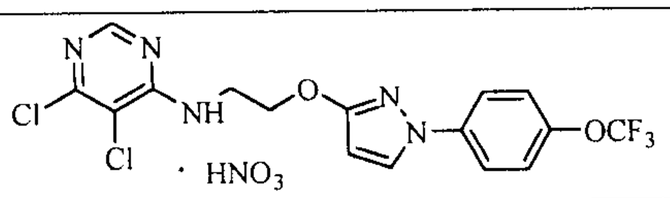
The salts of some compounds having a structure as represented by formula **I**of the present invention are listed in Table 117, but without being restricted thereby.

Table 117 the salts of some compounds

No.	structure	No.	structure
117-1		117-2	
117-3		117-4	
117-5		117-6	
117-7		117-8	
117-9		117-10	
117-11		117-12	

117-13	 · fumaric acid	117-14	 · citric acid
117-15	 · HCl	117-16	 · HNO_3
117-17	 · H_2SO_4	117-18	 · H_3PO_4
117-19	 · CH_3COOH	117-20	 · CF_3COOH
117-21	 .HOOC	117-22	 · HO_3S
117-23	 · HOOCCOOH	117-24	 · CH_3SO_2OH
117-25	 · malic acid	117-26	 . maleic acid
117-27	 · fumaric acid	117-28	 · citric acid
117-29	 · HCl	117-30	 · HNO_3
117-31	 · H_2SO_4	117-32	 · H_3PO_4

117-33		117-34	
117-35		117-36	
117-37		117-38	
117-39		117-40	
117-41		117-42	
117-43		117-44	
117-45		117-46	
117-47		117-48	
117-49		117-50	
117-51		117-52	

117-53		117-54	
117-55		117-56	
117-57		117-58	
117-59		117-60	
117-61		117-62	
117-63		117-64	
117-65		117-66	
117-67		117-68	
117-69		117-70	
117-71		117-72	

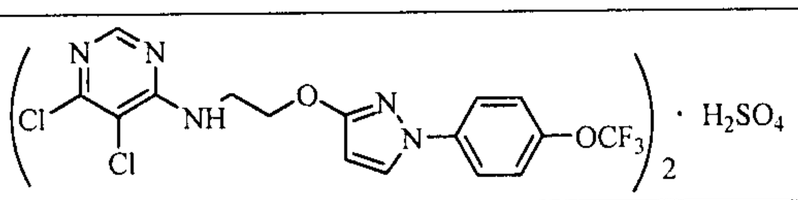
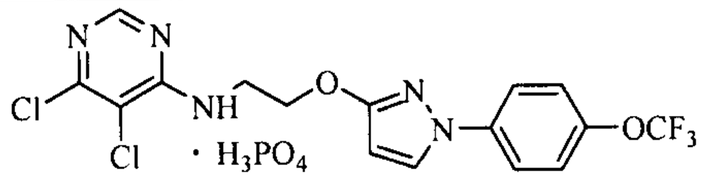
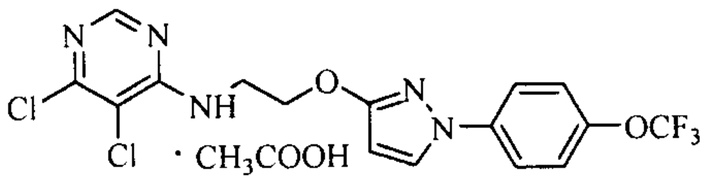
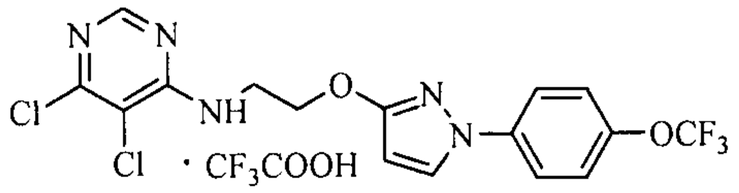
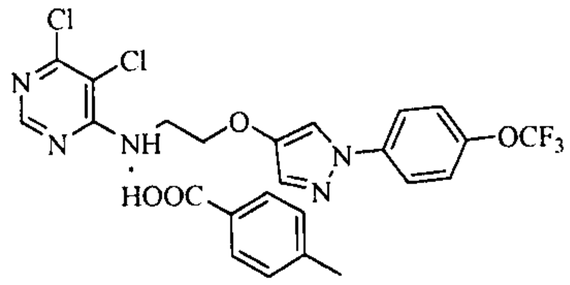
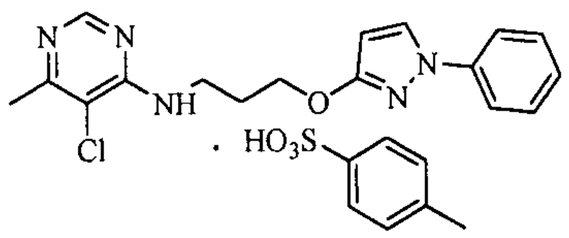
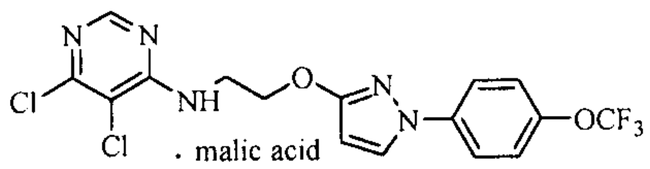
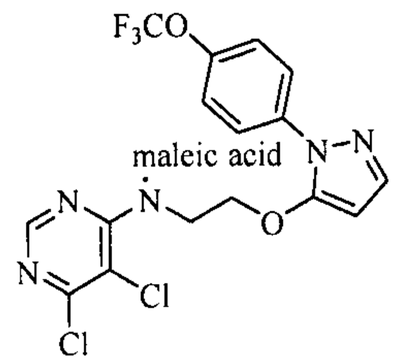
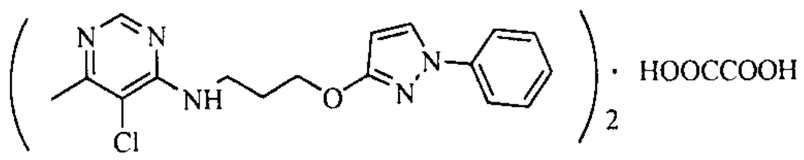
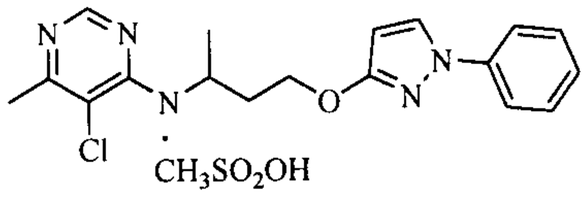
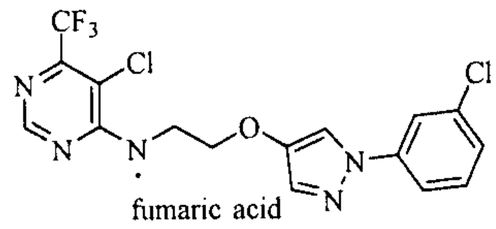
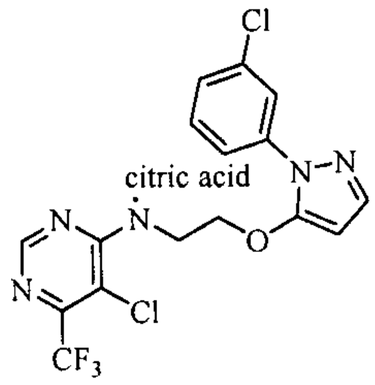
117-73		117-74	
117-75		117-76	
117-77		117-78	
117-79		117-80	
117-81		117-82	
117-83		117-84	

Table 118: in general formula **I-4C**, R_1=Cl, R_2=Br, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **118-1—118-279**.

Table 119: in general formula **I-4C**, R_1=Cl, R_2=NH_2, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **119-1—119-279**.

Table 120: in general formula **I-4C**, R_1=Cl, R_2=NO_2, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **120-1—120-279**.

Table 121: in general formula **I-4C**, R_1=Cl, R_2=CHO, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **121-1—121-279**.

Table 122: in general formula **I-4C**, R_1=Cl, R_2=CH_3, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **122-1—122-279**.

Table 123: in general formula **I-4C**, R_1=Cl, R_2=OCH_3, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **123-1—123-279**.

Table 124: in general formula **I-4C**, R_1=CH_3, R_2=Cl, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **124-1—124-279**.

Table 125: in general formula **I-4C**, R_1=C_2H_5, R_2=Cl, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **125-1—125-279**.

Table 126: in general formula **I-4C**, R_1=CHF_2, R_2=Cl, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **126-1—126-279**.

Table 127: in general formula **I-4F**, R_3=R_4=R_5=H, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **127-1—127-279**.

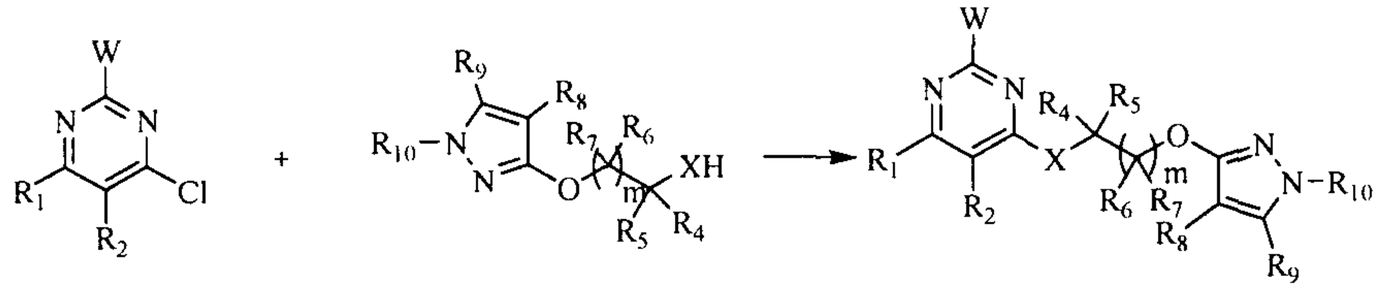
Table 128: in general formula **I-4G**, R_3=R_4=R_5=H, R_{28}=Cl, the substituents $(R_{11})n$ are consistent with those in Table 30 and corresponding to **30-1—30-279** in table 30 in turn, the representative compounds are coded as **128-1—128-279**.

The compounds of the present invention can beprepared according to the following methods. the definition of each substituent is as defined aboveunlessotherwisestated:

The compounds represented by general formula **I** can be prepared by the following two methods according to the different definition of Y:

(1) When Y is O, according to the conjoint positon of oxygen atom and pyrazole ring, the methods to prepare the compounds represented by general formula**I-1**, **I-2** and **I-3** are as follows:

The method to prepare the compounds represented by general formula **I-1** is as follows:



II **III** **I-1**

The compounds represented by general formula**I-1** can be prepared by reaction of intermediates **II** and **III** in the presence of proper base and solvent.

The proper base mentionedmay be selected from potassium hydroxide, sodium hydroxide, sodium carbonate, potassium carbonate, sodium bicarbonate, triethylamine, pyridine, sodium methoxide, sodium ethoxide, sodium hydride, potassium tert-butoxide or sodium tert-butoxide and so on.

The reaction was carried out in proper solvent and the proper solvent mentioned may be selected fromtetrahydrofuran,1,4-dioxane, acetonitrile,toluene, xylene, benzene, DMF,*N*-methyl pyrrolidone, DMSO, acetone or butanone and so on.

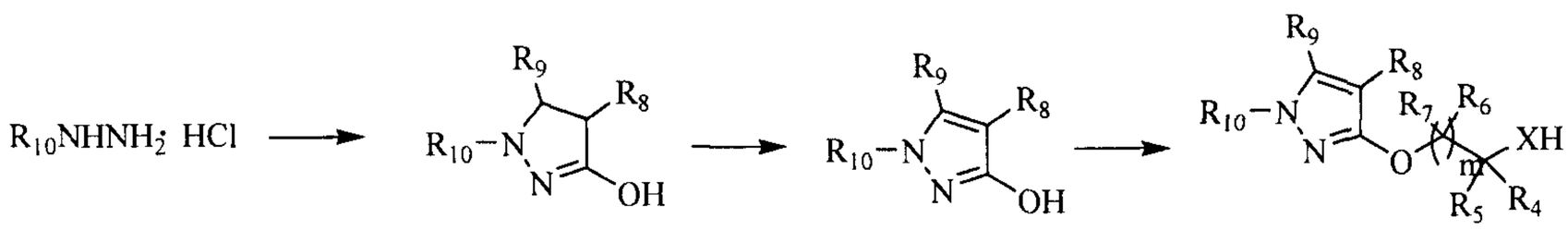
The proper temperature mentioned is from room temperature to boiling point of the solvent,normal temperature is from 20 to 100°C.

The reaction time is in the range of 30 minutes to 20 hours, generally being 1-10 hours.

Intermediates **II** are commerciallyavailable, or are prepared according to the methods described in JP2000007662, US4977264, US6090815, US20040092402, JP09124613, US5468751,

US4985426, US4845097, Journal of the American Chemical Society(1957), 79, 1455 orJournal of Chemical Society(1955), p.3478-3481.

The intermediate represented by general formula **III** is the key intermediate which is used to prepare the the compounds represented by general formula **I-1**. The preparation method is as follows:



X-1 **M-1** **M-2** **III**

The intermediates represented by general formula**M-1**can be prepared byreaction of intermediatesrepresented by general formula **X-1**with (un)substituted ethyl acrylate at proper temperatureand in proper solvent. The reaction time is in the range of 30 minutes to 20 hours, generally being 1-10 hours, the detailed operation procedures refer to the methods described inCN103588708, WO9703969 and Organic &Biomolecular Chemistry(2011), 9(5), 1443-1453;**M-2**can be prepared from intermediatesrepresentedby general formula**M-1**byoxidation reaction, the detailed operation refers to the methods described inDE19652516, WO9703969 and Bulletin of the Korean Chemical Society (2010), 31(11), 3341-3347; The intermediates represented by general formula **III** can be prepared byreaction of intermediatesrepresented by general formula**M-2**and the corresponding halide, the detailed operation refers to the methods described inUS20100158860, WO2011133444 and Bioorganic & Medicinal Chemistry (2012), 20(20), 6109-6122.

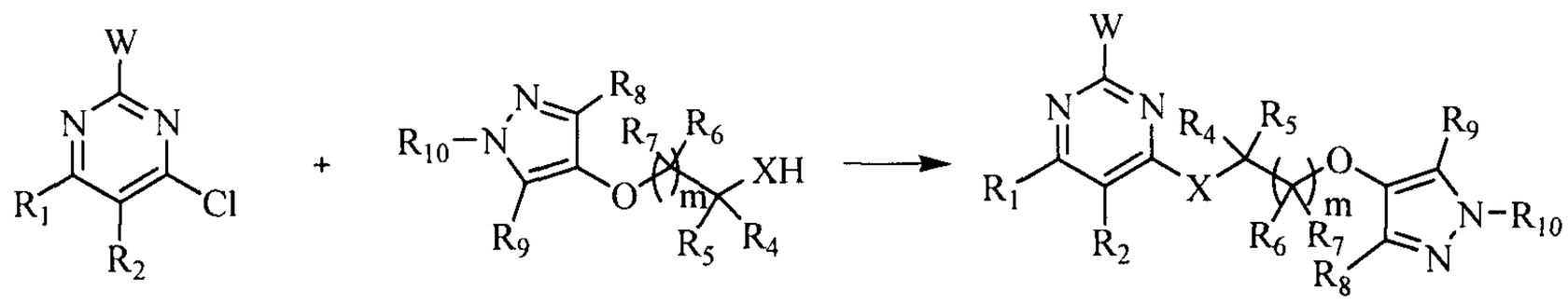
The sources of intermediates are as follows:the intermediaterepresented by general formula **X-1**are commerciallyavailable, or can be prepared according to the conventional method.

The proper reaction temperature is from0 to 50°C; The reaction time is in the range of 30 minutes to 20 hours, generally being 0.5-10 hours.

The proper solvent mentioned may be selected from methyl acetate, ethyl acetate, benzene,toluene, xylene,chloroform, dichloromethane, water, tetrahydrofuran, acetonitrile, 1,4-dioxane, DMF, *N*-methyl pyrrolidone or DMSO and so on.

The proper acid mentioned may be selected fromhydrochloric acid, trifluoroacetic acid,sulphuric acid,acetic acid, propionic acid, butyric acid, oxalic acid, adipic acid, 1,10-decanedicarboxylic acid, lauric acid, stearic Acid, fumaric acid, maleic acid, benzoic acid or alizaric acid.

The method to prepare the compounds represented by general formula **I-2** is as follows:



I1 **IV** **I-2**

The compounds represented by general formula**I-2** can be prepared by reaction of intermediates **II** and **IV** in the presence of proper base and solvent.

The proper base mentionedmay be selected from potassium hydroxide, sodium hydroxide,

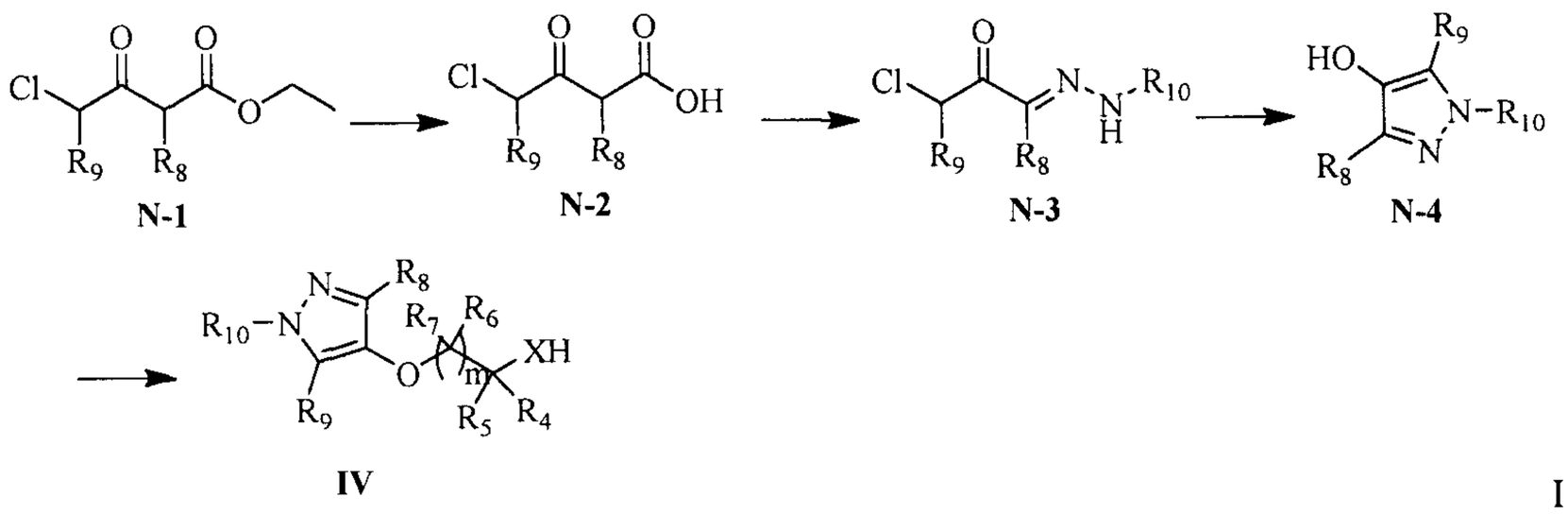
sodium carbonate, potassium carbonate, sodium bicarbonate, triethylamine, pyridine, sodium methoxide, sodium ethoxide, sodium hydride, potassium tert-butoxide or sodium tert-butoxide and so on.

The reaction was carried out in proper solvent and the proper solvent mentioned may be selected fromtetrahydrofuran,1,4-dioxane, acetonitrile,toluene, xylene, benzene, DMF,*N*-methyl pyrrolidone, DMSO, acetone or butanone and so on.

The proper temperature mentioned is from room temperature to boiling point of the solvent,normal temperature is from 20 to 100℃.

The reaction time is in the range of 30 minutes to 20 hours, generally being 1-10 hours.

The intermediate represented by general formula **IV** is the key intermediate which is used to prepare the the compounds represented by general formula **I-2**. The preparation method is as follows:



I

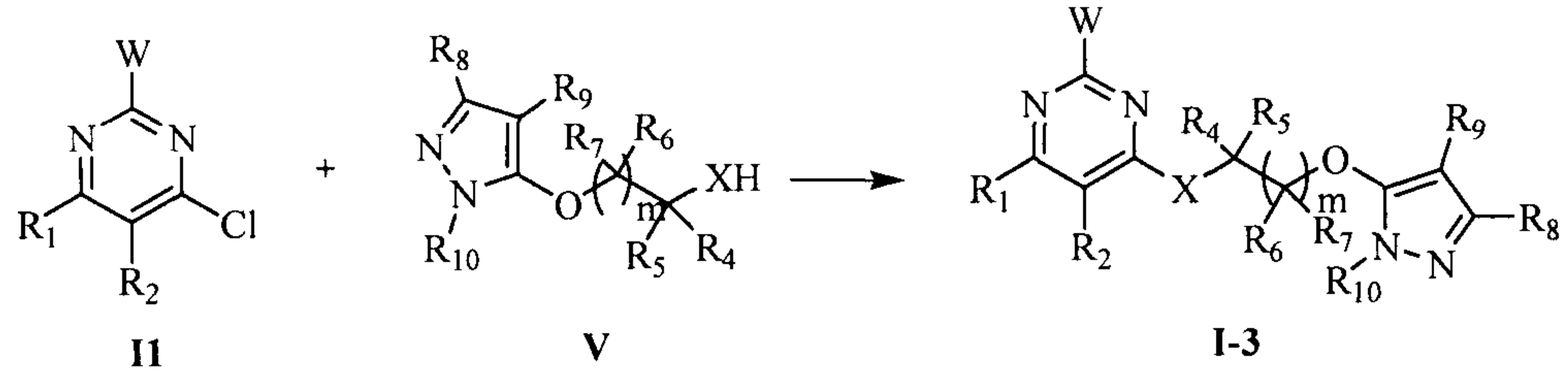
The intermediate **N-4** can be prepared from starting material **N-1** refer to the methods described in DE3012193, WO2010076553, Organic Preparations and Procedures International(2002), 34(1), 98-102 and Science of Synthesis (2002), 12, 15-225; Journal of Medicinal Chemistry (2016), 59(4), 1370-1387;The preparation method of **N-4** to **IV** is the same as **M -2** to **III**.

The proper solvent mentioned may be selected frommethanol, ethanol, tetrahydrofuran, 1,4-dioxane, acetonitrile, toluene, xylene,benzene,DMF,DMSO, acetone or butanone.

The proper solvent may be selected fromhydrochloric acid, sulphuric acid or nitric acid.

The proper base mentionedmay be selected fromsodium hydroxide, potassium hydroxide, sodium methoxide, sodium ethoxide, sodium tert-butoxide or potassium tert-butoxide and so on.

The method to prepare the compounds represented by general formula **I-3** is as follows:



The compounds represented by general formula **I-3** can be prepared by reaction of intermediates **II** and **V** in the presence of proper base and solvent.

The proper base mentionedmay be selected from potassium hydroxide, sodium hydroxide, sodium carbonate, potassium carbonate, sodium bicarbonate, triethylamine, pyridine, sodium

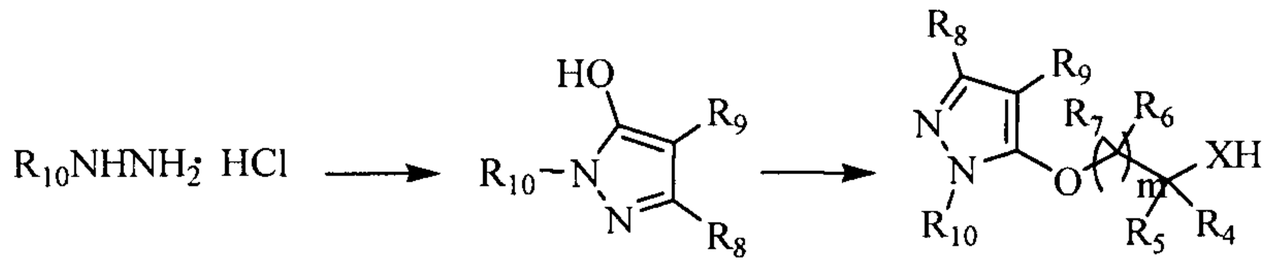
methoxide, sodium ethoxide, sodium hydride, potassium tert-butoxide or sodium tert-butoxide and so on.

The reaction was carried out in proper solvent and the proper solvent mentioned may be selected fromtetrahydrofuran,1,4-dioxane, acetonitrile,toluene, xylene, benzene, DMF,*N*-methyl pyrrolidone, DMSO, acetone or butanone and so on.

The proper temperature mentioned is from room temperature to boiling point of the solvent,normal temperature is from 20 to 100°C.

The reaction time is in the range of 30 minutes to 20 hours, generally being 1-10 hours.

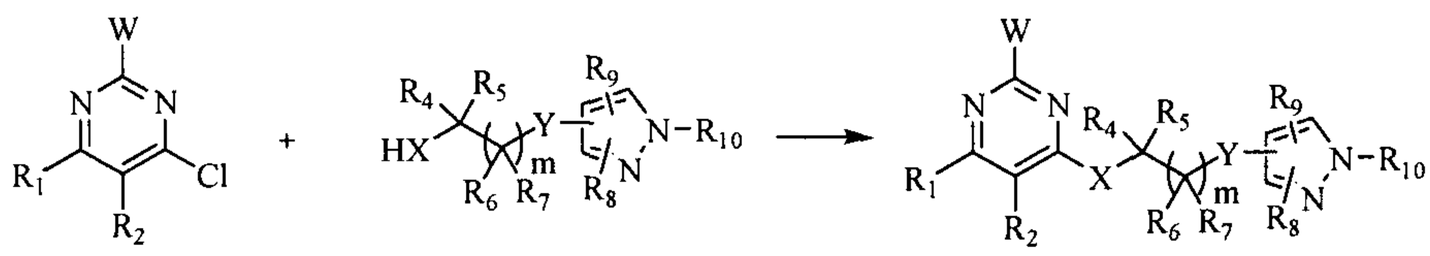
The intermediate represented by general formula **V** is thekey intermediate which is used to prepare the the compounds represented by general formula **I-3**,the preparation method is as follows:



X-1 **Q-1** **V**

The intermediates**Q-1**can be prepared from starting material **X-1**refer to the methods described inWO2009069044, WO2000031042, WO2008059370, Bioorganic & Medicinal Chemistry (2006), 14(14), 5061-5071and so on;The preparation method ofQ-1 to V is the same as **M -2** to **III**.

（2）The preparation of the compounds represented by general formula**I**is as follows when Y is NR3 or S. the detailed operation procedures of the intermediate T refer to the methods described in WO2003049739, WO2000031072 and so on;



I1 **T** **I**

Although the compounds represented by general formula **I** and some compounds reported in pior art both belong tosubstituted pyrazole compounds with pyrimidinyl,there are still some obvious differences in structure between them. It is due to these differences in structure that lead to compounds of present invention with better fungicidal and/or insecticidal/acaricidal activities.

The compounds represented by general formula **I** show excellent activity againstboth many plant pathogens/diseases in agricultural and other fields and insects/mites. Therefore the technical schemeof the present invention also includes the uses of the compounds represented by general formula **I** to prepare fungicides, insecticides/acaricides in agricultural or other fields.

The present invention is explained by the following examples of plant diseases, but without being restricted thereby.

The compounds represented bygeneral formula **I**can be used to control these plant diseases: Oomycete diseases, such as downy mildew (cucumber downy mildew, rape downy mildew, soybean downy mildew, downy mildew of beet, downy mildew of sugarcane, tobacco downy mildew, pea downy mildew, vegetable sponge downy mildew, chinese wax gourd downy mildew, muskmelon downy mildew, chinese cabbage downy mildew, spinach downy mildew, radish downy mildew,

grape downy mildew, onion downy mildew), white rust (rape white rust, chinese cabbage white rust), damping-off disease (rape damping-off, tobacco damping-off, tomato damping-off, pepper damping-off, eggplant damping-off, cucumber damping-off, cotton damping-off), pythium rot (pepper soft stale disease, vegetable sponge cottony leak, chinese wax gourd cottony leak), blight (broad bean phytophthora blight, cucumber phytophthora blight, pumpkin phytophthora rot, chinese wax gourd phytophthora blight, watermelon phytophthora blight, muskmelon phytophthora blight, pepper phytophthora blight, chinese chives phytophthora blight, carlic phytophthora blight, cotton phytophthora blight), late blight (potato late blight, tomato late blight) and so on; diseases caused byDeuteromycotina, such as wilt disease (sweet potato fusarium wilt, cotton fusarium wilt disease, sesame wilt disease, fusarium wilt disease of costarbean, tomato fusarium wilt, bean fusarium wilt, cucumber fusarium wilt, vegetable sponge fusarium wilt, pumpkin fusarium wilt, chinese wax gourd fusarium wilt, watermelon fusarium wilt, muskmelon fusarium wilt, pepper fusarium wilt, broad bean fusarium wilt, fusarium wilt disease of rape, fusarium wilt disease of soybean), root rot (pepper root rot, eggplant root rot, bean fusarium root-rot, cucumber fusarium root rot, balsam pear fusarium root rot, cotton black root rot, broad bean thielaviopsis root rot), drooping disease (cotton soreshin, sesame soreshin, pepper rhizoctonia rot, cucumber rhizoctonia rot, chinese cabbage rhizoctonia rot), anthracnose (sorghum anthracnose, cotton anthracnose, kenaf anthracnose, jute anthracnose, flax anthracnose, tobacco anthracnose, mulberry anthracnose, pepper anthracnose, eggplant anthracnose, bean anthracnose, cucumber anthracnose, balsam pear anthracnose, summer squash anthracnose, chinese wax gourd anthracnose, watermelon anthracnose, muskmelon anthracnose, litchi anthracnose), verticillium wilt (cotton verticillium wilt, verticillium wilt of sunflower, tomato verticillium wilt, pepper verticillium wilt, eggplant verticillium wilt), scab (summer squash scab, chinese wax gourd scab, muskmelon scab), gray mold (cotton boll gray mold, kenaf gray mold, tomato gray mold, pepper gray mold, bean gray mold, celery gray mold, spinach gray mold, kiwi fruit gray mold rot), brown spot (cotton brown spot, jute brown spot, beet sercospora leaf spot, peanut brown spot, pepper brown leaf spot, chinese wax gourd corynespora leaf spot, soybean brown spot, sunflower brown spot, pea ascochyta blight, broad bean brown spot), black spot (flax black spot, rape alternaria leaf spot, sesame black spot, sunflower alternaria leaf spot, costarbean alternaria leaf spot, tomato nail head spot, pepper black fruit spot, eggplant black spot, bean leaf spot, cucumber alternaria blight, celery alternaria black leaf spot, carrot alternaria black rot, carrot leaf blight, apple alternaria rot, peanut brown spot), spot blight (tomato septoria leaf spot, pepper septoria leaf spot, celery late blight), early blight (tomato early blight, pepper early blight, eggplant early blight, potato early blight, celery early blight), ring spot (soybean zonate spot, sesame ring spot, bean zonate spot), leaf blight (sesame leaf blight, sunflower leaf blight, watermelon alternaria blight, muskmelon alternaria spot), basal stem rot (tomato basal stem rot, bean rhizoctonia rot), and others (corn northern leaf spot, kenaf damping-off, rice blast, millet black sheath, sugarcane eye spot, cotton aspergillus boll rot, peanut crown rot, soybean stem blight, soybean black spot, muskmelon alternaria leaf blight, peanut web blotch, tea red leaf spot, pepper phyllosticta blight, chinese wax gourd phyllosticta leaf spot, celery black rot, spinach heart rot, kenaf leaf mold, kenaf brown leaf spot, Jute stem blight,soybean cercospora spot, sesame leaf spot, costarbean gray leaf spot, tea brown leaf spot, eggplant cercospora leaf spot, bean cercospora leaf spot, balsam pear cercospora leaf spot, watermelon cercospora leaf spot, jute dry rot, sunflower root and stem rot,bean charcoal rot, soybean target spot, eggplant corynespora leaf spot, cucumber corynespora target leaf spot, tomato leaf mold, eggplant fulvia leaf mold, broad bean chocolate spot) and so on; diseases caused byBasidiomycete, such as rust (wheat stripe rust, wheat stem rust, wheat leaf rust, peanut rust, sunflower rust, sugarcane rust, chinese chives rust, onion rust, millet rust,

soybean rust), smut (corn head smut, corn smut, sorghum silk smut, sorghum loose kernel smut, sorghum hard smut, sorghum smut, millet kernel smut, sugarcane smut, bean rust), and others (for example, wheat sheath blight and rice sheath blight) and so on; diseases caused by Ascomycete, such as powdery mildew (wheat powdery mildew, rape powdery mildew, powdery mildew of sesame, powdery mildew of sunflower, beet powdery mildew, eggplant powdery mildew, pea powdery mildew, vegetable sponge powdery mildew, pumpkin powdery mildew, summer squash powdery mildew, chinese wax gourd, muskmelon powdery mildew, grape powdery mildew, broad bean powdery mildew), sclerotinia rot (flax sclertiniose, rape sclertiniose, soybean sclertiniose, peanut sclertiniose, tobacco sclerotinia rot, pepper sclerotinia rot, eggplant sclerotinia rot, bean sclerotinia rot, pea sclerotinia rot, cucumber sclerotinia rot, balsam pear sclerotinia rot, chinese wax gourd sclerotinia rot, watermelon sclerotinia disease, celery stem rot), scab (apple scab, pear scab) and so on.

The compounds represented bygeneral formula Ican be used to control these insects: Coleoptera, such as Acanthoscelides spp., Acanthoscelides obtectus, Agrilus planipennis, Agriotes spp., Anoplophora glabripennis, Anthonomus spp., Anthonomus grandis, Aphidius spp., Apion spp., Apogonia spp., Atacnius sprctulus, Atomaria linearis, pygmy mangold beetle, Aulacophore spp., Bothynoderes punctiventris, Bruchus spp., Bruchus pisorum, Cacoesia, Cacoesia spp., Callosobruchus maculatus, Carpophilus hemipteras, Cassida vittata, Ccrostcrna spp., Ccrotoma, Ccrotoma spp., Cerotoma trifur cata, Ceutorhynchus spp., Ceutorhynchus assimilis, cabbage seedpod weevil, Ceutorhynchus napi, cabbage curculio, Chaetocnema spp., Colaspis spp., Conoderus scalaris, Conoderus stigmosus, Conotrachelus nenuphar,Cotinus nitidis, Green June beetle, Crioceris asparagi, Cryptolestes ferrugincus, rusty grainbeetle, Cryptolestes pusillus, Cryptolestes turcicus Turkish grain beetle, Ctenicera spp., Curculio spp., Cyclocephala spp., Cylindrocpturus adspersus, sunflower stem weevil, Deporaus marginatus, mango leaf-cutting weevil, Dermestes lardarius, Dermestes maculates, Diabrotica spp., Epilachna varivcstis, raustinus cubae, Hylobius pales, pales weevil, Hypera spp., Hypera postica, Hyperdoes spp., Hyperodes weevil, Hypothenemus hampei, Ips spp., engravers, Lasioderma serricorne, Leptinotarsa decemlineata, Liogenys fuscus, Liogenyssuturalis, Lissorhoptrus oryzophilus, Lyctus spp. , powder post beetles, Maecolaspis joliveti, Megascelis spp., Melanotus communis, Meligethes spp., Meligethes aeneus, blossom beetle, Melolontha melolontha, Oberea brevis, Oberea linearis, Oryctes rhinoceros, date palm beetle, Oryzaephilus mercator, merchant grain beetle, Oryzaephilus surinamensis, sawtoothcd grain bcctlc, Otiorhynchus spp. , Oulema melanopus, cereal leafbeetle, Oulema oryzae, Pantomorus spp., Phyllophaga spp.,Phvllophaga cuyabana, Phyllotreta spp., Phynchites spp., Popillia japonica, Prostephanus truncates, larger grain borer, Rhizopertha dominica, lesser grain borer, Rhizotrogus spp., Eurpoean chafer, Rhynchophorus spp., Scolytus spp., Shenophorus spp. Sitona lincatus, pca leaf weevil, Sitophilus spp., Sitophilus granaries, granary weevil, Sitophilus oryzae, rice weevil, Stegobium paniceum, drugstore beetle, Tribolium spp. , Tribolium castaneum, red flour beetle, Tribolium confusum, confused flour beetle, Trogoderma variabile, warehouse beetleand Zabrus tenebioides.

Dcrmaptcra.

Dictyoptera, such as Blattella germanica, German cockroach, Blatta orientalis, Parcoblatta pennylvanica, Periplaneta americana, American cockroach, Periplaneta australoasiae, Australian cockroach, Pcriplancta brunnca, brown cockroach, Periplaneta fuliginosa, smokybrown cockroach, Pyncoselus suninamensis, Surinam cockroach and Supella longipalpa, brownbanded cockroach.

Diptera, such as Aedes spp., Agromyza frontella, alfalfa blotch leafminer, Agromyza spp., Anastrepha spp., Anastrepha suspensa, Caribbean fruit fly, Anopheles spp., Batrocera spp.,

Bactrocera cucurbitae, Bactrocera dorsalis, Ceratitis spp., Ceratitis capitata, Chrysops spp., Cochliomyia spp., Contarinia spp., Culex spp., Dasineura spp., Dasineura brassicae, Delia spp., Delia platura, seedcorn maggot, Drosophila spp., Fannia spp., Fannia canicularis, little house fly, Fannia scalaris, Gasterophilus intestinalis, Gracillia perseae, Haematobia irritans, Hylemyia spp., root maggot, Hypoderma lineatum, common cattle grub, Liriomyza spp., Liriomyza brassica, serpentine leafminer, Melophagus ovinus, Musca spp., muscid fly, Musca autumnalis, face fly, Vusca domestica, house fly, Oestrus ovis, sheep bot fly, Oscinella frit, Pegomyia betae, beet leafminer, Phorbia spp., Psila rosae, carrotrust fly, Rhagoletis cerasi, cherry fruit fly, Rhagoletis pomonella, apple maggot, Sitodiplosis mosellana, orange wheat blossom midge, stomoxys calcitruns, stable fly, Tahanus spp.and Tipula spp..

Hemiptera, such as Acrosternum hilare, green stink bug, Blissus leucopterus, chinch bug, Calocoris norvegicus, potato mirid, Cimex hemipterus, tropical bed bug, Cimex lectularius, bed hug, Daghertus fasciatus, Dichelops furcatus, Dysdercus suturellus, cotton stainer, Edessa meditabunda, Eurygaster maura, cereal bug, Euschistus heros, Euschistus servus, brown stink bug, Helopeltis antonii, Helopeltis theivora, tea blight plantbug, Lagynotomus spp., Leptocorisa oratorius, Leptocorisa varicorni, Lygus spp., plant bug, Lygus hesperus, western tarnished plant bug, Maconellicoccus hirsutus, Neurocolpus longirostris, Nezara viridula, southern green stink bug, PhyLocoris spp., Phytocoris californicus, Phytocoris relativus, , Piezodorus guildingi, Poecilocapsus lineatus, fourlined plant bug, Psallus vaccinicola, Pseudacysta perseae, Scaptocoris castanea and Triatoma spp., bloodsuckingconenose bug, kissing bug .

Homoptera, such as Acrythosiphonpisum, pea aphid, Adelges spp., adelgids, Aleurodes proletella, Aleurodicus disperses, Aleurothrixus flccosus, woolly whitefly, Aluacaspis spp., Amrasca bigutella bigutella, Aphrophora spp., leafhopper, Aonidiella aurantii, California red scale, Aphis spp., Aphis gossypii, cotton aphid, Aphis pomi, apple aphid, Aulacorthitm solan, foxglove aphid, Bemisia spp., Bemisia argentifolii, Bemisia tabaci, sweetpotato whitefly, Brachycolus noxius, Russian aphid, Brachycorynclia asparagi, asparagus aphid, Brevennia rehi, Brevicoryne brassicae, Ceroplastes spp., Ceroplastes rubens, red wax scale, Chionaspis spp., Chrysomphalus spp., Coccus spp., Dysaphis plantaginea, rosy apple aphid, Empoasca spp., Eriosoma lanigerum, woolly apple aphid, Icerya purchasi, cottony cushion scale, Idioscopus nitidulus, mango leafhopper, Laodelphax striatellus, smaller brown planthopper, Lepidosaphes spp., Macrosiphum spp., Macrosiphum euphorbiae, potato aphid, Macrosiphum granarium, English grain aphid, Macrosiphum rosae, rose aphid, Macrosteles quadrilineatus, aster leafhopper, Mahanarva frimbiolata, Metopolophium dirhodum, rose grain aphid, Midis longicornis, Myzus persicae, green peach aphid, Nephotettix spp., Nephotettix cinctipes, green leafhopper, Nilaparvata lugens, brown planthopper, Parlatoria pergandii, chaff scale, Parlatoria ziziphi, ebony scale, Peregrinus maidis, corn delphacid, Philaenus spp. , Phylloxera vitifoliae, grape phylloxera, Physokermes piceae, spruce bud scale, Planococcus spp., Pseudococcus spp., Pscudococcus brcvipcs, pinc apple mcalybug, Quadraspidiotus perniciosus, San Jose scale, Rhapalosiphum spp., Rhapalosiphum maida, corn leaf aphid, Rhapalosiphum padi, oatbird-cherry aphid, Saissetia spp., Saissetia oleae, Schizaphis graminum, gr eenbug, Sitobion avenge, Sogatella furcifera, white-backed planthopper, Therioaphis spp.,Toumeyella spp., Toxoptera spp., Trialeurodes spp., Trialeurodes vaporariorum, greenhouse whitefly, Trialeurodes abutiloneus, bandedwing whitefly, Unaspis spp., Unaspis yanonensis, arrowhead scale and Zulia entreriana.

Hymenoptera, such as Acromyrrmex spp., Athalia rosae, Atta spp., leafcutting ants, Camponotus spp., carpenter ant, Diprion spp., sawfly, Formica spp., Iridomyrmex humilis, Argentineant, Monomorium ssp., Monomorium minumum, little black ant, Monomorium pharaonis, haraoh ant, Neodiprion spp., Pogonomyrmex spp., Polistes spp., paper wasp, Solenopsis spp.,

Tapoinoma sessile, odorous house ant, Tetranomorium spp., pavement ant, Vespula spp., yellow jacket and Xylocopa spp., carpenter bee.

Isoptera, such as Coptotcrmcs spp., Coptotermes curvignathus, Coptotermes frenchii, Coptotermes formosanus, Formosan subterranean termite, Cornitermes spp., nasute termite, Cryptotermes spp., Heterotermes spp., desert subterranean termite, Ileterotermes aureus, Kalotermes spp., Incistitermes spp., Macrotermes spp., fungus growing termite, Marginitermes spp., Microcerotermes spp., harvester termite, Microtermes obesi, Procornitermes spp., Reticulitermes spp., Reticulitermes banyulensis, Reticulitermes grassei, Reticulitermes flavipes, Reticulitermes hageni, Reticulitermes hesperus, Reticulitermes santonensis, Reticulitermes speratus, Reticulitermes tibialis, Reticulitermes virginicus, Schedorhinotermes spp. and Zootermopsis spp..

Lepidoptera, such as Achoea janata, Adoxophyes spp., Adoxophyes orana, Agrotis spp., Agrotis ipsilon, Alabama argillacea, cotton leafworm, Amorbia cuneana,Amyelosis transitella, navel orangeworm, Anacamptodes defectaria, Anarsia lineatella, peach twig borer, Anomis sabulijera, jute looper, Anticarsia gemmatalis, velvetbean caterpillar, Archips argyrospila)(fruit tree leafroller, Archips rosana, rose leaf roller, Ar gyrotaenia spp., tortricid moths, Argyrotaenia citrana, orange tortrix, Autographa gamma, Bonagota cranaodcs, Borbo cinnara, rice leaf folder, Bucculatrix thurberiella, cotton leafperforator, Caloptilia spp., Capua reticulana, Carposina niponensis, peach fruit moth, Chilo spp. , Chlumetia transversa, mango shoot borer, Choristoneura rosaceana, oblique banded leaf roller, Chrysodeixis spp., Cnaphalocerus medinalis, grass leafroller, Colias spp., Conpomorpha cramerella, Cossus cossus, Crambus spp., Sod webworms, Cydia funebrana, plum fruit moth, Cydia molesta, oriental fruit moth, Cydia nignicana, pea moth, Cydia pomonella, codling moth, Darna diducta, Diaphania spp., stem borer, Diatr aea spp., stalk bor er, Diatraea saccharalis, sugarcane borer, Diatraea graniosella, southwester corn borer, Earias spp., Earias insulata, Egyptian bollworm, Earias vit.ella, rough northern bollworm, Ecdytopopha aurantianum, Elasmopalpus lignosellus, lesser cornstalk borer, Epiphysias postruttana, light brown, apple moth, Ephestia spp., Ephestia cautella, almond moth, Ephestia elutella, tobbaco moth, Ephestia kuehniella, Mediterranean flour moth, Epimeces spp, Epinotia aporema, Erionota thrax, banana skipper, Eupoecilia ambiguella, grape berry moth, Euxoa auxiliaris, army cutworm, Feltia spp., Gortyna spp., Grapholita molesta, oriental fruit moth, Hedylepta indicata, bean leaf webber, Helicoverpa spp. , Helicoverpa armigera, cotton bollworm, Helicoverpa zea, Heliothis spp., Heliothis virescens, tobacco budworm, Hellula undalis, cabbage webworm, Indarbela spp. Keiferia lycopersicella, tomato pinworm, Leucinodes orbonalis, eggplant fruit borer, Leucoptera malifoliella, Lithocollectis spp., Lobesia botrana, grape fruit moth, Loxagrotis spp., Loxagrotis albicosta, western bean cutworm, Lymantria dispar, gypsy moth, Lyonetiaclerkella, apple leafminer, Mahasena corbetti, oil palm bagworm, Malacosoma spp., tent caterpillars, Mamestra brassicae, cabbage armyworm, Maruca testulalis, Metisa plana, Mythimna unipuncta, true armyworm, Neoleucinodes elegantalis, small tomato borer, Nymphula depunctalis, rice caseworm, Operophthera brumata, winter moth, Ostrinia nubilalis, European corn borer, Oxydia vesulia, Pandemis cerasana, common currant tortrix, Pandemis heparana, brown apple tortrix, Papilio demodocus, Pectinophora gossypiella, pink bollworm, Peridroma spp., Peridroma saucia, variegated cutworm, Perileucoptera coffeella, white coffee leafminer, Phthorimaea operculella, potato tuber moth, Phyllocnisitis citrella, Phyllonorycter spp., Pieris rapae, imported cabbageworm, Plathypena scabra, Plodia interpunctella, Indian meal moth, Plutella xylostella, diamondback moth, Polychrosis viteana, grape berry moth, Prays endocarps, Prsys oleae, olive moth, Pseudaletia spp., Pseudaletia unipunctata, Pseudoplusia includens, soybean looper, Rachiplusia nu, Scirpophaga incertulas, Sesamia spp., Sesamia inferens, pink rice stemborer, Sesamia nonagrioides, Setora nitens, Sitotroga cerealella, Angoumois grain

moth, Sparganothis pilleriana, Spodoptera spp., Spodoptera exigua, beet armyworm, Spodoptcra fugipcrda, fall armyworm, Spodoptera oridania, southern armyworm, Synanthedon spp., Thecla basilides, Thermisia gemmatalis, Tineola bisselliella, webbing clothes moth, Trichoplusia ni, cabbage looper, Tuts absoluta, Yponomeuta spp., Zeuzeracoffeae, red branch borer and Zeuzera pyrina, eopard moth.

Mallophaga, chewing lice, such as Bovicola ovis, sheep biting louse, Menacanthus stramineus, chicken body louse and Menopon gallinea, common hen house,

Orthoptera, such as Anabrus simplex, Mormon cricket, Gryllotalpidae, mole cricket, Locusta migratoria, Melanoplus spp., Microcentrum retinerve, angular winged katydid, Pterophylla spp. , histocerca gregaria, Scudderia furcata, fork tailed bush katydid and Valanga nigricorni., sucking louse, such as Haematopinus spp., Linognathus ovillus, sheep louse, Pediculus humanus capitis, Pediculus humanus humanus and Pthirus pubis, crab louse.

Siphonaptera, such as Ctenocephal ides canis, dog flea, Ctenocephalides felis, cat flea and Pulex irritanshuman flea.

Thysanoptera, such as Frankliniella fusca, tobacco thrip, Frankliniella occidentalis, western flower thrips, Frankliniella shultzei, Frankliniella williamsi, corn thrip, Heliothrips haemorrhaidalis, greenhouse thrip, Riphiphorothrips cruentatus, Scirtothrips spp, Scirtothrips cirri, citrus thrip, Scirtothrips dorsalis, yellow tea thrips, Taeniothrips rhopalantennalis and Thrips spp.

Thysanura, bristletail, such as Lepisma spp, silverfish and Thermobia spp..

Acarina,mite and tick, such as Acarapsis woodi, tracheal mite of honeybee, Acarus spp., Acarus siro, grain mite, Aceria mangiferae, mango bud mite, Aculops spp., Aculops lycopersici, tomato russet mite, Aculops pelekasi, Aculus pelekassi, Aculus schlechtendali, apple rust mite, Amblyomma amcricanum, lone star tick, Boophilus spp., Brevipalpus obovatus, privet mite, Brevipalpus phoenicis, red and black flat mite, Demodex spp., mange mites, Dermacentorspp., Dermacentor variabilis, american dog tick, Dermatophagoides pteronyssinus, house dust mite, Eotetranycus spp., Eotetranychus carpini, yellow spider mite, Epitimerus spp., Eriophyes spp., 工;odes spp., Metatetranycus spp., Notoedres cati, Oligonychus spp., Oligonychus coffee, Oligonychus ilicus, southernred mite, anonychus spp., Panonychus cirri, citrus red mite, Panonychus ulmi, European red mite, Phyllocoptruta oleivora, citrus rust mite, Polyphagotarsonemun latus, broad mite, Rhipicephalus sanguineus, brown dog tick, Rhizoglyphus spp., bulb mite, Sarcoptes scabiei, itch mite, Tegolophus perseaflorae, Tetranychus spp., Tetranychus urticae, twospotted spider mite and Varroa destructor.

Nematoda, such as Aphelenchoides spp., bud and leaf & pine wood nematode, Belonolaimus spp., sting nematodes, Criconemella spp., ring nematodes, Dirofilaria immitis, dog heartworm, Ditylenchus spp., Heterodera spp., cyst nematode, Heterodera zeae, corn cyst nematode, Hirschmanniella spp., root nematodes, Hoplolaimus spp., lance nematodes, Meloidogyne spp., Meloidogyne incognita, Onchocerca volvulus, hook-tail worm, PraLylenchus spp., lesion nematode, Radopholus spp., burrowing nematode and Rotylenchus reniformis, kidney-shaped nematode.

Symphyla, such as Scutigerella immaculata.

Thanks to their positive characteristics, the compounds mentioned above can be advantageously used in protecting crops of farming and gardening, domestic and breeding animals, as well as environments frequented by human beingsfrom pathogens, insects and pest mites.

In order to obtain desired effect, the dosage of the compounds to be applied can vary with various factors, for example, the used compound, the protected crop, the type of harmful organism, the degree of infestation, the climatic conditions, the application method and the adopted formulation.

The dosage of compounds in the range of 10 g to 5kg per hectare can provide a sufficient control.

A further object of the present invention also includes fungicidal, insecticidal/acaricidal compositions containing the compounds having general formula **I**as active ingredient, and the weight percentage of the active ingredient in the composition is 0.5-99%. The fungicidal, insecticidal/acaricidal compositions also include the carrier being acceptable in agriculture, forestry and public health.

The compositions of the present invention can be used in the form of various formulations. Usually, the compounds having general formula **I** as active ingredient can be dissolved in or dispersed in carriers or made to a formulation so that they can be easily dispersed as an fungicide or insecticide. For example: these chemical formulations can be made into wettable powder, oil miscible flowable, aqueous suspension, aqueous emulsion, aqueous solution or emulsifiable concentrates and so on. Therefore, in these compositons, at least a liquid or solid carrier is added, and ususlly suitable surfactant(s) can be added when needed.

Still also provided by the present invention are the application methods for controlling phytopathogenic fungi, insects, pest mites which is to apply the compositions of the present invention to the phytopathogenic fungi or their growing loci. The suitable effective dosage of the compounds of the present invention is usually within a range of 10 g/ha to 1000 g/ha, preferably from 20 g/ha to 500 g/ha.

For some applications, one or more other fungicides, insecticides/acaricides, herbicides, plant growth regulators or fertilizer can be added into the fungicidal, insecticidal/acaricidal compositons of the present invention to make additional merits and effects.

It should be noted that variations and changes are permitted within the claimed scopes in the present invention.

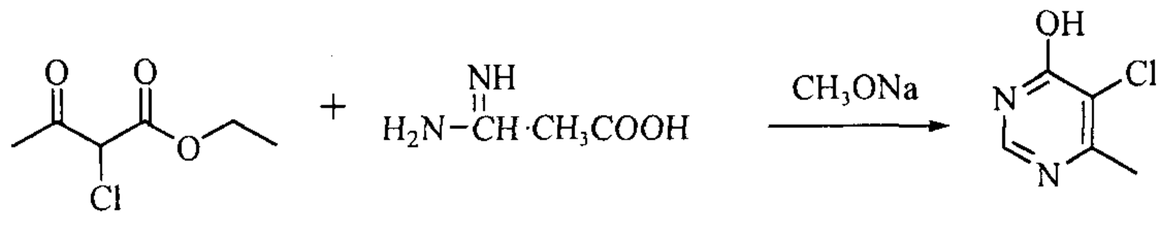
DETAILED DESCRIPTION OF THE INVENTION

The present invention is illustrated by the following examples, but without being restricted thereby. (All raw materials are commercially available unless otherwise specified.)

PREPARATION EXAMPLES

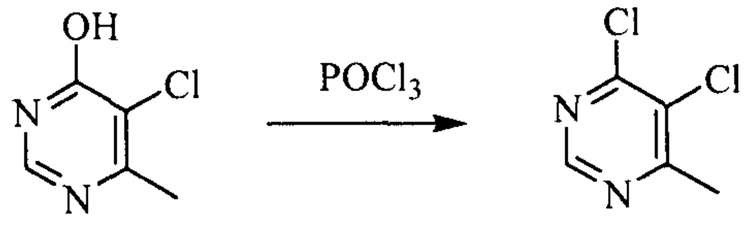
Example 1:The preparation of intermediate4,5-dichloro-6-methylpyrimidine

1） The preparation of 4-hydroxyl-5-chloro-6-methylpyrimidine



A solution of 8.80g（0.16mol）of CH_3ONa in methanolwas added slowly to a solution of 11.30g（0.11mol） of formimidamideacetate in 50mL of methanol at room temperature under stirring, the mixture was stirred for another 2 h after addition at room temperature. Followed by addition of 11.17g（0.068mol） of ethyl 2-chloro-3-oxobutanoate, the mixture was continued stirring for another 5-7 h at room temperature. After the reaction was over by Thin-Layer Chromatography monitoring, the reaction mixture was concentrated under reduced pressure and pH was adjusted to 5-6 with HCl, and then filtered to afford orange-yellow solid, the water phase was extracted with ethyl acetate(3×50mL), dried over anhydrous magnesium sulfate, filtered and then concentrated under reduced pressure. The residue was dissolved to 50mlof ethyl acetate, stand overnight to obtain 6.48g as orange-yellow solid with yield of 66%. m.p. 181~184°C.

2） The preparation of intermediate4,5-dichloro-6-methylpyrimidine



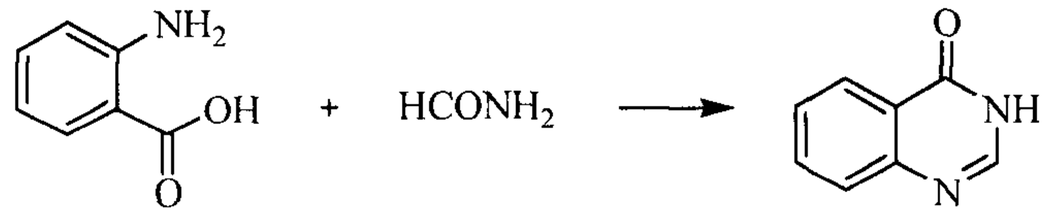
50ml of $POCl_3$ was added dropwise to a solution of 14.5g（0.1mol）of 4-hydroxyl-5-chloro-6-methylpyrimidine in 50mL of toluene, the mixture was refluxed for 5-7h after addition. After the reaction was over by Thin-Layer Chromatography monitoring, the reaction mixture was concentrated under reduced pressure to remove toluene and extra $POCl_3$, and then poured into ice water. The water phase was extracted with ethyl acetate(3×50mL), the organic phases were merged, dried over anhydrous magnesium sulfate, filtered and then concentrated under reduced pressure. The residue was purified through silica column (ethyl acetate/petroleum ether =1:5, as an eluent) to give14.43g as yellow liquid with yield of 88.5%.

Example 2:The preparation of intermediate 4,5-dichlorothieno[2,3-d]pyrimidine

To a solution of2-amino-4-oxo-4,5-dihydrothiophene-3-carbonitrile(70g, 0.5mol) dissolved in 250mL phosphoryl trichloridein an ice-bathwas added38ml DMF for about 30min, and reacted for 1h at the room temperature, then heated to 75℃ for 3h. After the reaction was over by Thin-Layer Chromatography monitoring, the mixture was cooled to the room temperature and poured into ice-water, the water phase was extracted with ethyl acetate(3×80mL), the organic phases were merged, filtered toget 89.1g4,5-dichlorothieno[2,3-d]pyrimidine as dark-gray solid with yield of 86.9%, the m.p. is 160-161℃.

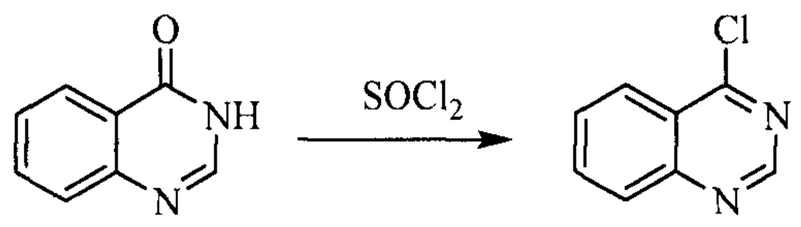
Example 3:The preparation of intermediate 4-chloroquinazoline

1) The preparation of intermediate quinazolin-4(3H)-one



2-aminobenzoic acid (13.7g, 0.1mol） and formamide20mlwere placed in a 250ml three-necked flask, then heated to 140℃ and reacted for 4-10 hours, and monitored by TLC (Thin-Layer Chromatography) until the reaction was over. 80ml water was added under the stirring condition when the solution was cooled to 100℃, then cooled to the room temperature, filtered and washed the solid with anhydrous diethyl ether to get 10.96g quinazolin-4(3*H*)-one as brown solid with yield of 75.1%.

2) The preparation of intermediate 4-chloroquinazoline

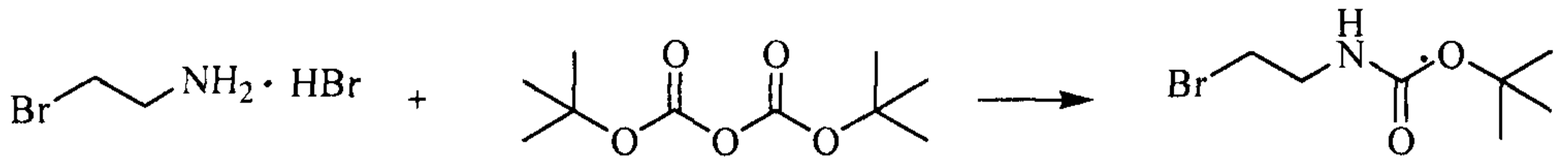


Quinazolin-4(3H)-one(14.6g, 0.1mol) was dissolved in 50mL sulfuryl dichloride, and then

heated to reflux for 4-6h. After the reaction was over by Thin-Layer Chromatography monitoring, the mixture was poured into ice water and stirred for about 30min, filtered and washed the solid with anhydrous diethyl ether to get 10.96g 4-chloroquinazoline as brown solid with yield of 92.7%.

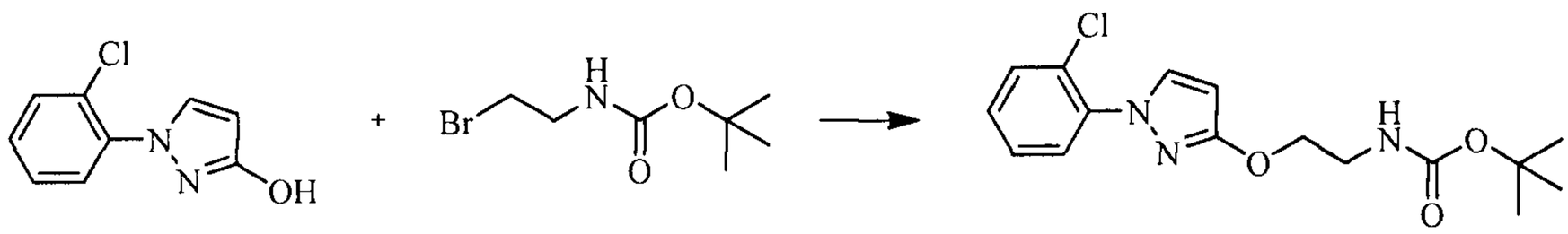
Example 4: The preparation of intermediate2-(1-(4-chlorophenyl)-1H-pyrazol-3-yloxy)ethanamine hydrochloride

1) The preparation of*N*-Boc-2- bromoethylamine



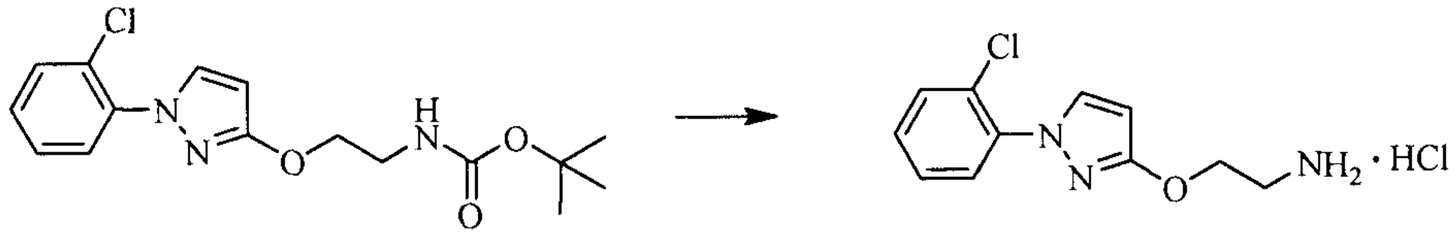
To a solution of 2-bromoethylamine hydrobromide 20.5g(0.1mol) and sodium bicarbonate10.08g(0.12mol) in 80mL tetrahydrofuran and 50ml water was dropwise added di-tert-butyl dicarbonate21.80g(0.1mol) at room temperature, then the reaction mixture was continued stirring for 4-10 hrs, and monitored by TLC (Thin-Layer Chromatography) until the reaction was over, the excessive solvent was evaporated under reduced pressure. Then the mixture was poured into (3×50mL) of ethyl acetate to separate the organic layer, the organic phase was washed with 50 mL of brine, dried and evaporated under reduced pressure to obtain 21.84g target intermediateas colourless oil with yield of 97.5%.

2) The preparation oftert-butyl 2-(1-(2-chlorophenyl)-1H-pyrazol-3-yloxy)ethylcarbamate



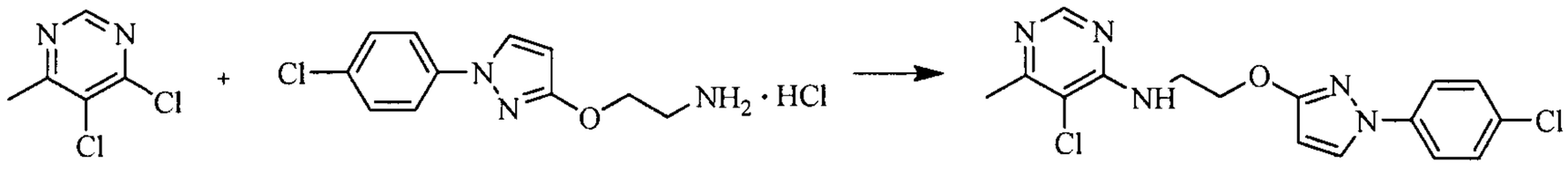
To a solution of 2.24g(0.01mol)tert-butyl 2-bromoethylcarbamateand1.94g (0.01mol)1-(2-chlorophenyl)-1H-pyrazol-3-ol (refer to Organic Preparations and Procedures International, 34(1), 98-102; 2002) in 50mL butanone was added 2.76g (0.02mol)potassium carbonate. The reaction mixture was continued stirring and heating to refluxfor 4-10 hours, and monitored by TLC (Thin-Layer Chromatography) until the reaction was over, the excessive solvent was evaporated under reduced pressure. then the mixture was poured into (3×50mL) ethyl acetate to separate the organic layer, the organic phase was washed with 50 mL of brine, dried and evaporated under reduced pressure, the residual was purified via silica column (ethyl acetate/petroleum ether =1:6, as an eluent) to obtain 2.73g tert-butyl 2-(1-(4-chlorophenyl)-1H-pyrazol-3-yloxy)ethylcarbamate as yellow solid with yield of 81.1%.

3) The preparation of 2-(1-(2-chlorophenyl)-1H-pyrazol-3-yloxy)ethanamine hydrochloride



To a solution of tert-butyl 2-(1-(2-chlorophenyl)-1H-pyrazol-3-yloxy)ethylcarbamate3.37g (0.01mol) in 50mL ethyl acetate was dropwise added 6mL concentrated hydrochloric acid. The solid was dissolved, the reaction mixture stir for4-5 hours,and monitored by TLC (Thin-Layer Chromatography) until the reaction was over, the excessive solvent was evaporated under reduced pressure. Then the mixture was poured into10mL of dichloromethane tostirfor half an hour and filtered to give 2.16g target intermediateas white solid.

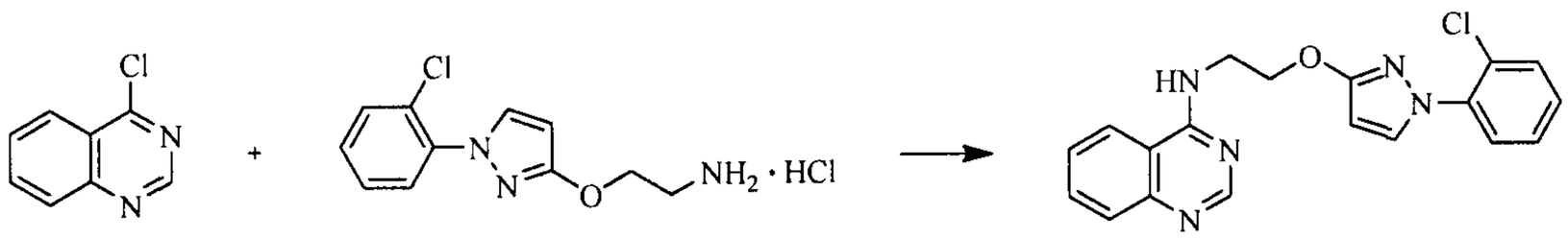
Example 5:The preparation of the compound **31-19**



To a solution of 1.62g(0.01mol)4,5-dichloro-6-methylpyrimidineand 2.74g (0.01mol)2-(1-(4-chlorophenyl)-1H-pyrazol-3-yloxy)ethanaminehydrochloridein 50mL toluene was added 4.45g (0.022mol)triethylamine. The reaction mixture was continued stirring and heating to refluxfor 4-10 hours, and monitored by TLC (Thin-Layer Chromatography) until the reaction was over, the excessive solvent was evaporated under reduced pressure. then the mixture was poured into (3×50mL) ethyl acetate to separate the organic layer, the organic phase was washed with 50 mL of brine, dried and evaporated under reduced pressure, the residual was purified via silica column (ethyl acetate/petroleum ether =1:4, as an eluent, boiling range 60-90℃) to obtain 2.90g compound **31-19** as white solid with yield of 79.9%.

^{1}H-NMR (300MHz, internal standard: TMS, solvent: $CDCl_3$) δ(ppm):2.44(3H, s), 3.90-3.98(2H, q), 4.48(2H, t), 5.93(1H, d), 5.94(1H, t), 7.37(2H, dd), 7.52(2H, dd), 7.71(1H, d), 8.39(1H,s).

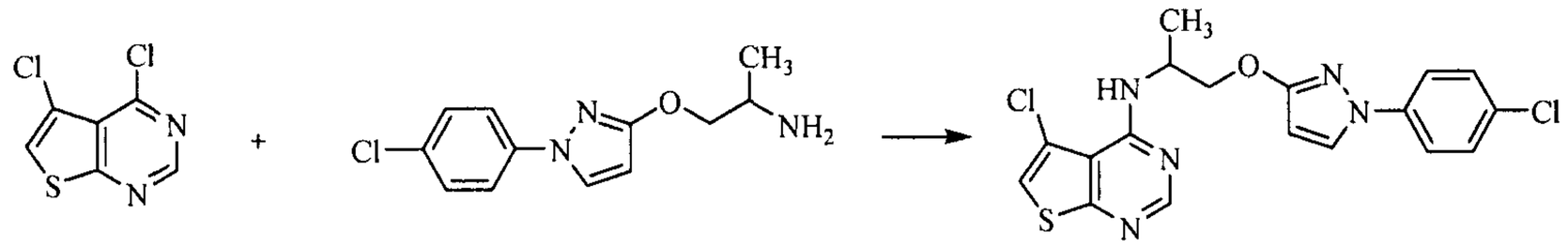
Example 6:The preparation of the compound **40-17**



To a solution of 1.64g(0.01mol)4-chloroquinazolineand 2.74g (0.01mol)2-(1-(2-chlorophenyl)-1H-pyrazol-3-yloxy)ethanaminehydrochloride in 50mL toluene was added 4.45g (0.022mol)triethylamine. The reaction mixture was continued stirring and heating to refluxfor 4-10 hours, and monitored by TLC (Thin-Layer Chromatography) until the reaction was over, the excessive solvent was evaporated under reduced pressure. then the mixture was poured into (3×50mL) ethyl acetate to separate the organic layer, the organic phase was washed with 50 mL of brine, dried and evaporated under reduced pressure, the residual was purified via silica column (ethyl acetate/petroleum ether =1:4, as an eluent, boiling range 60-90℃) to obtain 2.61g compound **40-17** as white solid with yield of 70.1%. m.p.186.6℃.

^{1}H-NMR (300MHz, internal standard: TMS, solvent: $CDCl_3$) δ(ppm): 8.65(s, 1H, Quinazoline-3-H), 7.73(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.40-7.72 (m, 5H, Ph-3,4,5,6-5H), 7.40-7.72(m, 4H, Quinazoline-5,6,7,8-4H), 5.97(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 5.90(s, 1H, NH), 4.63(t, 2H, O-CH_2), 4.06(m, 2H, N-CH_2).

Example 7:The preparation of the compound **44-19**



To a solution of 0.41g(0.002mol)4,5-dichlorothieno[2,3-d]pyrimidineand 0.51g (0.002mol)1-(1-(4-chlorophenyl)-1H-pyrazol-3-yloxy)propan-2-aminein 50mL toluene was added 0.45g (0.011mol)triethylamine. The reaction mixture was continued stirring and heating to refluxfor 4-10 hours, and monitored by TLC (Thin-Layer Chromatography) until the reaction was over, the excessive solvent was evaporated under reduced pressure. then the mixture was poured into

(3×50mL) ethyl acetate to separate the organic layer, the organic phase was washed with 50 mL of brine, dried and evaporated under reduced pressure, the residual was purified via silica column (ethyl acetate/petroleum ether =1:4, as an eluent, boiling range 60-90℃) to obtain 0.53g compound **44-19** as white solid with yield of 63.7%.

^{1}H-NMR (300MHz, internal standard: TMS, solvent: $CDCl_3$) δ(ppm): 1.48(3H, d), 4.40-4.46(2H, m), 4.85(1H, q), 5.95(1H, d), 7.03(1H, d), 7.26(1H, s), 7.48(2H, d), 7.51(2H, d), 7.90(1H, d), 8.47(1H, s).

Other compounds of the present invention were prepared according to the above examples.

Physical properties and ^{1}HNMR spectrum (^{1}HNMR, 300MHz, internal standard: TMS,ppm) of some compounds of this invention are as follows:

Compound 30-1-4: m.p. 152.9℃. δ($CDCl_3$) 8.29(s, 1H, Pyrimidine-H), 7.68(d, *J*=2.4Hz, 1H, Pyrazole-5-H),7.51-7.56(m, 2H, Ph-2,6-2H), 7.08-7.15(m, 2H, Ph-3,5-2H), 5.91(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 5.56(s, 1H, NH), 4.49(t, 2H, O-CH_2), 3.91-3.96(m, 2H, N-CH_2), 2.05(s, 3H, CH_3).

Compound 30-1-19: m.p. 156.1℃. δ($CDCl_3$) 8.30(s, 1H, Pyrimidine-H), 7.72(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.52 (d, *J*=9Hz, 2H, Ph-2,6-2H), 7.39(d, *J*=9Hz, 2H, Ph-3,5-2H), 5.93(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 5.50(s, 1H, NH), 4.49(t, 2H, O-CH_2), 3.94(m, 2H, N-CH_2), 2.06(s,3H,CH_3).

Compound 30-1-21: m.p. 126.8℃. δ($CDCl_3$) 8.28(s, 1H, Pyrimidine-H), 7.73(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.49-7.51 (m, 2H, Ph-3,6-H), 7.34(d, 1H, Ph-5-H), 5.94(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 5.64(s, 1H, NH), 4.47(t, 2H, O-CH_2), 3.93(m, 2H, N-CH_2), 2.04(s,3H, CH_3).

Compound 30-1-25: m.p. 172.7℃. δ($CDCl_3$) 8.31(s, 1H, Pyrimidine-H), 7.73(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.50(d, 2H, Ph-2,6-2H), 7.20(s, 1H, Ph-4-H), 5.96(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 5.40(s, 1H, NH), 4.50(t, 2H, O-CH_2), 3.94-3.98(m, 2H, N-CH_2), 2.11(s, 3H,CH_3).

Compound 30-1-30: m.p. 175.9℃. δ($CDCl_3$) 8.27(s, 1H, Pyrimidine-H), 7.47(s, 2H, Ph-3,5-2H), 7.34(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 5.96(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 5.70(s, 1H, NH), 4.45(t, 2H, O-CH_2), 3.88-3.92(m, 2H, N-CH_2), 2.06(s, 3H, CH_3).

Compound 30-1-49: m.p. 170.8℃. δ($CDCl_3$) 8.31(s, 1H, Pyrimidine-H), 7.82(d, *J*=2.7Hz, 1H , Pyrazole-5-H), 7.65-7.73(d, 4H, PhH),6.00(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 5.34(s, 1H, NH), 4.51(t, 2H, O-CH_2), 3.93-3.99(m, 2H, N-CH_2), 2.09(s, 3H, CH_3).

Compound 30-1-57: m.p. 137.8℃. δ($CDCl_3$) 8.29(s, 1H, Pyrimidine-H), 7.70(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.45(d, *J*=8.4Hz, 2H, Ph-2,6-2H), 7.22(d, *J*=8.4Hz, 2H, Ph-3,5-2H), 5.89(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 5.70(s, 1H, NH), 4.51(t, 2H, O-CH_2), 3.90-3.95(m, 2H, N-CH_2), 2.37(s, 3H, PhCH_3), 2.03(s, 3H, CH_3).

Compound 30-1-78: oil. δ($CDCl_3$) 8.30(s, 1H, Pyrimidine-H), 7.68(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.51-7.60(m, 2H, Ph-2,6-2H),7.26-7.33(m, 2H, Ph-3,5-2H), 5.93(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 5.46(s, 1H, NH),4.49(t, 2H, O-CH_2), 3.92-3.97(m, 2H, N-CH_2), 2.07(s, 3H, CH_3).

Compound 30-2-19: m.p. 111.9℃. δ($CDCl_3$) 8.17(s, 1H, Pyrimidine-H), 7.72(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.53 (d, *J*=6.9Hz, 2H, Ph-2,6-2H), 7.38(d, *J*=7.9Hz, 2H, Ph-3,5-2H), 6.07(s, 1H, NH), 5.92(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.48(t, 2H, O-CH_2), 3.92(m, 2H, N-CH_2), 3.74(s,3H,CH_3).

Compound 30-3-19: oil. δ($CDCl_3$) 10.35(s, 1H, CHO), 8.45(s, 1H, Pyrimidine-H), 7.70(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.51 (d, *J*=9.3Hz, 2H, Ph-2,6-2H), 7.37(d, *J*=9.3Hz, 2H, Ph-3,5-2H), 6.00(s, 1H, NH), 5.93(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.48(t, 2H, O-CH_2), 4.05(m, 2H, N-CH_2).

Compound 30-4-19: m.p. 143.7℃. δ($CDCl_3$) 8.30(s, 1H, Pyrimidine-H), 7.72(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.52 (d, *J*=8.7Hz, 2H, Ph-2,6-2H), 7.38(d, *J*=8.7Hz, 2H, Ph-3,5-2H), 6.29(s, 1H, NH), 5.93(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.50(t, 2H, O-CH_2), 3.94(m, 2H, N-CH_2).

Compound 31-4: m.p. 139.2℃. δ($CDCl_3$) 8.38(s, 1H, Pyrimidine-H), 7.67(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.51-7.56(m, 2H, Ph-2,6-2H),7.07-7.13(m, 2H, Ph-3,5-2H), 6.01(s, 1H, NH), 5.91(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.48(t, 2H, O-CH_2), 3.93-3.95(m, 2H, N-CH_2), 2.43(s,3H, CH_3).

Compound 31-18: m.p. 146.7℃. δ($CDCl_3$) 8.39(s, 1H, Pyrimidine-H), 7.73(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.63 (s, 1H, Ph-2-H), 7.43(d, 1H, Ph-6-H), 7.33(t, 1H, Ph-5-H), 7.19(d, 1H, Ph-4-H), 5.96(s, 1H, NH), 5.94(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.50(t, 2H, O-CH_2), 3.95(m, 2H, N-CH_2), 2.44(s,3H,CH_3).

Compound 31-21: m.p. 155.6℃. δ($CDCl_3$) 8.37(s, 1H, Pyrimidine-H), 7.73(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.53 (s, 1H, Ph-3-H), 7.50(d, *J*=1.8Hz, 1H, Ph-6-H), 7.34(d, *J*=1.8Hz, 1H, Ph-5-H), 6.09(s, 1H, NH), 5.94(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.46(t, 2H, O-CH_2), 3.93(m, 2H, N-CH_2), 2.44(s,3H, CH_3).

Compound 31-23: oil. δ($CDCl_3$) 8.37(s, 1H, Pyrimidine-H), 7.31-7.46(m, 4H, Pyrazole-5-H, PhH), 6.12(s, 1H, NH), 5.96(d, 1H, Pyrazole-4-H), 4.45(t, 2H, O-CH_2), 3.89-3.95(m, 2H, N-CH_2), 2.45(s, 3H, CH_3).

Compound 31-25: m.p. 144.1℃. δ($CDCl_3$) 8.40(s, 1H, Pyrimidine-H), 7.71(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.49-7.51(m, 2H, Ph-2,6-2H), 7.18(s, 1H, Ph-4-H),5.96(d, *J*=2.7Hz,1H, Pyrazole-4-H), 5.92(s, 1H,NH),4.49(t, 2H, O-CH_2), 3.94-3.96(m, 2H, N-CH_2), 2.45(s, 3H,CH_3).

Compound 31-30: oil. δ($CDCl_3$) 8.37(s, 1H, Pyrimidine-H), 7.46(s, 2H, Ph-3,5-2H), 7.33(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 6.06(s, 1H, NH), 5.96(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.43(t, 2H, O-CH_2), 3.89-3.95(m, 2H, N-CH_2), 2.46(s, 3H, CH_3).

Compound 31-49: m.p. 187.0℃. δ($CDCl_3$) 8.39(s, 1H, Pyrimidine-H), 7.80(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.69(s, 4H, PhH), 6.00(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 5.91(s, 1H, NH), 4.50(t, 2H, O-CH_2), 3.92-3.98(m, 2H, N-CH_2), 2.44(s, 3H, CH_3).

Compound 31-57: m.p. 127.3℃. δ($CDCl_3$) 8.38(s, 1H, Pyrimidine-H), 7.69(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.46 (d, *J*=8.7Hz, 2H, Ph-2,6-2H), 7.19(d, *J*=8.7Hz, 2H, Ph-3,5-2H), 6.04(s, 1H, NH), 5.89(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.48(t, 2H, O-CH_2), 3.91-3.96(m, 2H, N-CH_2), 2.43(s, 3H, CH_3), 2.36(s, 3H, PhCH_3).

Compound 31-69: m.p. 171.0℃. δ($CDCl_3$) 8.39(s, 1H, Pyrimidine-H), 7.81(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.62-7.70 (m, 4H, Ph-2,3,5,6-4H), 5.98(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 5.95(s, 1H, NH), 4.50(t, 2H, O-CH_2), 3.96(m, 2H, N-CH_2), 2.43(s,3H,CH_3).

Compound 31-78: m.p. 134.7℃. δ($CDCl_3$) 8.39(s, 1H, Pyrimidine-H), 7.72(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.58-7.62(m, 2H, Ph-2,6-2H),7.26-7.29(m, 2H, Ph-3,5-2H), 5.96(s, 1H, NH)5.94(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.49(t, 2H, O-CH_2), 3.92-3.98(m, 2H, N-CH_2), 2.44(s, 3H, CH_3).

Compound 32-1: m.p. 92.2℃. δ($CDCl_3$) 8.43(s, 1H, Pyrimidine-H), 7.75(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.59 (d, *J*=8.4Hz, 2H, Ph-2,6-2H), 7.41(m, 2H, Ph-3,5-2H), 7.22(m, 1H, Ph-4-H), 6.05(s, 1H, NH), 5.92(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.50(t, 2H, O-CH_2), 3.95(m, 2H, N-CH_2), 2.76(m, 2H, CH_2), 1.24(t,3H,CH_3).

Compound 32-4: m.p. 123.9℃. δ($CDCl_3$) 8.43(s, 1H, Pyrimidine-H), 7.67(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.51-7.56 (m, 2H, Ph-2,6-2H), 7.07-7.13(m, 2H, Ph-3,5-2H), 6.01(s, 1H, NH), 5.91(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.78(t, 2H, O-CH_2), 3.91-3.96(m, 2H, N-CH_2), 2.73-2.80(m, 2H, CH_2), 1.24(t,3H,CH_3).

Compound 32-17: m.p. 75.4℃. δ($CDCl_3$) 8.42(s, 1H, Pyrimidine-H), 7.74(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.57 (d, 1H, Ph-6-H), 7.48(d, *J*=1.5Hz, 1H, Ph-3-H), 7.26-7.36(m, 2H, Ph-4,5-2H), 6.09(s, 1H, NH), 5.94(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.47(t, 2H, O-CH_2), 3.93(m, 2H, N-CH_2), 2.77(m, 2H, CH_2), 1.25(t,3H,CH_3).

Compound 32-18: m.p. 100.9℃. δ($CDCl_3$) 8.44(s, 1H, Pyrimidine-H), 7.73(d, *J*=2.4Hz, 1H,

Pyrazole-5-H), 7.64 (s, 1H, Ph-2-H), 7.45(d, 1H, Ph-6-H), 7.33(t, 1H, Ph-5-H), 7.18(d, 1H, Ph-4-H), 5.99(s, 1H, NH), 5.94(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.49(t, 2H, O-CH_2), 3.95(m, 2H, N-CH_2), 2.77(m, 2H, CH_2), 1.27(t,3H,CH_3).

Compound 32-19:m.p. 138.6℃. δ($CDCl^3$) 1.24(3H, t), 2.71-2.82(2H, q), 3.90-3.98(2H, q), 4.49(2H, t), 5.93(1H, d), 6.01(1H, t), 7.37(2H, d), 7.53(2H, d), 7.72(1H, d), 8.44(1H, s).

Compound 32-21: m.p. 97.6℃. δ(CDCl3) 8.41(s, 1H, Pyrimidine-H), 7.73(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.51 (s, 1H, Ph-3-H), 7.49(d, 1H, Ph-6-H), 7.28(d, 1H, Ph-5-H), 6.09(s, 1H, NH), 5.95(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.46(t, 2H, O-CH_2), 3.94(m, 2H, N-CH_2), 2.76(m, 2H, CH_2), 1.25(t,3H,CH_3).

Compound 32-23: oil. δ($CDCl_3$) 8.41(s, 1H, Pyrimidine-H), 7.27-7.46(m, 4H, Pyrazole-5-H, PhH), 6.12(s, 1H, NH), 5.96(d, 1H, Pyrazole-4-H), 4.45(t, 2H, O-CH_2), 3.90-3.95(m, 2H, N-CH_2), 2.73-2.82(m, 2H, CH_2), 1.22-1.28(m, 3H, CH_3).

Compound 32-25: m.p. 104.9℃. δ($CDCl_3$) 8.46(s, 1H, Pyrimidine-H), 7.71(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.49(s, 2H, Ph-2,6-2H), 7.17(s, 1H, Ph-4-H), 5.98(s, 1H, NH), 5.96(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.49(t, 2H, O-CH_2), 3.93-3.96(m, 2H, N-CH_2), 2.77-2.80(m, 2H, CH_2), 1.25(t, 3H, CH_3).

Compound 32-30: oil. δ($CDCl_3$) 8.42(s, 1H, Pyrimidine-H), 7.46(s, 2H, Ph-3,5-2H), 7.33(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 6.05(s, 1H, NH), 5.96(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.43(t, 2H, O-CH_2), 3.89-3.95(m, 2H, N-CH_2), 2.74-2.82(m, 2H, CH_2), 1.26(t, 3H, CH_3).

Compound 32-49: m.p. 145.1℃. δ($CDCl_3$) 8.44(s, 1H, Pyrimidine-H), 7.80(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.69(s, 4H, PhH), 6.00(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 5.91(s, 1H, NH), 4.51(t, 2H, O-CH_2), 3.93-3.98(m, 2H, N-CH_2), 2.72-2.78(m,2H,CH_2), 1.21-1.28(m,3H, CH_3).

Compound 32-57: m.p. 112.5℃. δ($CDCl_3$) 8.43(s, 1H, Pyrimidine-H), 7.69(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.46 (d, *J*=8.7Hz, 2H, Ph-2,6-2H), 7.19(d, *J*=8.7Hz, 2H, Ph-3,5-2H), 6.04(s, 1H, NH), 5.89(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.48(t, 2H, O-CH_2), 3.91-3.97(m, 2H, N-CH_2), 2.72-2.80(m,2H, CH_2), 2.36(s, 3H, CH_3), 1.24(t,3H, CH_3).

Compound 32-69: m.p. 119.9℃. δ($CDCl_3$) 8.44(s, 1H, Pyrimidine-H), 7.81(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.64-7.68 (m, 4H, Ph-2,3,5,6-4H), 5.98(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 5.95(s, 1H, NH), 4.51(t, 2H, O-CH_2), 3.96(m, 2H, N-CH_2), 2.77(m, 2H, CH_2), 1.24(t,3H,CH_3).

Compound 32-78: m.p. 102.1℃. δ($CDCl_3$) 8.45(s, 1H, Pyrimidine-H), 7.66(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.52-7.62(m, 2H, Ph-2,6-2H),7.28-7.33(m, 2H, Ph-3,5-2H), 5.98(s, 1H, NH), 5.94(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.49(t, 2H, O-CH_2), 3.94-3.96(m, 2H, N-CH_2), 2.75-2.78(m, 2H, CH_2), 1.24(t, 3H, CH_3).

Compound 33-1: m.p. 73.6℃. δ($CDCl_3$) 8.23(s, 1H, Pyrimidine-H), 7.75(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.59 (d, *J*=8.4Hz, 2H, Ph-2,6-2H), 7.42(m, 2H, Ph-3,5-2H), 7.23(m, 1H, Ph-4-H), 6.70(t,1H, CHF_2), 6.22(s, 1H, NH), 5.90(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.36(t, 2H, O-CH_2), 3.75(m, 2H, N-CH_2).

Compound 33-4: m.p. 115.2℃. δ($CDCl_3$) 8.56(s, 1H, Pyrimidine-H), 7.67(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.51-7.56(m, 2H, Ph-2,6-2H), 7.07-7.14(m, Ph-3,5-2H), 6.69(t, *J*=5 3.4Hz, 1H, CF_2H), 6.43(s, 1H, NH), 5.91(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.52(t, 2H, O-CH_2), 3.95-4.01(m, 2H, N-CH_2).

Compound 33-18: m.p. 99.3℃. δ($CDCl_3$) 8.56(s, 1H, Pyrimidine-H), 7.74(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.64 (s, 1H, Ph-2-H), 7.44(d, 1H, Ph-6-H), 7.33(t, 1H, Ph-5-H), 7.18(d, 1H, Ph-4-H), 6.70(t, 1H, CHF_2), 6.37(s, 1H, NH), 5.94(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.53(t, 2H, O-CH_2), 3.99(m, 2H, N-CH_2).

Compound33-19:m.p. 142.8℃. δ($CDCl_3$) 4.00-4.05(2H, q), 4.56(2H, t), 5.96(1H, s), 6.50(1H,

s), 6.75(1H, t), 7.40(2H, d), 7.51(2H, d), 7.75(1H, s), 8.60(1H, s).

Compound 33-21: m.p. 136.5℃. δ($CDCl_3$) 8.55(s, 1H, Pyrimidine-H), 7.72(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.51 (s, 1H, Ph-3-H), 7.49(d, 1H, Ph-6-H), 7.35(d, 1H, Ph-5-H), 6.70(t,1H, CHF_2), 6.39(s, 1H, NH), 5.94(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.49(t, 2H, O-CH_2), 3.97(m, 2H, N-CH_2).

Compound 33-25: m.p. 126.5℃. δ($CDCl_3$) 8.58(s, 1H, Pyrimidine-H), 7.72(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.49-7.51(m,2H, Ph-2,6-2H), 7.19(d,1H, Ph-4-H), 6.72(t, *J*=53.40Hz, 1H, CF_2H), 6.30(s, 1H, NH), 5.96(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.53(t, 2H, O-CH_2), 3.97-4.03(m, 2H, N-CH_2).

Compound 33-30: m.p. 132.9℃. δ($CDCl_3$) 8.54(s, 1H, Pyrimidine-H), 7.47(s,2H, Ph-3,5-2H), 7.34(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 6.73(t, *J*=53.7Hz, 1H, CF_2H), 6.52(s, 1H, NH)5.96(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.46(t, 2H,O-CH_2), 3.94-3.99(m, 2H, N-CH_2).

Compound 33-49: m.p. 151.7℃. δ($CDCl_3$) 8.57(s, 1H, Pyrimidine-H), 7.82(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.70(s,4H, PhH), 6.70(t, *J*=53.70Hz, 1H, CF_2H), 6.52(s, 1H, NH), 6.01(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.54(t, 2H, O-CH_2), 3.98-4.03(m, 2H, N-CH_2).

Compound 33-57: m.p. 106.6℃. δ($CDCl_3$) 8.56(s, 1H, Pyrimidine-H), 7.71(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.46(d, *J*=8.4Hz, 2H, Ph-2,6-2H), 7.21(d, *J*=8.4Hz, 2H, Ph-3,5-2H), 6.69(t, *J*=54.00Hz, 1H, CF_2H), 6.52(s, 1H, NH), 5.89(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.53(t, 2H, O-CH_2), 3.95-4.00(m, 2H, N-CH_2), 2.37(s, 3H, CH_3).

Compound 33-69: m.p. 122.3℃. δ($CDCl_3$) 8.57(s, 1H, Pyrimidine-H), 7.81(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.01-7.64 (m, 4H, Ph-2,3,5,6-4H), 6.70(t,1H, CHF_2), 6.31(s, 1H, NH), 5.98(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.54(t, 2H, O-CH_2), 4.00(m, 2H, N-CH_2).

Compound35-19:δ($CDCl_3$) 1.42(3H, d), 4.38(2H, d), 4.65(1H, s), 5.93(1H, d), 6.06-6.08(1H, m), 7.38(2H, d), 7.51(2H, d), 7.71(1H, d), 8.28(1H,s).

Compound36-19:m.p.80-82℃. δ($CDCl_3$) 1.42(3H, d), 2.42(3H, s), 4.37(2H, d), 4.65-4.67(1H, m), 5.91(1H, s), 5.93(1H, d), 7.36(2H, d), 7.53(2H, d), 7.70(1H, d), 8.40(1H, s).

Compound37-19:δ($CDCl_3$) 1.24(3H, t), 1.42(3H, d), 2.73-2.77(2H, q), 4.37(2H, d), 4.39(1H, s), 5.78-5.82(1H, m), 5.93(1H, d), 7.38(2H, d), 7.52(2H, d), 7.70(1H, d), 8.43(1H,s).

Compound40-1: oil. δ($CDCl_3$) 8.66(s, 1H, Quinazoline-3-H), 7.76(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.72-7.75 (m, 5H, Ph-2,3,4,5,6-5H), 7.72-7.75 (m, 4H, Quinazoline-5,6,7,8-4H), 6.22(s, 1H, NH), 5.90(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.36(t, 2H, O-CH_2), 3.75(m, 2H, N-CH_2).

Compound40-4: m.p. 155.7 ℃ .δ($CDCl_3$) 8.67(s, 1H, Quinazoline-3-H), 7.82(d, 1H, Quinazoline-6-H), 7.67(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.53–7.65(m, 4H, Ph-2,6-2H, Quinazoline-7,8-H), 7.10-7.19(m, 3H, Ph-3,5-2H, Quinazoline-9-H), 6.95(s, 1H, NH), 5.94(d, *J*=2.7Hz, 1H, =CH), 4.62(t, 2H, CH_2), 4.05-4.10(m, 2H, CH_2).

Compound40-18:m.p. 146.1℃. δ($CDCl_3$) 8.68(s, 1H, Quinazoline-3-H), 7.74(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.63-7.71 (m, 4H, Ph-2, 4,5,6-4H), 7.31-7.54 (m, 4H, Quinazoline-5,6,7,8-4H), 6.78(s, 1H, NH), 5.96(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.63(t, 2H, O-CH_2), 4.10(m, 2H, N-CH_2).

Compound40-19: m.p. 176.4℃. δ($CDCl_3$) 4.10-4.15(2H, q), 4.67(2H, t),5.99(1H, s), 7.11(1H, s), 7.44(2H, d), 7.58(2H, d), 7.66(1H, d), 7.71-7.76(2H, d), 7.90(1H, d), 8.70(1H, s).

Compound40-21: m.p. 141.7℃. δ($CDCl_3$) 8.66(s, 1H, Quinazoline-3-H), 7.72(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.80-7.83 (m, 3H, Ph-3,5,6-3H), 7.51-7.58 (m, 4H, Quinazoline-5,6,7,8-4H), 6.90(s, 1H, NH), 5.97(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.59(t, 2H, O-CH_2), 4.08(m, 2H, N-CH_2).

Compound40-25: m.p. 199.9 ℃ . δ($CDCl_3$) 8.69(s, 1H, Quinazoline-3-H), 7.83(d,1H, Quinazoline-6-H),7.73(d, *J*=3.0Hz, 1H, Pyrazole-5-H), 7.65-7.66(m, 2H, Quinazoline-7,8-H), 7.51-7.52(m, 2H, Ph-2,6-2H), 7.30-7.36(m, 1H, Quinazoline-7,8-H), 7.21-7.22(m, 1H, Ph-4-H), 6.56(s, 1H, NH), 5.99(d, *J*=3.0Hz, 1H, Pyrazole-4-H), 4.62(t, 2H,O-CH_2), 4.09-4.14(m, 2H,

N-CH_2).

Compound40-30: m.p. 170.5℃. δ($CDCl_3$) 8.66(s, 1H, Quinazoline-3-H), 7.52-7.84(m, 3H, Quinazoline-6,7,9-3H), 7.46(s, 2H, Ph-3,5-2H), 7.35(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.24(t, 1H, Quinazoline-8-1H), 5.99(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.57(t, 2H, O-CH_2), 4.04-4.09(m, 2H, N-CH_2).

Compound40-49:oil. δ($CDCl_3$) 8.68(s, 1H, Quinazoline-3-H), 7.83(d, 1H, Quinazoline-6-H), 7.81(d, *J*=3.0Hz, 1H, Pyrazole-5-H), 7.64-7.76(m, 5H, Quinazoline-7,8,9-H, Ph-2,6-2H), 7.31(d, 2H, Ph-3,5-2H), 6.47(s, 1H, NH), 6.02(d, *J*=3.0Hz, 1H, Pyrazole-4-H), 4.62(t, 2H, O-CH_2), 4.09-4.15(m, 2H, N-CH_2).

Compound40-57: m.p. 178.7℃. δ($CDCl_3$) 8.66(s, 1H, Quinazoline-3-H), 7.78(d, 1H, Quinazoline-6-H), 7.70(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.58–7.67(m, 3H, Quinazoline-7,8,9-H), 7.50(d, *J*=8.4Hz, 2H, Ph-2,6-2H), 7.10(d, *J*=8.4Hz, 2H, Ph-3,5-2H), 5.92(d, *J*=2.4Hz, 1H, Pyrazole-4-H),4.64(t, 2H, O-CH_2), 4.05-4.10(m, 2H, N-CH_2), 2.40(s, 3H, CH_3).

Compound40-69: m.p. 170.1℃. δ($CDCl_3$) 8.68(s, 1H, Quinazoline-3-H), 7.81(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.62-7.71 (m, 4H, Ph-2,3,5,6-4H), 7.62-7.71 (m, 4H, Quinazoline-5,6,7,8-4H), 6.62(s, 1H, NH), 6.00(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.64(t, 2H, O-CH_2), 4.11(m, 2H, N-CH_2).

Compound42-1: m.p. 129.7℃. δ($CDCl_3$) 8.48(s, 1H, Pyrimidine-H), 7.74(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.57 (d, *J*=8.4Hz, 2H, Ph-2,6-2H), 7.40(m, 2H, Ph-3,5-2H), 7.19(m, 1H, Ph-4-H), 7.03(s,1H, Thieno-H), 6.98(s, 1H, NH), 5.92(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.55(t, 2H, O-CH_2), 4.08(m, 2H, N-CH_2).

Compound42-4: m.p. 132.2℃. δ($CDCl_3$) 8.48(s, 1H, Pyrimidine-H), 7.67(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.49-7.55(m, 2H, Ph-2,6-2H), 7.04-7.13(m, 2H, Ph-3,5-2H), 6.97(s, 1H, Thiophene-H), 6.92(s, 1H, NH), 5.92(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.53(t, 2H, O-CH_2), 4.04-4.10(m, 2H, N-CH_2).

Compound42-17: m.p. 122.4℃. δ($CDCl_3$) 8.47(s, 1H, Pyrimidine-H), 7.74(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.54 (d, *J*=7.5Hz, 1H, Ph-6-H), 7.48(d, *J*=7.5Hz, 1H, Ph-3-H), 7.31-7.36(m, 2H, Ph-4,5-2H), 7.05(s,1H, Thieno-H), 7.01(s, 1H, NH), 5.94(d, *J*=2.1Hz, 1H, Pyrazole-4-H), 4.53(t, 2H, O-CH_2), 4.07(m, 2H, N-CH_2).

Compound42-18: m.p. 100.1℃. δ($CDCl_3$) 8.48(s, 1H, Pyrimidine-H), 7.72(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.61 (s, 1H, Ph-2-H), 7.43(d, 1H, Ph-6-H), 7.31(t, 1H, Ph-5-H), 7.17(d, 1H, Ph-4-H), 7.04(s,1H, Thieno-H), 6.95(s, 1H, NH), 5.94(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.55(t, 2H, O-CH_2), 4.08(m, 2H, N-CH_2).

Compound42-21:m.p. 123.1℃. δ($CDCl_3$) 8.47(s, 1H, Pyrimidine-H), 7.73(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.48-7.51 (m, 2H, Ph-3,6-2H), 7.32(d, 1H, Ph-5-H), 7.05(s,1H, Thieno-H), 6.97(s, 1H, NH), 5.94(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.51(t, 2H, O-CH_2), 4.06(m, 2H, N-CH_2).

Compound42-25:oil. δ($CDCl_3$) 8.49(s, 1H, Pyrimidine-H), 7.71(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.43-7.49(m, 2H, Ph-2,6-2H), 7.14-7.19(m, 1H, Ph-4-H), 7.06(s, 1H, Thiophene-H), 6.94(s, 1H, NH), 5.96(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.55(t, 2H, O-CH_2), 4.05-4.11(m, 2H, N-CH_2).

Compound42-30: oil. δ($CDCl_3$) 8.46(s, 1H, Pyrimidine-H), 7.45(s, 2H, Ph-3,5-2H), 7.32(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.06(s, 1H, Thiophene-H), 6.98(s, 1H, NH), 5.96(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.47(t, 2H, O-CH_2), 4.04-4.07(m, 2H, N-CH_2).

Compound42-49: m.p. 164.9℃. δ($CDCl_3$) 8.49(s, 1H, Pyrimidine-H), 7.80(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.63-7.67(m, 4H, PhH), 7.04(s, 1H, Thiophene-H), 6.90(s, 1H, NH), 6.01(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.57(t, 2H, O-CH_2), 4.07-4.10(m, 2H, N-CH_2).

Compound42-57: m.p. 113.4℃. δ($CDCl_3$) 8.48(s, 1H, Pyrimidine-H), 7.68(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.44(d, *J*=8.4Hz, 2H, Ph-2,6-2H), 7.19(d, *J*=8.4Hz, 2H, Ph-3,5-2H), 7.03(s, 1H,

Thiophene-H), 6.03(s, 1H,NH), 5.89(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.54(t, 2H, O-CH_2), 4.04-4.10(m, 2H, N-CH_2), 2.36(s, 3H, CH_3).

Compound42-69: m.p. 149.7℃. δ($CDCl_3$) 8.48(s, 1H, Pyrimidine-H), 7.79(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.65 (m, 4H, Ph-2,3,5,6-4H), 7.03(s,1H, Thieno-H), 6.92(s, 1H, NH), 5.98(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.57(t, 2H, O-CH_2), 4.09(m, 2H, N-CH_2).

Compound42-78: oil. δ($CDCl_3$) 8.49(s, 1H, Pyrimidine-H), 7.96(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.71-7.74(m, 2H, Ph-2,6-2H),7.29-7.33(m, 2H, Ph-3,5-2H), 7.16(s, 1H, Thiophene-H), 6.96(s, 1H, NH), 5.94(d, *J*=2.4Hz, 1H, Pyrazole-4-H), 4.55(t, 2H, O-CH_2), 4.07-4.09(m, 2H, N-CH_2).

Compound57-4:δ($CDCl_3$) 2.47(3H, s), 3.92(2H, d), 4.14(2H, t), 5.78(1H, s), 7.13(2H, t), 7.55(1H, s), 7.56-7.59(3H, m), 8.39(1H, s).

Compound 57-19 : m.p. 130.0 ℃ . δ($CDCl_3$):8.41(s,1H, Pyrimidine-H), 7.58(s,1H, Pyrazole-5-H),7.56(d, J=9.0Hz,2H,Ph-2,6-2H), 7.50(s,1H, Pyrazole-3-H),7.40(d, J=9.0Hz,2H,Ph-3,5-2H), 5.85(s, 1H,NH), 4.14(t, 2H, O-CH_2),3.95-3.90(m, 2H, N-CH_2), 2.46(t, 3H,CH_3).

Compound 58-19 : m.p. 134.7 ℃ .δ($CDCl_3$):8.45(s,1H, Pyrimidine-H), 7.60(s,1H, Pyrazole-5-H),7.56(d, J=9.0Hz,2H,Ph-2,6-2H), 7.50(s,1H, Pyrazole-3-H),7.40(d, J=9.0Hz,2H,Ph-3,5-2H), 5.82(s, 1H,NH), 4.15(t, 2H, O-CH_2),3.95-3.90(m, 2H, N-CH_2),2.84-2.77(m, 2H,CH_2),1.27(t, 3H,CH_3).

Compound 59-19 : m.p. 125.7 ℃ .δ($CDCl_3$):8.58(s,1H, Pyrimidine-H), 7.58(s,1H, Pyrazole-5-H),7.56(d, J=9.0Hz,2H,Ph-2,6-2H), 7.50(s,1H, Pyrazole-3-H),7.40(d, J=9.0Hz,2H,Ph-3,5-2H),6.74(t, J=54Hz,1H,CF_2H), 6.08(s, 1H,NH), 4.16(t, 2H, O-CH_2), 4.01-3.96(m, 2H, N-CH_2).

Compound 68-19 : m.p. 119.2 ℃ . δ($CDCl_3$):8.49(s, 1H, Pyrimidine-H), 7.60(s, 1H, Pyrazole-5-H), 7.55(d, J=8.7Hz, 2H, Ph-2,6-2H), 7.51(s, 1H, Pyrazole-3-H), 7.39(d, J=8.7Hz, 2H, Ph-3,5-2H), 7.01(s, 1H, Thiophene-H), 6.97(s, 1H, NH), 4.22(t, 2H, O-CH2), 4.07-4.02(m, 2H, N-CH2)。

Compound59-21: oil.δ($CDCl_3$) 8.54(s, 1H, Pyrimidine-H), 8.01(s,1H, Ph-3-H),7.57(s, 1H, Pyrazole-5-H), 7.49-7.52(m, 2H, Ph-6-H, Pyrazole-3-H), 7.35(dd, 1H, Ph-5-H), 6.73(t, *J*=53.7Hz, 1H, CF_2H), 6.25(s, 1H, NH), 4.11(t, 2H, O-CH_2), 3.75-3.81(m, 2H, N-CH_2), 2.13-2.18(m, 2H,CH_2).

Compound68-4:δ($CDCl_3$) 4.03-4.04(2H, q), 4.20(2H, t), 7.10(1H, s), 7.12-7.15(2H, m), 7.25(1H, d), 7.52-7.58(4H, m), 8.48(1H,s).

Compound 116-5:δ($CDCl_3$) 8.43(s, 1H, Pyrimidine-H), 7.68(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.49-7.54(m, 2H, Ph-2,6-2H), 7.34-7.39(m, 2H, Ph-3,5-2H), 5.86(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.56(t, 2H, O-CH_2), 4.03(t, 2H, N-CH_2), 3.22(s, 3H, NCH_3), 2.79-2.87(m, 2H, CH_2), 1.26(t, 3H, CH_3).

Compound 118-69: m.p. 83.5℃. δ($CDCl_3$) 8.28(s, 1H, Pyrimidine-H), 7.81(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.65-7.72 (m, 4H, Ph-2,3,5,6-4H), 6.15(s, 1H, NH), 5.97(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.44(t, 2H, O-CH_2), 3.75(m, 2H, N-CH_2), 2.16(m,2H, CH_2).

Compound 119-69: oil. δ($CDCl_3$) 8.07(s, 1H, Pyrimidine-H), 7.81(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.65-7.72 (m, 4H, Ph-2,3,5,6-4H), 5.98(d, *J*=3Hz, 1H, Pyrazole-4-H), 5.43(s, 1H, NH), 4.43(t, 2H, O-CH_2), 3.72(m, 2H, N-CH_2), 3.44(s, 2H, NH_2), 2.17(m,2H, CH_2).

Compound 120-69: oil. δ($CDCl_3$) 8.10(s, 1H, Pyrimidine-H), 7.80(d, *J*=3Hz, 1H, Pyrazole-5-H), 7.64-7.72 (m, 4H, Ph-2,3,5,6-4H), 6.03(d, *J*=3Hz, 1H, Pyrazole-4-H), 5.99(s, 1H, NH), 4.43(t, 2H, O-CH_2), 3.84(m, 2H, N-CH_2), 2.17(m,2H, CH_2).

Compound 121-69: m.p. 96.0℃. δ(CDCl3) 10.38(s, 1H, CHO), 9.47(s, 1H, NH), 8.42(s, 1H,

Pyrimidine-H), 7.81(d, 1H, Pyrazole-5-H), 7.65-7.73 (m, 4H, Ph-2,3,5,6-4H), 6.03(d, 1H, Pyrazole-4-H), 4.41(t, 2H, O-CH_2), 3.84(m, 2H, N-CH_2), 2.18(m,2H, CH_2).

Compound 122-69: m.p. 94.1℃. δ(CDCl3) 8.28(s, 1H, Pyrimidine-H), 7.82(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.65-7.72 (m, 4H, Ph-2,3,5,6-4H), 5.95(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 5.35(s, 1H, NH), 4.44(t, 2H, O-CH_2), 3.74(m, 2H, N-CH_2), 2.18(m, 2H, CH_2), 2.14(s,3H, CH_3).

Compound 123-69: oil. δ(CDCl3) 8.15(s, 1H, Pyrimidine-H), 7.81(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.68-7.73 (m, 4H, Ph-2,3,5,6-4H), 5.96(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 5.89(s, 1H, NH), 4.41(t, 2H, O-CH_2), 3.85(s,3H, CH_3), 3.71(m, 2H, N-CH_2), 2.16(m,2H, CH_2).

Compound 124-19:m.p. 140.1℃. δ($CDCl_3$) 8.36(s, 1H, Pyrimidine-H), 7.70(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.53 (d, *J*=9.0Hz, 2H, Ph-2,6-2H), 7.37(d, *J*=9.3Hz, 2H, Ph-3,5-2H), 5.91(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 5.87(s, 1H, NH), 4.41(t, 2H, O-CH_2), 3.70-3.75(m, 2H, N-CH_2), 2.45(s, 3H), 2.12-2.17(m, 2H, CH_2).

Compound 125-19:δ($CDCl_3$) 8.42(s, 1H, Pyrimidine-H), 7.70(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.51-7.55(m, 2H, Ph-2,6-2H), 7.35-7.39(m, 2H, Ph-3,5-2H), 5.91(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 5.88(s, 1H, NH), 4.41(t, 2H, O-CH_2), 3.69-3.75(m, 2H, N-CH_2), 2.75-2.80(m, 2H, CH_3-CH_2), 2.12-2.18(m, 2H, CH_2), 1.26(t, 3H, CH_3).

Compound 125-69: m.p. 94.3℃. δ($CDCl_3$) 8.42(s, 1H, Pyrimidine-H), 7.81(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.65-7.73 (m, 4H, Ph-2,3,5,6-4H), 5.97(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 5.89(s, 1H, NH), 4.43(t, 2H, O-CH_2), 3.73(m, 2H, N-CH_2), 2.78(m, 2H, CH_2 CH_3), 2.17(m, 2H, CH_2), 1.26(t,3H,CH_3).

Compound 126-19:m.p. 132.9℃. δ($CDCl_3$) 8.54(s, 1H, Pyrimidine-H), 7.70(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.51-7.55(m, 2H, Ph-2,6-2H), 7.35-7.40(m, 2H, Ph-3,5-2H), 6.71(t, 1H, CHF_2), 6.23(s, 1H, NH), 5.91(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.43(t, 2H, O-CH_2), 3.73-3.79(m, 2H, N-CH_2), 2.13-2.19(m, 2H, CH_2).

Compound 126-69: oil. δ(CDCl3) 8.54(s, 1H, Pyrimidine-H), 7.82(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.65-7.73 (m, 4H, Ph-2,3,5,6-4H), 6.74(t,1H, CHF_2), 6.29(s, 1H, NH), 5.97(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.45(t, 2H, O-CH_2), 3.79(m, 2H, N-CH_2), 2.18(m, 2H, CH_2).

Compound 127-19: m.p. 165.7℃. δ(CDCl3) 8.66(s, 1H, Quinazoline-3-H), 7.81(d, *J*=2.7Hz, 1H, Pyrazole-5-H),7.70-7.78(m, 4H, Quinazoline-5,6,7,8-4H), 7.52 (dd, 2H, Ph-2H),7.37 (dd, 2H, Ph-2H),6.07(s, 1H, NH), 5.92(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.31(t, 2H, O-CH_2), 3.43-3.53 (m, 2H, N-CH_2), 2.02-2.08 (m, 2H, CH_2).

Compound 127-69: m.p. 149.7℃. δ(CDCl3) 8.67(s, 1H, Quinazoline-3-H), 7.82(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.65-7.81 (m, 4H, Ph-2,3,5,6-4H), 7.65-7.81 (m, 4H, Quinazoline-5,6,7,8-4H), 6.50(s, 1H, NH), 5.98(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.50(t, 2H, O-CH_2), 3.89(m, 2H, N-CH_2), 2.26(m, 2H, CH_2).

Compound 128-19:δ($CDCl_3$) 8.46(s, 1H, Pyrimidine-H), 7.70(d, *J*=2.7Hz, 1H, Pyrazole-5-H), 7.50-7.54(m, 2H, Ph-2,6-2H), 7.34-7.40(m, 2H, Ph-3,5-2H), 7.05(s, 1H, Thiazole-H), 6.92(s, 1H, NH), 5.91(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.43(t, 2H, O-CH_2), 3.82-3.90(m, 2H, N-CH_2), 2.17-2.27(m, 2H, CH_2).

Compound 128-69: m.p. 123.5℃. δ(CDCl3) 8.46(s, 1H, Pyrimidine-H), 7.81(d, *J*=2.4Hz, 1H, Pyrazole-5-H), 7.64-7.71 (m, 4H, Ph-2,3,5,6-4H), 7.06(s,1H, Thieno-H), 6.92(s, 1H, NH), 5.96(d, *J*=2.7Hz, 1H, Pyrazole-4-H), 4.46(t, 2H, O-CH_2), 3.86(m, 2H, N-CH_2), 2.23(m, 2H, CH_2).

Test of Biological Activity

The compounds of the present invention showed good activityagainst many pathogens, insects and pest mites in agricultural field.

Example 8: Fungicidal testing

The compound samples of the present invention were tested in fungicidal activity*in vitro* or protective activity *in vivo*. The results of the fungicidal testing are as follows.

(1) Determination of fungicidal activity*in vitro*

The method is as follows: High Through Put is used in the test. The compound is dissolved in a proper solvent to become a testing solution whose concentration is designed. The solvent is selected from acetone,methanol, DMF and so on according to their dissolving capability to the sample. In a no animalcule condition, the testing solution and pathogens suspension are added into the cells of 96 cells culture board, which then should be placed in the constant temperature box. 24 hours later, pathogengermination or growth can be investigated by eyeballing, and the activity *in vitro* of the compound is evaluated based on germination or growth of control treatment.

The activities *in vitro* (inhibition rate) of some compounds are as follows:

The inhibition rate against rice blast:

At the dosage of 25 ppm, the inhibition rate of compounds30-1-4, 31-4, 31-78, 32-1, 32-4, 32-21, 32-57, 32-78, 33-4, 33-18, 35-19, 36-19, 37-19, 40-4, 40-18, 40-57, 40-69, 42-1,42-4, 42-18, 42-21, 42-57, 42-69, 42-78, 44-19, 57-4, 59-21, 68-4 and so on was more than 80% against rice blast. The contrast inhibition rate of compounds CK1, CK2, CK3, CK4 and CK5 was 0; At the dosage of 8.3ppm, the inhibition rate of compounds31-4, 36-19, 40-4, 40-18, 40-57, 42-1, 42-18, 42-21,42-57, 42-69, 44-19, 57-4, 59-21, 68-4, 128-69 and so on was more than 80% against rice blast; At the dosage of 2.8ppm, the inhibition rate of compounds 36-19, 42-1, 42-18, 42-21, 42-69,44-19, 57-4, 59-21, 68-4 and so on was more than 80% against rice blast.

The inhibition rate against cucumber gray mold:

At the dosage of 25 ppm, the inhibition rate of compounds36-19, 40-19, 44-19, 57-4, 59-21, 68-4 and so on was more than 80% againstcucumber gray mold. The contrast inhibition rate of compounds CK1, CK2, CK3, CK4 and CK5 was 0.

(2) The determination of protective activity *in vivo*

The method is as followed: The whole plant is used in this test. The compound is dissolved in a proper solvent to get mother solution. The proper solvent is selected from acetone,methanol, DMF and so on according to their dissolving capability to the sample. The volume rate of solvent and testing solution (v/v) is equal to or less than 5%. The mother solution is diluted with water containing 0.1% tween-80 to get the testing solution whose concentration is designed. The testing solution is sprayed to the host plant by a special plant sprayer. The plant is inoculated with fungus after 24 hours. According to the infecting characteristic of fungus, the plant is stored in a humidity chamber and then transferred into greenhouse after infection is finished. And the other plants are placed in greenhouse directly. The activity of compound is obtained by eyeballing after 7 days in common.

The protective activities *in vivo* of some compounds are as follows:

The protective activity against cucumber downy mildew*in vivo*:

At the dosage of 400 ppm, the compounds 30-1-4, 30-1-49, 30-1-57, 31-4, 31-19, 31-18, 31-21, 31-49, 31-57, 31-69, 32-4, 32-18, 32-19, 32-21, 32-49, 33-18, 33-19, 33-21, 35-19, 36-19, 40-4, 40-18, 40-19, 40-21, 40-57, 42-1, 42-18, 42-21, 42-49, 42-57, 42-69, 42-78, 44-19, 57-4, 57-19, 58-19, 59-19, 66-19, 68-19, 68-4 and so on showed more than 80% control against cucumber downy mildew;At the dosage of100ppm, the compounds30-1-19, 30-1-21, 30-1-30, 30-2-19, 31-4, 31-18, 31-19, 31-21, 31-23, 31-30, 31-69, 32-4, 32-17, 32-18, 32-19, 32-21, 32-30, 33-18, 33-19,

33-21, 33-30, 33-49, 33-57, 35-19, 36-19, 40-1, 40-4, 40-17, 40-18, 40-19, 40-21, 40-30, 42-1, 42-17, 42-18, 42-21, 42-69, 44-19, 123-69, 125-69, 126-69, 127-69, 128-69and so on showed more than 80% control against cucumber downy mildew; At the dosage of25ppm, the compounds30-1-19, 30-1-21, 30-1-30, 30-2-19, 31-18, 31-19, 31-21, 31-23, 31-30, 31-69, 32-4, 32-19, 32-30, 33-18, 33-19, 33-21, 33-30, 33-49, 33-57, 35-19, 36-19, 40-4, 40-17, 40-18, 40-19, 40-21, 40-30, 42-1, 42-17, 42-18, 42-21, 42-69, 44-19and so on showed more than 80%control against cucumber downy mildew; At the dosage of12.5ppm, the compounds30-2-19, 31-23, 32-19, 32-30, 33-21, 33-30, 33-49, 33-57, 35-19, 36-19, 40-4, 40-18, 40-19, 42-21and so on showed more than 80%control against cucumber downy mildew; At the dosage of6.25ppm, the compounds30-2-19, 31-23, 32-19, 32-30, 33-21, 33-30, 33-49, 33-57, 36-19, 40-4, 40-18, 40-19, 42-21and so on showed more than 80%control against cucumber downy mildew.

The protective activity against wheat powdery mildew *in vivo*:

At the dosage of 400 ppm,the compounds30-1-57, 30-1-21, 30-2-19, 31-18, 31-21, 31-30, 31-49, 31-57, 31-69, 31-78, 32-1, 32-17, 32-18, 32-19, 32-21, 32-30, 32-49, 32-69, 32-78, 33-4, 33-19, 33-21, 33-30, 33-49, 33-57, 33-69, 35-19, 36-19, 37-19, 40-19, 40-21, 40-69, 42-4, 42-17, 42-18, 42-21, 42-49, 42-57, 42-69, 42-78, 44-19, 57-19, 58-19, 59-19, 66-19, 68-19, 59-21, 118-69, 119-69, 122-69, 123-69, 125-69, 126-69, 127-69, 128-69and so on showed more than 80% control against wheat powdery mildew; At the dosage of 100 ppm, the compounds 30-1-21, 30-2-19, 31-30, 31-69, 32-17, 32-19, 32-21, 32-30, 32-49, 32-69, 33-4, 33-19, 33-30, 33-49, 33-57, 33-69, 36-19, 37-19, 42-17, 42-57, 42-69, 44-19, 59-21, 118-69, 119-69, 122-69, 123-69, 125-69, 126-69, 127-69, 128-69and so on showed more than 80% control against wheat powdery mildew; At the dosage of 25ppm, the compounds30-2-19, 31-30, 31-69, 32-21, 32-30, 32-69, 33-4, 33-19, 33-30, 33-49, 33-57, 33-69, 36-19, 37-19, 42-69, 44-19, 118-69, 119-69, 122-69, 123-69, 125-69, 126-69, 127-69, 128-69 and so on showed more than 80%control against wheat powdery mildew; At the dosage of 6.25ppm, the compounds30-2-19, 31-69, 32-69, 33-4, 33-19, 33-49, 33-57, 33-69, 36-19, 37-19, 42-69, 44-19, 118-69, 123-69, 126-69, 128-69 and so on showed more than 80%control against wheat powdery mildew.

The protective activity against corn rust *in vivo*:

At the dosage of400ppm, the compounds31-49, 31-57, 31-69, 32-4, 32-18, 32-19, 32-49, 32-57, 32-69, 32-78, 33-4, 33-19, 33-69, 36-19, 37-19, 40-18, 40-21, 42-18, 42-21, 42-4, 42-69, 42-78, 44-19, 57-4, 59-21, 68-4and so on showed more than 80%control against corn rust; At the dosage of 100 ppm, the compounds 31-69, 31-57, 32-49, 32-57, 32-69, 33-4, 33-69, 37-19, 42-18, 42-69, 44-19, 57-4 and so on showed more than 80% control against corn rust;At the dosage of 25ppm, the compounds 32-49, 32-57, 32-69, 37-19, 42-69 and so on showed more than 80% control against corn rust; At the dosage of 6.25ppm, the compounds 32-49, 37-19, 42-69 and so on showed more than 80% control against corn rust.

The protective activity against cucumber anthracnose *in vivo*:

At the dosage of 400 ppm,the compounds31-4, 31-19, 31-49, 31-57, 32-4, 32-18, 32-19, 32-49, 33-4, 33-19, 40-4, 40-19, 40-57, 42-1, 42-49, 42-69 and so on showed more than 80% control againstcucumber anthracnose;At the dosage of 100 ppm, the compounds 31-19, 31-49, 31-57, 32-4, 32-18, 32-19, 32-49, 33-4, 33-19, 40-4, 40-19, 40-57, 42-1, 42-49, 118-69, 122-69, 123-69, 126-69, 127-69and so on showed more than 80% control against cucumber anthracnose;At the dosage of 25 ppm, the compounds 31-19, 31-49, 31-57, 32-4, 32-49, 33-4, 32-19, 40-19, 40-57, 42-1, 42-49,

42-69, 122-69, 123-69, 126-69, 127-69and so on showed more than 80% control against cucumber anthracnose;At the dosage of 6.25 ppm, the compound31-57, 32-19, 32-49, 40-57and 42-1showed 90%control against cucumber anthracnose.

(3)The contrastive test results of some compounds and contrasts

Contrastive tests were carried out between some compounds and contrasts. The test results are listed in table 129-table 132 ("///" in the following tables means no test).

Table 129 The comparative test of protective activity against cucumber downy mildewat 25mg/L

Compound No.	protective activity (%)	Compound No.	protective activity (%)	Compound No.	protective activity (%)	Compound No.	protective activity (%)
30-1-19	95	**32-17**	70	**35-19**	100	**42-18**	100
30-1-21	100	**32-18**	60	**36-19**	100	**42-21**	100
30-1-30	98	**32-19**	100	**40-1**	70	**42-69**	80
30-2-19	98	**32-21**	70	**40-4**	100	**44-19**	100
31-18	95	**32-30**	100	**40-17**	70	**126-69**	70
31-19	100	**33-18**	85	**40-18**	100	**127-69**	70
31-21	90	**33-19**	95	**40-19**	96	CK1	20
31-23	100	**33-21**	100	**40-21**	100	CK2	20
31-30	100	**33-30**	100	**40-30**	100	CK3	0
31-69	100	**33-49**	100	**42-1**	100	CK4	0
32-4	95	**33-57**	100	**42-17**	100	CK5	0

Table 130 The comparative test of protective activity against wheat powdery mildew at 100 mg/L

Compound No.	protective activity (%)	Compound No.	protective activity (%)	Compound No.	protective activity (%)
30-2-19	100	**33-49**	100	**122-69**	100
31-30	98	**33-57**	100	**123-69**	100
31-69	100	**33-69**	100	**125-69**	100
32-19	100	**35-19**	70	**126-69**	100
32-21	100	**36-19**	100	**127-69**	100
32-30	100	**37-19**	95	**128-69**	100
32-69	100	**42-69**	100	CK2	50
33-4	100	**44-19**	100	CK3	0
33-19	100	**118-69**	100	CK4	0
33-30	100	**119-69**	100	CK5	0

Table 131 The comparative test of protective activity against corn rust

Compound No.	control effect against corn rust (%)	
	100mg/L	25mg/L
32-57	98	85
32-69	90	85
37-19	100	90
42-69	90	85
CK3	20	0
CK4	0	0
CK5	70	60

Table 132 The comparative test of protective activity against cucumber anthracnose at 100 mg/L

Compound No.	protective activity (%)	Compound No.	protective activity (%)	Compound No.	保护活性(%) protective activity (%)
31-19	90	**33-4**	85	**122-69**	85
31-49	85	**33-19**	100	**123-69**	90
31-57	98	**40-19**	100	**126-69**	95
32-4	90	**40-57**	98	**127-69**	92
32-18	85	**42-1**	95	CK3	0
32-19	100	**42-69**	95	CK4	0
32-49	100	**118-69**	80	CK5	0

Example 9: Bioactivity Test againstinsects and mites

Determination of insecticidal activity of compounds of the present invention against a few insects were carried out by the following procedures:

Compounds were dissolved in mixed solvent(acetone:methanol=1:1), and diluted to required concentration with water containing 0.1% of tween 80.

Diamond back moth, armyworm, peach aphidand carmine spider mite were used as targets and the method of spraying by airbrush was used for determination of insecticidal biassays.

(1) Bioactivity Test againstdiamond back moth

The method of spraying by airbrush: The cabbage leaves were made into plates of 2 cm diameter by use of punch. A test solution(0.5 ml) was sprayed by airbrush at the pressure of 0.7 kg/cm^2 to both sides of every plate. 10 Second instar larvae were put into the petri-dishes after the leaf disc air-dried and 3 replicates were set for each treatment. Then the insects were maintained inobservation room (25℃,60~70%R.H.). Scores were conducted and mortalities were calculated after 72h.

Some of test results against diamond back moth:

At the dosage of 600 ppm, the compounds 33-19, 37-19 and so on showed100% control against diamond back moth.

(2) Bioactivity Test against Green Peach Aphid

Method: Filter papers were put in culture dishes (Diameter=6cm), and water was dripped on filter papers for preserving moisture. Green peach aphids (*Myzus Persicae* Sulzer) were maintained

on cabbage. Leaves (Diameter=3cm) of approximately 15-30 aphids were put in the culture dishes. Bioactivity tests were used the method of Airbrush Foliar Spray, pressure=10psi (0.7kg/cm2), spray volume=0.5mL. The studies were conducted at three constant temperatures 25± 1 C in incubator cabinets with 60 ± 5% RH. Survey the survival aphids after 48h and calculate the death rates.

At the dosage of 600ppm, the compounds31-49, 32-17, 32-21, 32-30, 32-33, 32-57, 33-21, 33-57, 37-19, 42-1, 42-57, 59-21 and so on showed more than 80% control against Green Peach Aphid; At the dosage of 100ppm, the compounds 32-21, 33-21, 37-19 and so on showed more than 80% control against Green Peach Aphid; At the dosage of 5ppm,the compound 33-21 showed 100%control against Green Peach Aphid.

(3) Bioactivity Test against carmine spider mite

The method: Broadbean shoots with two true leavesin pot were taken, the healthy adults of carmine spider mitewere inoculated tothe leaves. The adults were counted and then sprayed with airbrush at the pressure of 0.7 kg/cm^2 and at dose of 0.5 ml. 3 replicates were set for each treatment. And then they were maintained in standard observation room. Scores were conducted and mortalities were calculated after 72hrs.

Bioactivity Test against carmine spider mite:

At the dosage of 600ppm,the compounds 30-1-57, 30-2-19, 31-23, 32-17, 32-21, 32-23, 32-30, 32-57, 32-78, 33-4, 33-57, 36-19, 37-19, 40-4, 42-17, 42-57, 42-78, 44-19, 59-21and so on showed more than 80% control against carmine spider mite; At the dosage of 100 ppm, the compounds 32-21, 32-57, 36-19, 37-19, 42-57, 44-19 and so on showed more than 80% control against carmine spider mite;At the dosage of 10ppm, both compounds 32-57 and 37-19showed more than 80% controlagainst carmine spider mite.

(4) The contrastive test results of some compounds and contrasts

Contrastive tests were carried out between some compounds and contrasts. The test results are listed in table 133 to table 135 ("///" in the following tables means no test).

Table 133 contrastive tests againstdiamond back moth

Compound No.	**Insecticidal activity against diamond back moth (%)**
	600mg/L
33-19	100
37-19	100
CK1	43
CK2	20
CK3	0
CK4	0
CK5	0

Table 134 contrastive tests against peach aphid

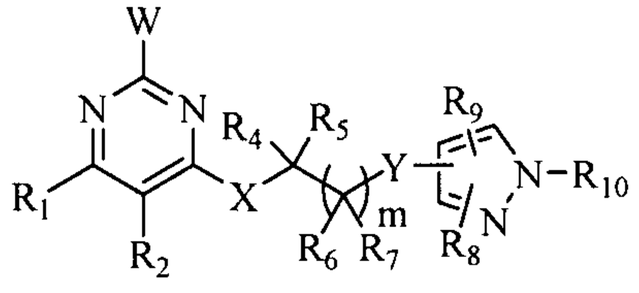
Compound No.	Insecticidal activity against peach aphid (%)
	100mg/L
33-21	100
37-19	84
CK1	0
CK3	30
CK4	0
CK5	22

Table 135 contrastive tests againstcarmine spider mite

Compound No.	Insecticidal activity against carmine spider mite (%)	
	600mg/L	100mg/L
32-57	100	100
36-19	100	98
37-19	100	100
44-19	100	100
CK3	56	///
CK4	59	///
CK5	58	///

We Claim

1. A substituted pyrazole compounds containing pyrimidinyl represented by general formula **I**:



I

Wherein:

$R_1$is selected from H, halogen, cyano, nitro, amino, carboxyl, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl, C_3-C_{12}cycloalkyl, C_1-C_{12}alkoxy, haloC_1-C_{12}alkoxy, C_1-C_{12}alkylthio, haloC_1-C_{12}alkylthio, C_1-C_{12}alkylsulfinyl, C_1-C_{12}alkylsulfonyl, C_2-C_{12}alkenyl, haloC_2-C_{12}alkenyl, C_2-C_{12}alkynyl, haloC_2-C_{12}alkynyl, C_3-C_{12}alkenoxy, haloC_3-C_{12}alkenoxy, C_3-C_{12}alkynoxy, haloC_3-C_{12}alkynoxy, C_1-C_{12}alkylamino, di(C_1-C_{12}alkyl)amino, C_1-C_{12}alkylaminocarbonyl, haloC_1-C_{12}alkylaminocarbonyl, C_1-C_{12}alkoxycarbonyl, haloC_1-C_{12}alkoxycarbonyl, C_1-C_{12}alkoxyC_1-C_{12}alkyl or C_1-C_{12}alkylthioC_1-C_{12}alkyl;

$R_2$is selected from H, halogen, cyano, nitro, amino, carboxyl, CHO, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl, C_1-C_{12}alkoxy or haloC_1-C_{12}alkoxy;

R_1,R_2 and their conjointpyrimidine ringcan also form a five-membered ring,six-membered ring, seven-memberedring or eight-memberedring which contains carbon atom, nitrogen atom, oxygen atom or sulphur atom;

X is selected from NR_3, O or S;

Y is selected from NR_3, O or S;

R_3 is selected from H, OH, CHO, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl, C_1-C_{12}alkoxy, haloC_1-C_{12}alkoxy, C_3-C_{12}cycloalkyl, C_1-C_{12}alkylthio, C_2-C_{12}alkenylthio, C_2-C_{12}alkenyl, C_2-C_{12}alkynyl, haloC_2-C_{12}alkenyl, haloC_2-C_{12}alkynyl, C_1-C_{12}alkoxyC_1-C_{12}alkyl, haloC_1-C_{12}alkoxyC_1-C_{12}alkyl, C_1-C_{12}alkylthioC_1-C_{12}alkyl, haloC_1-C_{12}alkylthioC_1-C_{12}alkyl, C_1-C_{12}alkylsulfinyl, haloC_1-C_{12}alkylsulfinyl, C_1-C_{12}alkylsulfonyl, haloC_1-C_{12}alkylsulfonyl, C_1-C_{12}alkylaminosulfonyl, di(C_1-C_{12}alkyl)aminosulfonyl, C_1-C_{12}alkylsulfonylaminocarbonyl, C_1-C_{12}alkylcarbonylaminosulfonyl, C_3-C_{12}cycloalkyloxycarbonyl, C_1-C_{12}alkylcarbonyl, haloC_1-C_{12}alkylcarbonyl, C_1-C_{12}alkoxycarbonyl, haloC_1-C_{12}alkoxycarbonyl, C_1-C_{12}alkylcarbonylC_1-C_{12}alkyl, C_1-C_{12}alkoxycarbonylC_1-C_{12}alkyl, C_1-C_{12}alkylaminocarbonyl, di(C_1-C_{12}alkyl)aminocarbonyl, C_2-C_{12}alkenoxycarbonyl, C_2-C_{12}alkynoxycarbonyl, C_1-C_{12}alkoxyC_1-C_{12}alkoxycarbonyl, C_1-C_{12}alkylaminothio, di(C_1-C_{12}alkyl)aminothio, unsubstituted or further substituted (hetero)arylcarbonylC_1-C_6alkyl, (hetero)arylcarbonyl, (hetero)aryloxycarbonyl, (hetero)arylC_1-C_6alkyloxycarbonyl or (hetero)arylC_1-C_6alkyl by 1 to 5 following groups: halo, nitro, cyano, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxy or haloC_1-C_6alkoxy;

R_4, R_5 may be the same or different, selected respectively from H, halogen, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl, C_1-C_{12}alkoxy or haloC_1-C_{12}alkoxy; or R_4,R_5 and their conjointcarboncan also form a C_3-C_8 cycle;

R_6, R_7 may be the same or different, selected respectively from H, halogen, C_1-C_{12}alkyl,haloC_1-C_{12}alkyl, C_1-C_{12}alkoxy or haloC_1-C_{12}alkoxy; or R_6,R_7 and their conjointcarboncan also form a C_3-C_8 cycle;

the integer m is selected from 0 to 5;

R_8 is selected from H, cyano, halogen, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl,C_1-C_{12}alkoxycarbonyl, haloC_1-C_{12}alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_9 is selected from H, cyano, halogen, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl, C_1-C_{12}alkoxycarbonyl, haloC_1-C_{12}alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{10} is selected from C_1-C_{12}alkyl, C_3-C_8cycloalkyl, haloC_1-C_{12}alkyl, C_1-C_{12}alkylcarbonyl, haloC_1-C_{12}alkylcarbonyl, C_1-C_{12}alkylsulfonyl, haloC_1-C_{12}alkylsulfonyl, C_1-C_{12}alkoxycarbonyl, C_1-C_{12}alkoxyC_1-C_{12}alkyl, C_1-C_{12}alkoxycarbonylC_1-C_{12}alkyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{11} is selected from halogen, OH, amino, cyano, nitro, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl, C_1-C_{12}alkoxy, haloC_1-C_{12}alkoxy, C_3-C_{12}cycloalkyl, C_1-C_{12}alkylamino, haloC_1-C_{12}alkylamino, di(C_1-C_{12}alkyl)amino, halodi(C_1-C_{12}alkyl)amino, C(=O)$NR_{12}R_{13}$, C_1-C_{12}alkylthio, haloC_1-C_{12}alkylthio, C_2-C_{12}alkenyl, C_2-C_{12}alkynyl, C_2-C_{12}alkenoxy, haloC_2-C_{12}alkenoxy, C_2-C_{12}alkynoxy, haloC_2-C_{12}alkynoxy, C_1-C_{12}alkylsulfonyl, haloC_1-C_{12}alkylsulfonyl, C_1-C_{12}alkylcarbonyl, haloC_1-C_{12}alkylcarbonyl, C_1-C_{12}alkoxycarbonyl, haloC_1-C_{12}alkoxycarbonyl, C_1-C_{12}alkoxyC_1-C_{12}alkyl, haloC_1-C_{12}alkoxyC_1-C_{12}alkyl, C_1-C_{12}alkylthioC_1-C_{12}alkyl, haloC_1-C_{12}alkylthioC_1-C_{12}alkyl, C_1-C_{12}alkoxycarbonylC_1-C_{12}alkyl, haloC_1-C_{12}alkoxycarbonylC_1-C_{12}alkyl, C_1-C_{12}alkylthiocarbonylC_1-C_{12}alkyl, haloC_1-C_{12}alkylthiocarbonylC_1-C_{12}alkyl, C_1-C_{12}alkylcarbonyloxy, haloC_1-C_{12}alkylcarbonyloxy, C_1-C_{12}alkoxycarbonyloxy, haloC_1-C_{12}alkoxycarbonyloxy, C_1-C_{12}alkylsulfonyloxy, haloC_1-C_{12}alkylsulfonyloxy, C_1-C_{12}alkoxyC_1-C_{12}alkoxy or haloC_1-C_{12}alkoxyC_1-C_{12}alkoxy;

R_{12}, R_{13} may be the same or different, selected respectively from H, C_1-C_{12}alkyl or haloC_1-C_{12}alkyl;

W is selected from H, halogen, C_1-C_{12}alkyl, haloC_1-C_{12}alkyl, C_3-C_8cycloalkyl, C_1-C_{12}alkoxy, C_1-C_{12}alkylthio or C_1-C_{12}alkylsulfonyl;

the position of Y linked to pyrazole ring is from 3-position, 4-position or 5-position; when Y is linked to 3-position of pyrazole, $R_8$is at the 4-position, R_9 is at the 5-position; when Y is linked to 4-position of pyrazole, $R_8$is at the 3-position, R_9 is at the 5-position;when Y is linked to 5-position of pyrazole, R_8 is at the 3-position, $R_9$is at the 4-position;

or the salts formed from the compounds represented by general formulaI.

2. The substituted pyrazole compounds containing pyrimidinyl according to the claim 1, characterized in that wherein general formula **I**:

$R_1$is selected from H, halogen, cyano, nitro, amino, carboxyl, C_1-C_6alkyl, haloC_1-C_6alkyl, C_3-C_6cycloalkyl, C_1-C_6alkoxy, haloC_1-C_6alkoxy, C_1-C_6alkylthio, C_1-C_6alkylsulfinyl, C_1-C_6alkylsulfonyl, haloC_1-C_6alkylthio, C_2-C_6alkenyl, haloC_2-C_6alkenyl, C_2-C_6alkynyl, haloC_2-C_6alkynyl, C_3-C_6alkenoxy, haloC_3-C_6alkenoxy, C_3-C_6alkynoxy, haloC_3-C_6alkynoxy, C_1-C_6alkylamino, di(C_1-C_6alkyl)amino,C_1-C_6alkylaminocarbonyl, haloC_1-C_6alkylaminocarbonyl, C_1-C_6alkoxycarbonyl, haloC_1-C_6alkoxycarbonyl,C_1-C_6alkoxyC_1-C_6alkyl or C_1-C_6alkylthioC_1-C_6alkyl;

$R_2$is selected from H, halogen, cyano, nitro, amino, carboxyl, CHO, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxy or haloC_1-C_6alkoxy;

R_1,R_2 and their conjoint pyrimidine ring can also form a five-membered ring or six-membered ring which contains carbon atom, nitrogen atom, oxygen atom or sulphur atom;

X is selected from NR_3, O or S;

Y is selected from NR_3, O or S;

R_3 is selected from H, OH, CHO, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxy, haloC_1-C_6alkoxy, C_3-C_6cycloalkyl, C_1-C_6alkylthio, C_2-C_6alkenylthio, C_2-C_6alkenyl, C_2-C_6alkynyl, haloC_2-C_6alkenyl, haloC_2-C_6alkynyl, C_1-C_6alkoxyC_1-C_6alkyl, haloC_1-C_6alkoxyC_1-C_6alkyl, C_1-C_6alkylthioC_1-C_6alkyl, haloC_1-C_6alkylthioC_1-C_6alkyl, C_1-C_6alkylsulfinyl, haloC_1-C_6alkylsulfinyl, C_1-C_6alkylsulfonyl, haloC_1-C_6alkylsulfonyl, C_1-C_6alkylaminosulfonyl, di(C_1-C_6alkyl)aminosulfonyl, C_1-C_6alkylsulfonylaminocarbonyl, C_1-C_6alkylcarbonylaminosulfonyl, C_3-C_6cycloalkyloxycarbonyl, C_1-C_6alkylcarbonyl, haloC_1-C_6alkylcarbonyl, C_1-C_6alkoxycarbonyl, haloC_1-C_6alkoxycarbonyl, C_1-C_6alkylcarbonylC_1-C_6alkyl, C_1-C_6alkoxycarbonylC_1-C_6alkyl, C_1-C_6alkylaminocarbonyl, di(C_1-C_6alkyl)aminocarbonyl, C_2-C_6alkenoxycarbonyl, C_2-C_6alkynoxycarbonyl, C_1-C_6alkoxyC_1-C_6alkoxycarbonyl, C_1-C_6alkylaminothio, di(C_1-C_6alkyl)aminothio, unsubstituted or further substituted (hetero)arylcarbonylC_1-C_6alkyl, (hetero)arylcarbonyl, (hetero)aryloxycarbonyl, (hetero)arylC_1-C_6alkyloxycarbonyl or (hetero)arylC_1-C_6alkyl by 1 to 5 following groups: halogen, nitro, cyano, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxy or haloC_1-C_6alkoxy;

R_4, R_5 may be the same or different, selected respectively from H, halogen, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxy or haloC_1-C_6alkoxy; orR_4,R_5 and their conjointcarboncan also form a C_3-C_6 cycle;

R_6, R_7 may be the same or different, selected respectively from H, halogen, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxy or haloC_1-C_6alkoxy; or R_6,R_7 and their conjointcarboncan also form a C_3-C_6 cycle;

the integer m is selected from 0 to 4;

R_8 is selected from H, cyano, halogen, C_1-C_6alkyl, haloC_1-C_6alkyl,C_1-C_6alkoxycarbonyl, haloC_1-C_6alkoxycarbonyl,unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_9 is selected from H, cyano, halogen, C_1-C_6alkyl, haloC_1-C_6alkyl,C_1-C_6alkoxycarbonyl, haloC_1-C_6alkoxycarbonyl,unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{10} is selected from C_1-C_6alkyl, C_3-C_6cycloalkyl, haloC_1-C_6alkyl, C_1-C_6alkylcarbonyl, haloC_1-C_6alkylcarbonyl, C_1-C_6alkylsulfonyl, haloC_1-C_6alkylsulfonyl, C_1-C_6alkoxycarbonyl, C_1-C_6alkoxyC_1-C_6alkyl, C_1-C_6alkoxycarbonylC_1-C_6alkyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{11} is selected from halogen, OH, amino, cyano, nitro, C_1-C_6alkyl, haloC_1-C_6alkyl, C_1-C_6alkoxy, haloC_1-C_6alkoxy, C_3-C_6cycloalkyl, C_1-C_6alkylamino, haloC_1-C_6alkylamino, di(C_1-C_6alkyl)amino, halodi(C_1-C_6alkyl)amino, C(=O)$NR_{12}R_{13}$, C_1-C_6alkylthio, haloC_1-C_6alkylthio, C_2-C_6alkenyl, C_2-C_6alkynyl, C_2-C_6alkenoxy, haloC_2-C_6alkenoxy, C_2-C_6alkynoxy, haloC_2-C_6alkynoxy, C_1-C_6alkylsulfonyl, haloC_1-C_6alkylsulfonyl, C_1-C_6alkylcarbonyl, haloC_1-C_6alkylcarbonyl, C_1-C_6alkoxycarbonyl, haloC_1-C_6alkoxycarbonyl, C_1-C_6alkoxyC_1-C_6alkyl, haloC_1-C_6alkoxyC_1-C_6alkyl, C_1-C_6alkylthioC_1-C_6alkyl, haloC_1-C_6alkylthioC_1-C_6alkyl, C_1-C_6alkoxycarbonylC_1-C_6alkyl, haloC_1-C_6alkoxycarbonylC_1-C_6alkyl, C_1-C_6alkylthiocarbonylC_1-C_6alkyl, haloC_1-C_6alkylthiocarbonylC_1-C_6alkyl, C_1-C_6alkylcarbonyloxy, haloC_1-C_6alkylcarbonyloxy, C_1-C_6alkoxycarbonyloxy, haloC_1-C_6alkoxycarbonyloxy, C_1-C_6alkylsulfonyloxy, haloC_1-C_6alkylsulfonyloxy, C_1-C_6alkoxyC_1-C_6alkoxy or haloC_1-C_6alkoxyC_1-C_6alkoxy;

R_{12}, R_{13} may be the same or different, selected respectively from H, C_1-C_6alkyl or

haloC1-C6alkyl;

W is selected from H, halogen, C1-C6alkyl, haloC1-C6alkyl, C3-C6cycloalkyl, C1-C6alkoxy, C1-C6alkylthio or C1-C6alkylsulfonyl;

the position of Y linked to pyrazole ring is from 3-position, 4-position or 5-position; when Y is linked to 3-position of pyrazole, R8 is at the 4-position, R9 is at the 5-position; when Y is linked to 4-position of pyrazole, R8is at the 3-position, R9is at the 5-position; when Y is linked to 5-position of pyrazole, R8is at the 3-position, R9is at the 4-position.

3. The substituted pyrazole compounds containing pyrimidinyl according to the claim 2, characterized in that whereingeneral formula I:

R1is selected from H, halogen, cyano, nitro, amino, carboxyl, C1-C4alkyl, haloC1-C4alkyl,C3-C4cycloalkyl, C1-C4alkoxy, haloC1-C4alkoxy, C1-C4alkylthio, C1-C4alkylsulfinyl, C1-C4alkylsulfonyl, haloC1-C4alkylthio, C2-C4alkenyl, haloC2-C4alkenyl, C2-C4alkynyl, haloC2-C4alkynyl, C3-C4alkenoxy, haloC3-C4alkenoxy, C3-C4alkynoxy, haloC3-C4alkynoxy, C1-C4alkylamino, di(C1-C4alkyl)amino, C1-C4alkylaminocarbonyl, haloC1-C4alkylaminocarbonyl, C1-C4alkoxycarbonyl, haloC1-C4alkoxycarbonyl, C1-C4alkoxyC1-C4alkyl or C1-C4alkylthioC1-C4alkyl;

R2is selected from H, halogen, cyano, nitro, amino, carboxyl, CHO, C1-C4alkyl, haloC1-C4alkyl, C1-C4alkoxy or haloC1-C4alkoxy;

R1,R2 and their conjointpyrimidine ring can also form a five-membered ring orsix-membered ring which contains carbon atom, nitrogen atom, oxygen atom or sulphur atom;

X is selected from NR3, O or S;

R3 is selected from H, OH, CHO, C1-C4alkyl, haloC1-C4alkyl, C1-C4alkoxy, haloC1-C4alkoxy, C3-C4cycloalkyl, C1-C4alkylthio, C2-C4alkenylthio, C2-C4alkenyl, C2-C4alkynyl, haloC2-C4alkenyl, haloC2-C4alkynyl, C1-C4alkoxyC1-C4alkyl, haloC1-C4alkoxyC1-C4alkyl, C1-C4alkylthioC1-C4alkyl, haloC1-C4alkylthioC1-C4alkyl, C1-C4alkylsulfinyl, haloC1-C4alkylsulfinyl, C1-C4alkylsulfonyl, haloC1-C4alkylsulfonyl, C1-C4alkylaminosulfonyl, di(C1-C4alkyl)aminosulfonyl, C1-C4alkylsulfonylaminocarbonyl, C1-C4alkylcarbonylaminosulfonyl, C3-C4cycloalkyloxycarbonyl, C1-C4alkylcarbonyl, haloC1-C4alkylcarbonyl, C1-C4alkoxycarbonyl, haloC1-C4alkoxycarbonyl, C1-C4alkylcarbonylC1-C4alkyl, C1-C4alkoxycarbonylC1-C4alkyl, C1-C4alkylaminocarbonyl, di(C1-C4alkyl)aminocarbonyl, C2-C4alkenoxycarbonyl, C2-C4alkynoxycarbonyl, C1-C4alkoxyC1-C4alkoxycarbonyl, C1-C4alkylaminothio, di(C1-C4alkyl)aminothio, unsubstituted or further substituted (hetero)arylcarbonylC1-C4alkyl, (hetero)arylcarbonyl, (hetero)aryloxycarbonyl, (hetero)arylC1-C4alkyloxycarbonyl or (hetero)arylC1-C4alkyl by 1 to 5 following groups: halogen, nitro, cyano, C1-C4alkyl, haloC1-C4alkyl, C1-C4alkoxy or haloC1-C4alkoxy;

R4, R5 may be the same or different, selected respectively from H, halogen, C1-C4alkyl, haloC1-C4alkyl, C1-C4alkoxy or haloC1-C4alkoxy; orR4,R5 and their conjointcarboncan also form a C3-C4 cycle;

R6, R7 may be the same or different, selected respectively from H, halogen, C1-C4alkyl, haloC1-C4alkyl, C1-C4alkoxy or haloC1-C4alkoxy; or R6,R7 and their conjointcarboncan also form a C3-C4 cycle;

the integer m is selected from 0 to 3;

R8is selected from H, cyano, halogen, C1-C4alkyl, haloC1-C4alkyl, C1-C4alkoxycarbonyl, haloC1-C4alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R11;

R9 is selected from H, cyano, halogen, C1-C4alkyl, haloC1-C4alkyl, C1-C4alkoxycarbonyl,

haloC$_1$-C$_4$alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

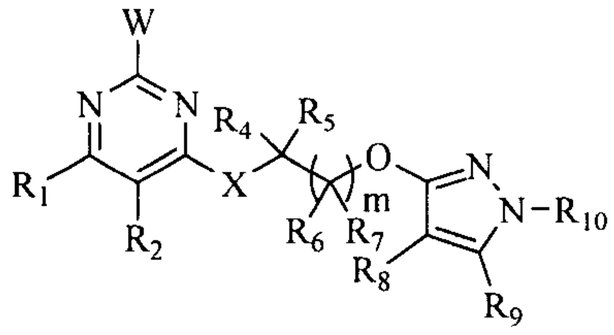
R_{10} is selected from C$_1$-C$_4$alkyl, C$_3$-C$_4$cycloalkyl, haloC$_1$-C$_4$alkyl, C$_1$-C$_4$alkylcarbonyl, haloC$_1$-C$_4$alkylcarbonyl, C$_1$-C$_4$alkylsulfonyl, haloC$_1$-C$_4$alkylsulfonyl, C$_1$-C$_4$alkoxycarbonyl, C$_1$-C$_4$alkoxyC$_1$-C$_4$alkyl, C$_1$-C$_4$alkoxycarbonylC$_1$-C$_4$alkyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{11} is selected from halogen, OH, amino, cyano, nitro, C$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkyl, C$_1$-C$_4$alkoxy, haloC$_1$-C$_4$alkoxy, C$_3$-C$_4$cycloalkyl, C$_1$-C$_4$alkylamino, haloC$_1$-C$_4$alkylamino, di(C$_1$-C$_4$alkyl)amino, halodi(C$_1$-C$_4$alkyl)amino, C(=O)N$R_{12}R_{13}$, C$_1$-C$_4$alkylthio, haloC$_1$-C$_4$alkylthio, C$_2$-C$_4$alkenyl, C$_2$-C$_4$alkynyl, C$_2$-C$_4$alkenoxy, haloC$_2$-C$_4$alkenoxy, C$_2$-C$_4$alkynoxy, haloC$_2$-C$_4$alkynoxy, C$_1$-C$_4$alkylsulfonyl, haloC$_1$-C$_4$alkylsulfonyl, C$_1$-C$_4$alkylcarbonyl, haloC$_1$-C$_4$alkylcarbonyl, C$_1$-C$_4$alkoxycarbonyl, haloC$_1$-C$_4$alkoxycarbonyl, C$_1$-C$_4$alkoxyC$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkoxyC$_1$-C$_4$alkyl, C$_1$-C$_4$alkylthioC$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkylthioC$_1$-C$_4$alkyl, C$_1$-C$_4$alkoxycarbonylC$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkoxycarbonylC$_1$-C$_4$alkyl, C$_1$-C$_4$alkylthiocarbonylC$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkylthiocarbonylC$_1$-C$_4$alkyl, C$_1$-C$_4$alkylcarbonyloxy, haloC$_1$-C$_4$alkylcarbonyloxy, C$_1$-C$_4$alkoxycarbonyloxy, haloC$_1$-C$_4$alkoxycarbonyloxy, C$_1$-C$_4$alkylsulfonyloxy, haloC$_1$-C$_4$alkylsulfonyloxy, C$_1$-C$_4$alkoxyC$_1$-C$_4$alkoxy or haloC$_1$-C$_4$alkoxyC$_1$-C$_4$alkoxy;

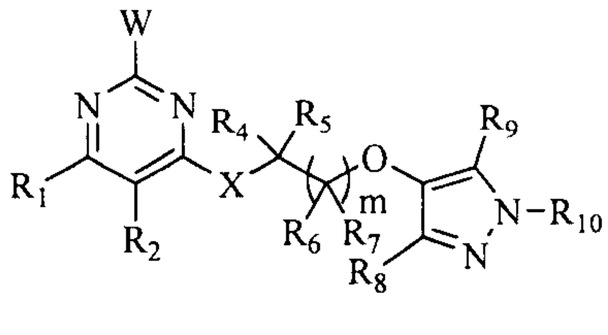
R_{12}, R_{13} may be the same or different, selected respectively from H, C$_1$-C$_4$alkyl or haloC$_1$-C$_4$alkyl;

W is selected from H, halogen, C$_1$-C$_4$alkyl, haloC$_1$-C$_4$alkyl, C$_3$-C$_4$cycloalkyl, C$_1$-C$_4$alkoxy, C$_1$-C$_4$alkylthio or C$_1$-C$_4$alkylsulfonyl;

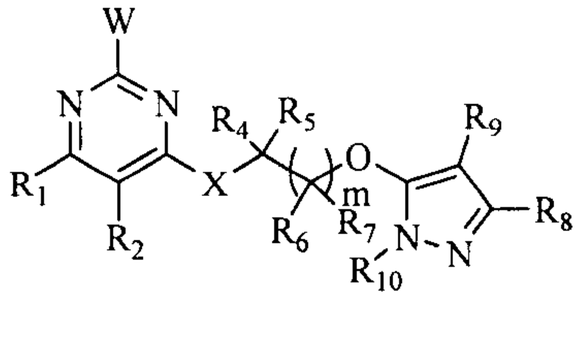
Y is O, the position of Y linked to pyrazole ring is from 3-position, 4-position or 5-position. When Y is linked to 3-position of pyrazole, R_8 is at the 4-position, R_9 is at the 5-position, general formula**I** is represented by general formula**I-1**; when Y is linked to 4-position of pyrazole, R_8 is at the 3-position, R_9 is at the 5-position, general formula**I** is represented by general formula**I-2**; when Y is linked to 5-position of pyrazole, R_8 is at the 3-position, R_9 is at the 4-position, general formula**I** is represented by general formula**I-3**;



I-1

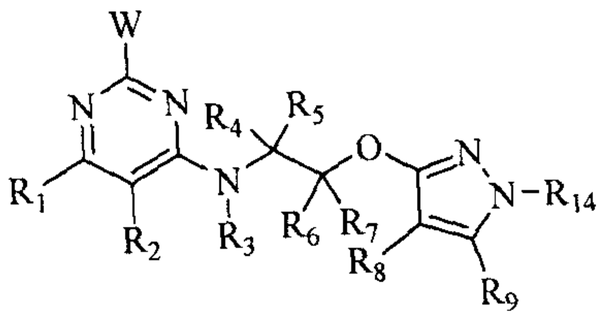


I-2

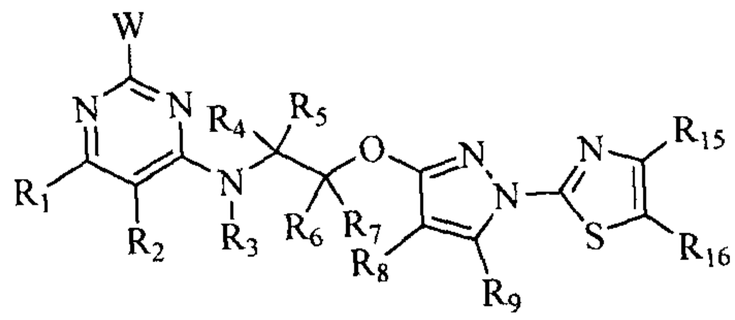


I-3

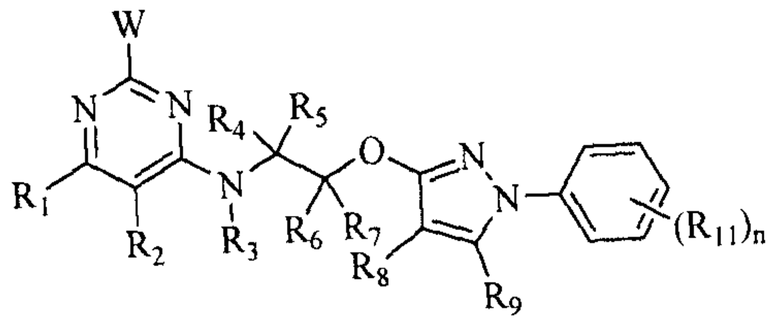
4. The substituted pyrazole compounds containing pyrimidinyl according to the claim 3, characterized in that whereinthe structures of compounds of general formula**I-1**are represented bygeneral formula **I-1A**, **I-1B**, **I-1C**, **I-1D**, **I-1E**, **I-1F**, **I-1G**, **I-1H**, **I-1I**, **I-1J**, **I-1K**, **I-1L**, **I-1M**, **I-1N**, **I-4C**, **I-4F**or **I-4G**; the structures of compounds of general formula **I-2** are represented by general formula **I-2A**, **I-2B**, **I-2C**, **I-2D**, **I-2E**, **I-2F**, **I-2G**; the structures of compounds of general formula **I-3** are represented by general formula**I-3A**, **I-3B**, **I-3C**, **I-3D**, **I-3E**, **I-3F** or **I-3G**:



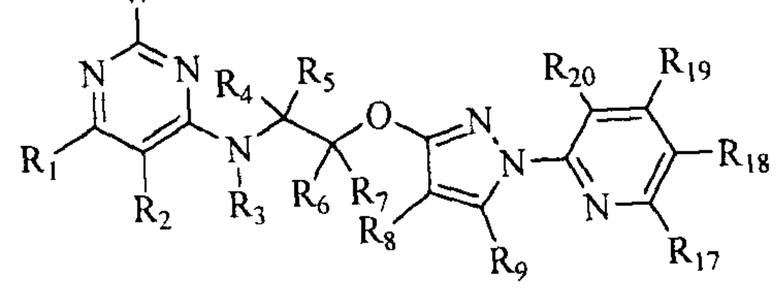
I-1A



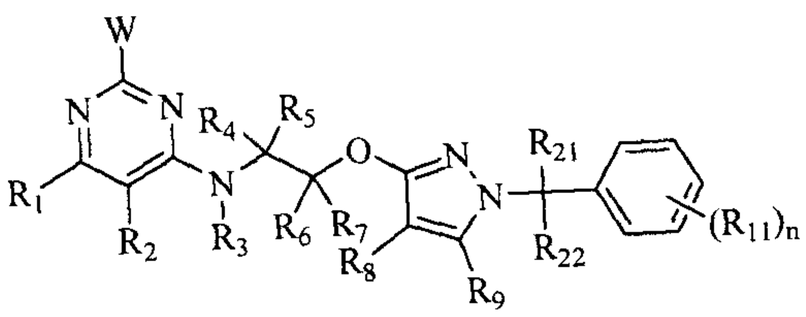
I-1B



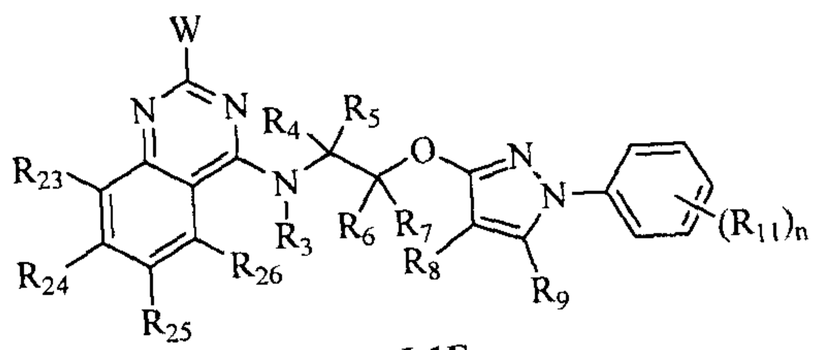
I-1C



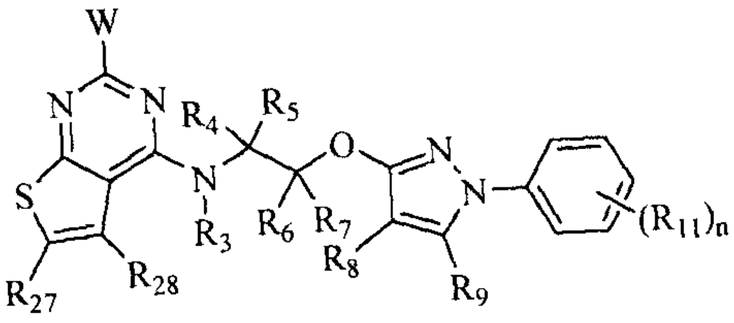
I-1D



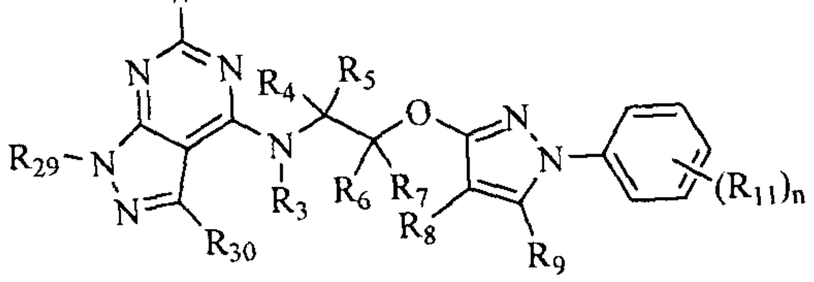
I-1E



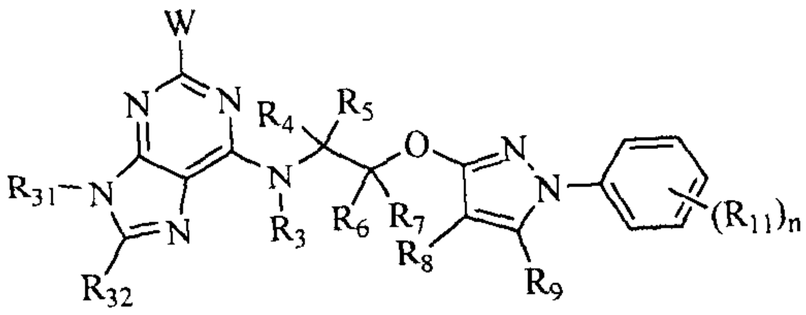
I-1F



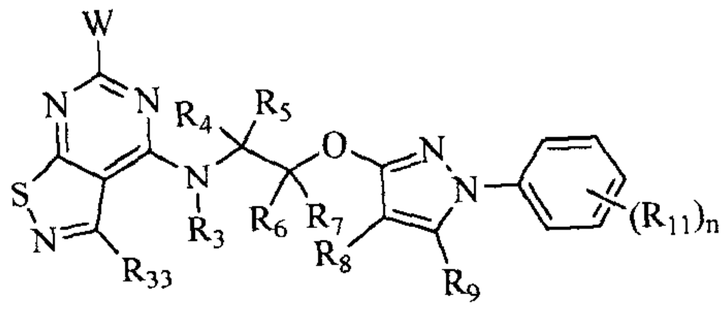
I-1G



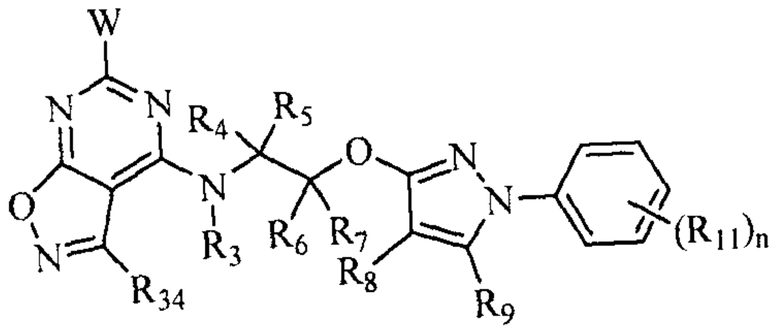
I-1H



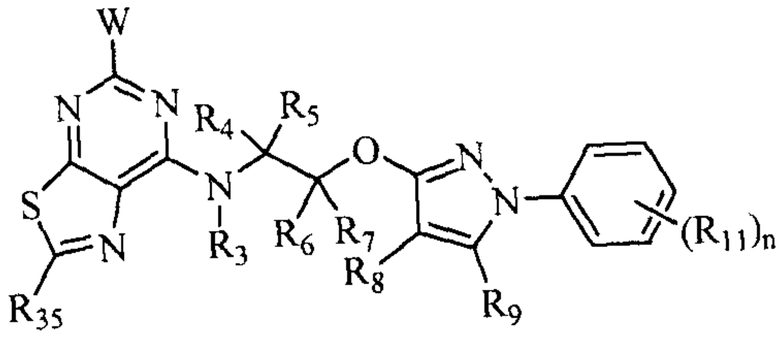
I-1I



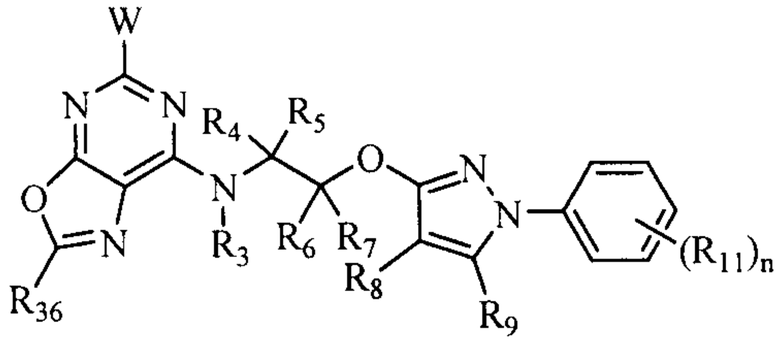
I-1J



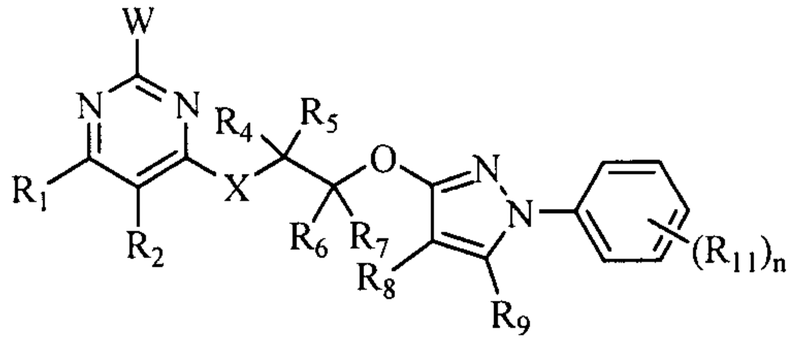
I-1K



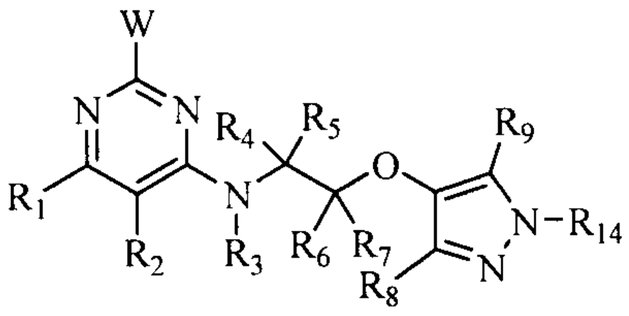
I-1L



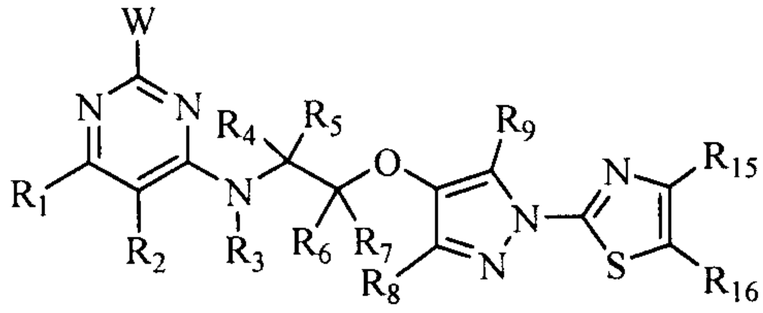
I-1M



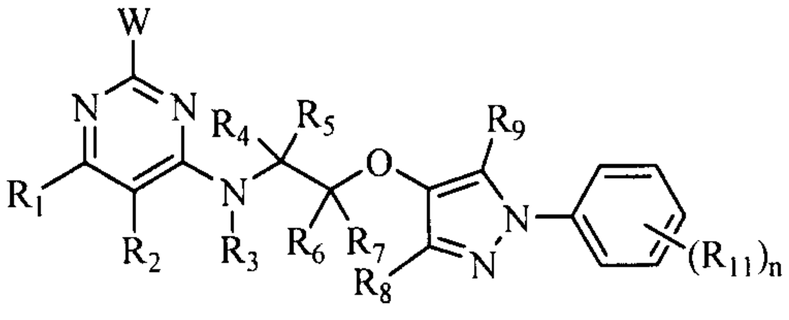
I-1N (X=O或 S)



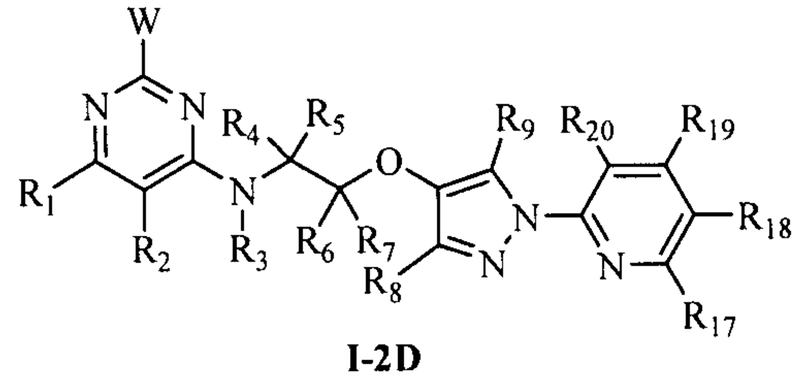
I-2A



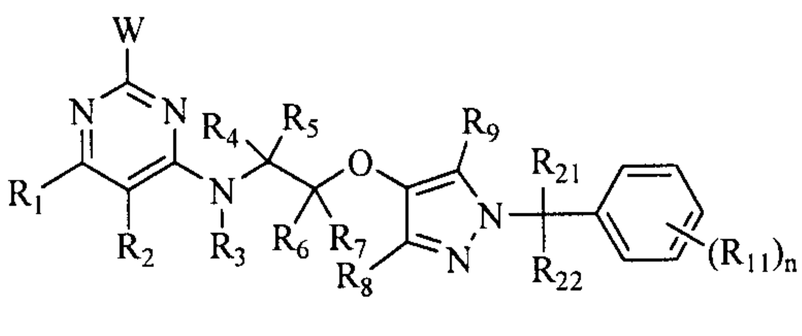
I-2B



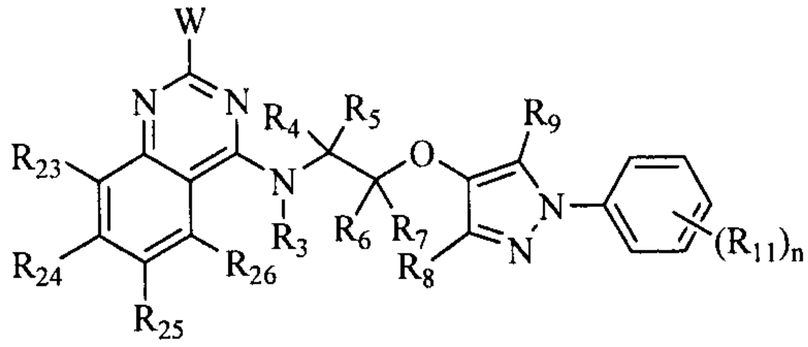
I-2C



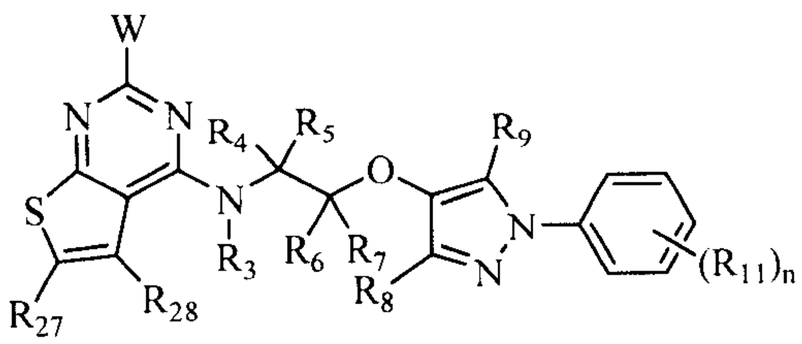
I-2D



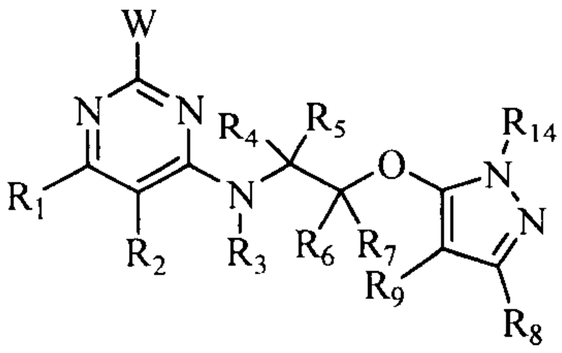
I-2E



I-2F



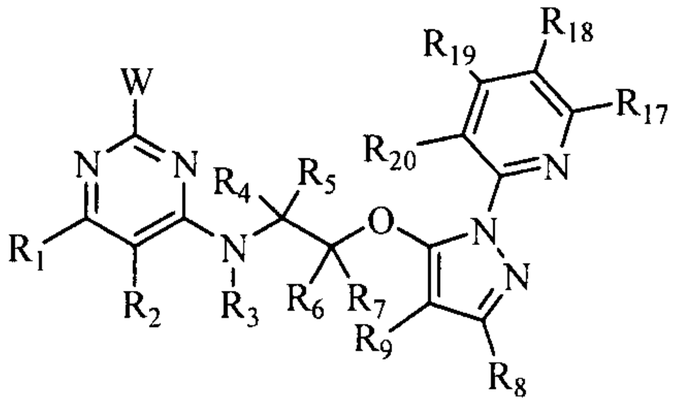
I-2G



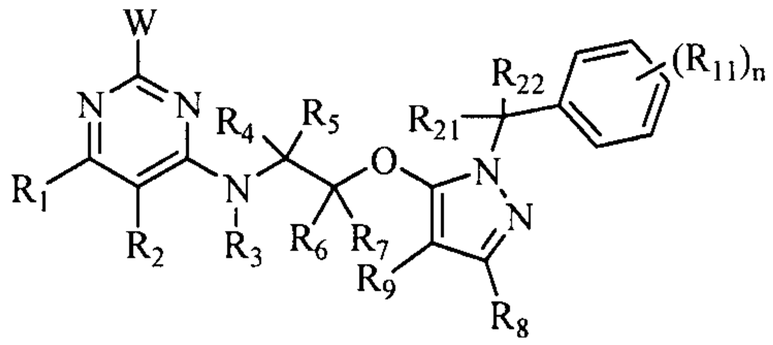
I-3A

I-3B

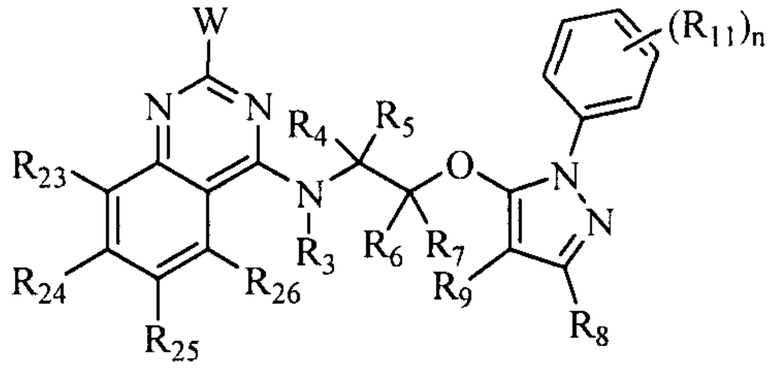
I-3C



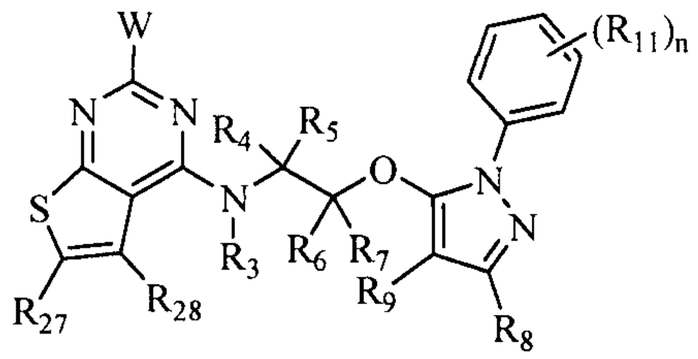
I-3D



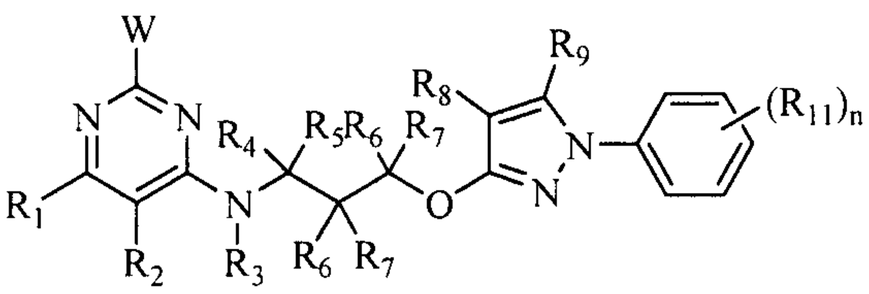
I-3E



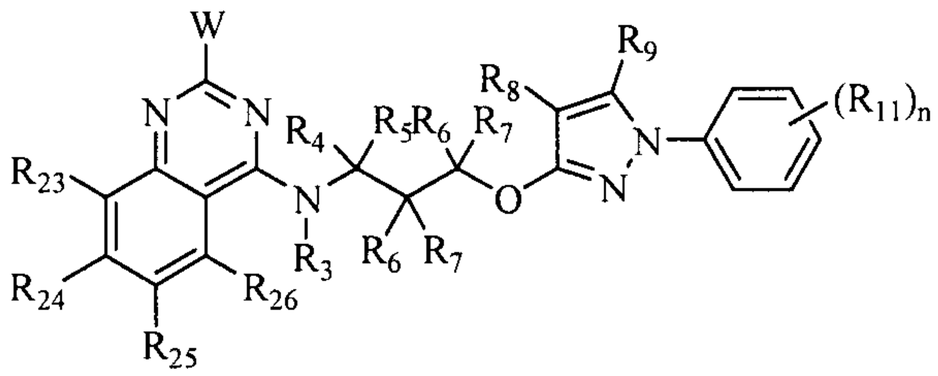
I-3F



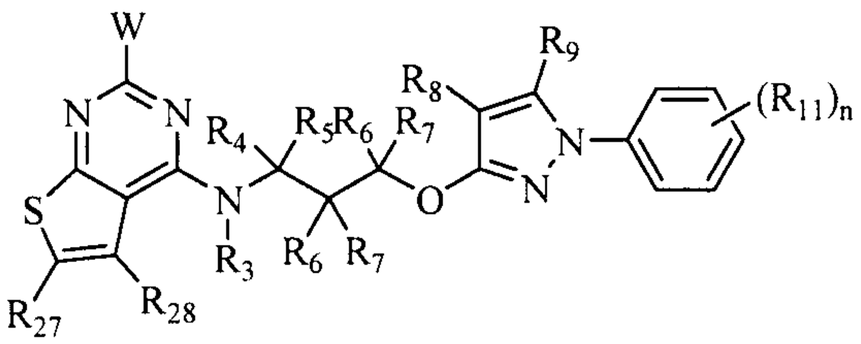
I-3G



I-4C



I-4F



I-4G

wherein:

$R_1$is selected from H, halogen, cyano, nitro,amino, carboxyl, C_1-C_4alkyl, haloC_1-C_4alkyl, C_3-C_4cycloalkyl, C_1-C_4alkoxy, haloC_1-C_4alkoxy, C_1-C_4alkylthio, haloC_1-C_4alkylthio,C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl,C_2-C_4alkenyl, haloC_2-C_4alkenyl, C_2-C_4alkynyl, haloC_2-C_4alkynyl, C_3-C_4alkenoxy, haloC_3-C_4alkenoxy, C_3-C_4alkynoxy, haloC_3-C_4alkynoxy, C_1-C_4alkylamino, di(C_1-C_4alkyl)amino, C_1-C_4alkylaminocarbonyl, haloC_1-C_4alkylaminocarbonyl, C_1-C_4alkoxycarbonyl, haloC_1-C_4alkoxycarbonyl, C_1-C_4alkoxyC_1-C_4alkyl or C_1-C_4alkylthioC_1-C_4alkyl;

R_2 is selected from H, halogen, cyano, nitro, amino, carboxyl, CHO, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy or haloC_1-C_4alkoxy;

R_3 is selected from H, OH, CHO, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy, haloC_1-C_4alkoxy, C_3-C_4cycloalkyl, C_1-C_4alkylthio, C_2-C_4alkenylthio, C_2-C_4alkenyl, C_2-C_4alkynyl, haloC_2-C_4alkenyl, haloC_2-C_4alkynyl, C_1-C_4alkoxyC_1-C_4alkyl, haloC_1-C_4alkoxyC_1-C_4alkyl, C_1-C_4alkylthioC_1-C_4alkyl, haloC_1-C_4alkylthioC_1-C_4alkyl, C_1-C_4alkylsulfinyl, haloC_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl,

haloC1-C4alkylsulfonyl, C1-C4alkylaminosulfonyl, di(C1-C4alkyl)aminosulfonyl, C1-C4alkylsulfonylaminocarbonyl, C1-C4alkylcarbonylaminosulfonyl, C3-C4cycloalkyloxycarbonyl, C1-C4alkylcarbonyl, haloC1-C4alkylcarbonyl, C1-C4alkoxycarbonyl, haloC1-C4alkoxycarbonyl, C1-C4alkylcarbonylC1-C4alkyl, C1-C4alkoxycarbonylC1-C4alkyl, C1-C4alkylaminocarbonyl, di(C1-C4alkyl)aminocarbonyl, C2-C4alkenoxycarbonyl, C2-C4alkynoxycarbonyl, C1-C4alkoxyC1-C4alkoxycarbonyl, C1-C4alkylaminothio, di(C1-C4alkyl)aminothio, unsubstituted or further substituted (hetero)arylcarbonylC1-C4alkyl, (hetero)arylcarbonyl, (hetero)aryloxycarbonyl, (hetero)arylC1-C4alkyloxycarbonyl or (hetero)arylC1-C4alkyl by 1 to 5 following groups: halogen, nitro, cyano, C1-C4alkyl, haloC1-C4alkyl, C1-C4alkoxy or haloC1-C4alkoxy;

R_4, R_5 may be the same or different, selected respectively from H, halogen, C1-C4alkyl, haloC1-C4alkyl, C1-C4alkoxy or haloC1-C4alkoxy; or R_4,R_5 and their conjointcarboncan also form a C3-C4 cycle;

R_6, R_7 may be the same or different, selected respectively from H, halogen, C1-C4alkyl, haloC1-C4alkyl, C1-C4alkoxy or haloC1-C4alkoxy; or R_6,R_7 and their conjointcarboncan also form a C3-C4 cycle;

$R_8$is selected from H, cyano, halogen, C1-C4alkyl, haloC1-C4alkyl, C1-C4alkoxycarbonyl, haloC1-C4alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_9 is selected from H, cyano, halogen, C1-C4alkyl, haloC1-C4alkyl, C1-C4alkoxycarbonyl, haloC1-C4alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{11} is selected from halogen, OH, amino, cyano, nitro, C1-C4alkyl, haloC1-C4alkyl, C1-C4alkoxy, haloC1-C4alkoxy, C3-C4cycloalkyl, C1-C4alkylamino, haloC1-C4alkylamino, di(C1-C4alkyl)amino, halodi(C1-C4alkyl)amino, C(=O)$NR_{12}R_{13}$, C1-C4alkylthio, haloC1-C4alkylthio, C2-C4alkenyl, C2-C4alkynyl, C2-C4alkenoxy, haloC2-C4alkenoxy, C2-C4alkynoxy, haloC2-C4alkynoxy, C1-C4alkylsulfonyl, haloC1-C4alkylsulfonyl, C1-C4alkylcarbonyl, haloC1-C4alkylcarbonyl, C1-C4alkoxycarbonyl, haloC1-C4alkoxycarbonyl, C1-C4alkoxyC1-C4alkyl, haloC1-C4alkoxyC1-C4alkyl, C1-C4alkylthioC1-C4alkyl, haloC1-C4alkylthioC1-C4alkyl, C1-C4alkoxycarbonylC1-C4alkyl, haloC1-C4alkoxycarbonylC1-C4alkyl, C1-C4alkylthiocarbonylC1-C4alkyl, haloC1-C4alkylthiocarbonylC1-C4alkyl, C1-C4alkylcarbonyloxy, haloC1-C4alkylcarbonyloxy, C1-C4alkoxycarbonyloxy, haloC1-C4alkoxycarbonyloxy, C1-C4alkylsulfonyloxy, haloC1-C4alkylsulfonyloxy, C1-C4alkoxyC1-C4alkoxy or haloC1-C4alkoxyC1-C4alkoxy;

The integer n is selected from 0 to 5, when n is 0, the benzene ring is unsubstituted phenyl; when n is more than 1, R_{11} may be the same or different;

R_{12}, R_{13} may be the same or different, selected respectively from H, C1-C4alkyl or haloC1-C4alkyl;

R_{14} is selected from C1-C4alkyl, C3-C4cycloalkyl, haloC1-C4alkyl,C1-C4alkylcarbonyl, haloC1-C4alkylcarbonyl, C1-C4alkylsulfonyl, haloC1-C4alkylsulfonyl, C1-C4alkoxycarbonyl, C1-C4alkoxyC1-C4alkyl or C1-C4alkoxycarbonylC1-C4alkyl;

R_{15}, R_{16} may be the same or different, selected respectively from H, halogen, amino, cyano, nitro, C1-C4alkyl, haloC1-C4alkyl, C1-C4alkoxy, haloC1-C4alkoxy, C1-C4alkylthio, haloC1-C4alkylthio, C3-C4cycloalkyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{17}, R_{18}, R_{19}, R_{20} may be the same or different, selected respectively from H, halogen, cyano,

nitro, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy or haloC_1-C_4alkoxy;

R_{21}, R_{22} may be the same or different, selected respectively from H, halogen, OH, cyano, nitro, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy, haloC_1-C_4alkoxy, C_1-C_4alkylthio, haloC_1-C_4alkylthio, C_3-C_4cycloalkyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{23}, R_{24}, R_{25}, R_{26} may be the same or different, selected respectively from H, halogen, OH, amino, cyano, nitro, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy, haloC_1-C_4alkoxyor C_3-C_4cycloalkyl;

R_{27}, R_{28} may be the same or different, selected respectively from H, halogen, C_1-C_4alkyl, haloC_1-C_4alkyl, C_1-C_4alkoxy, haloC_1-C_4alkoxy, C_1-C_4alkylthio, haloC_1-C_4alkylthio, C_3-C_4cycloalkyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{29} is selected fromC_1-C_4alkyl, haloC_1-C_4alkyl,C_3-C_4cycloalkyl, C_1-C_4alkylsulfonyl, haloC_1-C_4alkylsulfonyl, C_1-C_4alkylcarbonyl, haloC_1-C_4alkylcarbonyl, C_1-C_4alkoxycarbonyl, haloC_1-C_4alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{30} is selected from H, cyano, halogen, C_1-C_4alkyl, haloC_1-C_4alkyl,C_1-C_4alkoxycarbonyl, haloC_1-C_4alkoxycarbonyl,unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{31} is selected from C_1-C_4alkyl, haloC_1-C_4alkyl,C_3-C_4cycloalkyl, C_1-C_4alkylsulfonyl, haloC_1-C_4alkylsulfonyl, C_1-C_4alkylcarbonyl, haloC_1-C_4alkylcarbonyl, C_1-C_4alkoxycarbonyl, haloC_1-C_4alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{32} is selected from H, cyano, halogen, C_1-C_4alkyl, haloC_1-C_4alkyl,unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{33}, R_{34} may beselected respectively fromC_1-C_4alkyl, haloC_1-C_4alkyl,C_3-C_4cycloalkyl, C_1-C_4alkylcarbonyl, haloC_1-C_4alkylcarbonyl,C_1-C_4alkoxycarbonyl, haloC_1-C_4alkoxycarbonyl, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{35}, R_{36} may beselected respectively fromH, cyano, halogen, C_1-C_4alkyl, haloC_1-C_4alkyl,unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

W is selected from H, halogen, C_1-C_4alkyl, haloC_1-C_4alkyl, C_3-C_4cycloalkyl, C_1-C_4alkoxy, haloC_1-C_4alkoxy or C_1-C_4alkylsulfonyl;

The salts represented by general formula **I** are: the salts formed from the compounds represented bygeneral formula**I-1A**, **I-1B**, **I-1C**, **I-1D**, **I-1E**, **I-1F**, **I-1G**, **I-1H**, **I-1I**, **I-1J**, **I-1K**, **I-1L**, **I-1M**, **I-1N**, **I-2A**, **I-2B**, **I-2C**, **I-2D**, **I-2E**, **I-2F**, **I-2G**, **I-3A**, **I-3B**, **I-3C**, **I-3D**, **I-3E**, **I-3F**,**I-3G**, **I-4C**, **I-4F**or **I-4G**withhydrochloric acid, sulfuric acid, phosphoric acid, formic acid, acetic acid, trifluoroacetic acid, oxalic acid, methylsulfonic acid, *p*-toluenesulfonic acid, benzoic acid, alizaric acid, maleic acid, fumaric acid, sorbic acid, malic acid or citric acid.

5. The substituted pyrazole compounds containing pyrimidinyl according to the claim 4, characterized in that whereingeneral formula **I-1A, I-1B, I-1C, I-1D, I-1E, I-1F, I-1G, I-1H, I-1I, I-1J, I-1K, I-1L, I-1M, I-1N, I-2A, I-2B, I-2C, I-2D, I-2E, I-2F, I-2G, I-3A, I-3B, I-3C, I-3D, I-3E, I-3F, I-3G, I-4C, I-4F**or **I-4G:**

wherein:

$R_1$is selected from H, F, Cl, Br, I, CN, NO_2, NH_2, carboxyl, CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CH_2F, CH_2Cl, CHF_2, CF_3, CH_2CF_3, CH_2OCH_3, $CH_2OCH_2CH_3$ or $CH_2OCH_2CF_3$;

R_2 is selected from H, F, Cl, Br, I,CN, NO_2, NH_2, carboxyl, CHO, CH_3, C_2H_5, OCH_3, OC_2H_5 or OCH_2CF_3;

R_3 is selected from H, OH, CHO, $COCH_3$, COC_2H_5, COC_3H_7, $COCF_3$, COPh, CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, CF_3, CH_2CF_3, OCH_3, OC_2H_5, OCH_2CF_3, , SCH_3, SC_2H_5,$CH_2CH{=}CH_2$,$CH_2C \equiv CH$,SO_2CH_3, $SO_2CH_2CH_3$, $SO_2CH_2CF_3$,SO_2NHCH_3, $SO_2NHC_2H_5$, $SO_2N(CH_3)_2$, $SO_2N(C_2H_5)_2$, $CONHSO_2CH_3$, $COOCH_3$, $COOC_2H_5$, $COOC_3H_7$-n, $COOC_3H_7$-i, $CONHCH_3$, $CON(CH_3)_2$, $COOCH{=}CH_2$,$COOC \equiv CH$,$SNHCH_3$, $SNHC_2H_5$or $SN(CH_3)_2$;

R_4, R_5 may be the same or different, selected respectively fromH, F, Cl, Br, I, CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, OCH_3, OC_2H_5, n-C_3H_7O, i-C_3H_7O, n-C_4H_9O, s-C_4H_9O, i-C_4H_9O or t-C_4H_9O;

R_6, R_7 may be the same or different, selected respectively from H, F, Cl, Br, I, CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, OCH_3, OC_2H_5, n-C_3H_7O, i-C_3H_7O, n-C_4H_9O, s-C_4H_9O, i-C_4H_9O or t-C_4H_9O;

R_8 is selected from H, CN, F, Cl, Br, I, CH_3, C_2H_5 or CF_3;

R_9 is selected from H, CN, F, Cl, Br, I, CH_3, C_2H_5 or CF_3;

R_{11} is selected from F, Cl, Br, I, CN, NH_2, NO_2,CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CF_3, CCl_3, CF_2Cl, $CFCl_2$, OCH_3, OCH_2CH_3, n-C_3H_7O, i-C_3H_7O, n-C_4H_9O, s-C_4H_9O, i-C_4H_9O, t-C_4H_9O, OCF_3, OCH_2CF_3,$COOCH_3$, $COOC_2H_5$,$CONH_2$, $CONHCH_3$, $CONHC_2H_5$ or $CON(CH_3)_2$;

the integer n is selected from 0 to 5, when n is 0, the benzene ring is unsubstituted phenyl; when n is more than 1, R_{11} may be the same or different;

R_{14} is selected from CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, cyclopropyl, cyclobutyl, CH_2F, CH_2Cl, CHF_2, CF_3or CH_2CF_3;

R_{15}, R_{16} may be the same or different, selected respectively from H, F, Cl, Br, I, NH_2, CN, NO_2, CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CF_3, CCl_3, CF_2Cl, $CFCl_2$, CH_2CF_3, OCH_3,OCH_2CH_3, n-C_3H_7O, i-C_3H_7O, n-C_4H_9O, s-C_4H_9O, i-C_4H_9O, t-C_4H_9O, OCF_3, OCH_2CF_3,unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{17}, R_{18}, R_{19}, R_{20} may be the same or different, selected respectively from H, F, Cl, Br, I, CN, NO_2, CH_3, CF_3, OCH_3 or OCF_3;

R_{21}, R_{22} may be the same or different, selected respectively from H,F, Cl, Br, I, OH, CN, NO_2,CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CF_3, CCl_3, CF_2Cl, $CFCl_2$, CH_2CF_3, OCH_3, OCH_2CH_3, n-C_3H_7O, i-C_3H_7O, n-C_4H_9O, s-C_4H_9O, i-C_4H_9O, t-C_4H_9O, OCF_3, OCH_2CF_3, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{23}, R_{24}, R_{25}, R_{26} may be the same or different, selected respectively from H, F, Cl, Br, I, NH_2, CN, NO_2, CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CF_3, CCl_3, CF_2Cl, $CFCl_2$, OCH_3, OCH_2CH_3, n-C_3H_7O, i-C_3H_7O, n-C_4H_9O, s-C_4H_9O, i-C_4H_9O, t-C_4H_9O, OCF_3 or OCH_2CF_3;

R_{27}, R_{28} may be the same or different, selected respectively from H, F, Cl, Br, I,CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CF_3, CCl_3, CF_2Cl, $CFCl_2$, CH_2CF_3, OCH_3, OCH_2CH_3, n-C_3H_7O, i-C_3H_7O, n-C_4H_9O, s-C_4H_9O, i-C_4H_9O, t-C_4H_9O, OCF_3, OCH_2CF_3,

unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{29} is selected from CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CF_3, CCl_3, CF_2Cl, $CFCl_2$, cyclopropyl, SO_2CH_3, $SO_2CH_2CH_3$, $COCH_3$, COC_2H_5, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{30} is selected from H, CN, F, Cl, Br, I, CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, CF_3, CCl_3, CF_2Cl, $CFCl_2$, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{31} is selected from CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CF_3, CCl_3, CF_2Cl, $CFCl_2$, cyclopropyl, SO_2CH_3, $SO_2CH_2CH_3$, $COCH_3$, COC_2H_5, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{32} is selected from H, CN, F, Cl, Br, I,CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, CF_3, CCl_3, CF_2Cl, $CFCl_2$, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{33}, R_{34} may beselected respectively from CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, CF_3, CCl_3, CF_2Cl, $CFCl_2$, cyclopropyl, $COCH_3$, COC_2H_5, $COOCH_3$, $COOC_2H_5$, $COOCH_2CF_3$, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

R_{35}, R_{36} may beselected respectively fromH, CN, F, Cl, Br, I,CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9,CF_3, CCl_3, CF_2Cl, $CFCl_2$, unsubstituted or further substituted (hetero)aryl, (hetero)arylmethyl, (hetero)arylcarbonyl, (hetero)arylmethylcarbonyl or (hetero) aryloxycarbonyl by 1 to 5 R_{11};

W is selected from H, F, Cl, Br, I,CH_3, C_2H_5, n-C_3H_7, i-C_3H_7, n-C_4H_9, s-C_4H_9, i-C_4H_9, t-C_4H_9, CH_2F, CH_2Cl, CHF_2, CF_3, CH_2CF_3, OCH_3, OC_2H_5, SCH_3, SC_2H_5, SO_2CH_3 or $SO_2CH_2CH_3$;

the salts represented by general formula **I** are: the salts formed from the compounds represented bygeneral formula **I-1A, I-1B, I-1C, I-1D, I-1E, I-1F, I-1G, I-1H, I-1I, I-1J, I-1K, I-1L, I-1M, I-1N, I-2A, I-2B, I-2C, I-2D, I-2E, I-2F, I-2G, I-3A, I-3B, I-3C, I-3D, I-3E, I-3F, I-3G, I-4C, I-4F**or**I-4G**withhydrochloric acid, sulfuric acid, phosphoric acid,formic acid, acetic acid, trifluoroacetic acid, oxalic acid, methylsulfonic acid, *p*-toluenesulfonic acid, benzoic acid, alizaric acid, maleic acid, fumaric acid,sorbic acid, malic acid or citric acid.

6. The substituted pyrazole compounds containing pyrimidinyl according to the claim 5, characterized in that wherein general formula**I-1C**, **I-1F**, **I-1G**,**I-2C**, **I-2F**, **I-2G**, **I-4C**, **I-4F** or **I-4G**:

$R_1$is selected from H, F, Cl, Br, I, CH_3, C_2H_5 or CHF_2;

$R_2$is selected from H, F, Cl, Br, I, NO_2, NH_2, CHO, CH_3, C_2H_5, OCH_3 or OC_2H_5;

R_3 is selected from H, CH_3, $COCH_3$, $COCF_3$, OCH_3, SCH_3, $CH_2CH{=}CH_2$, SO_2CH_3, SO_2NHCH_3, $SO_2N(CH_3)_2$, $COOCH_3$, $CONHCH_3$, $CON(CH_3)_2$, $SNHCH_3$ or $SN(CH_3)_2$;

R_4, R_5 may be the same or different, selected respectively fromH, F, Cl, Br or CH_3;

R_6, R_7 are H;

R_8 is H;

R_9 is H;

R_{11} is selected from F, Cl, Br, I, CN, NO_2,CH_3, CF_3, OCH_3 or OCF_3;

The integer n is selected from 0 to 5, when n is 0, the benzene ring is unsubstituted phenyl; when n is more than 1, R_{11} may be the same or different;

R_{23}, R_{24}, R_{25}, R_{26} may be the same or different, selected respectively from H, F, Cl, Br, I or CH_3;

R_{27}, R_{28} may be the same or different, selected respectively from H, F, Cl, Br or I;

W is selected from H, F, Cl, Br, I or CH_3;

the salts represented by general formula **I** are: the salts formed from the compounds represented bygeneral formula **I-1C**, **I-1F**, **I-1G**, **I-2C**, **I-2F**, **I-2G**, **I-4C**, **I-4F** or **I-4G** with hydrochloric acid, sulfuric acid, phosphoric acid, formic acid, acetic acid, trifluoroacetic acid, oxalic acid, methylsulfonic acid, *p*-toluenesulfonic acid, benzoic acid, alizaric acid, maleic acid, fumaric acid, sorbic acid, malic acid or citric acid.

7. The substituted pyrazole compounds containing pyrimidinyl according to the claim 5, characterized in that wherein general formula **I-1C**, **I-1F**, **I-1G**, **I-2C**, **I-2G**, **I-4C**, **I-4F**or**I-4G**:

R_1 is selected from F, Cl, Br, I, CH_3, C_2H_5 or CHF_2;

R_2 is selected from F, Cl, Br, I, NO_2, NH_2, CHO, CH_3 or OCH_3;

R_3 is selected from H, CH_3, $COCH_3$, OCH_3, $CH_2CH{=}CH_2$, SO_2CH_3, $COOCH_3$, $CONHCH_3$, $CON(CH_3)_2$ or $SN(CH_3)_2$;

R_4, R_5 may be the same or different, selected respectively fromH or CH_3;

R_6, $R_7$are H;

R_8 is H;

R_9 is H;

R_{11} is selected from F, Cl, Br, I, CN, NO_2, CH_3, CF_3, OCH_3 or OCF_3;

The integer n is selected from 1 to 5, when n is more than 1, R_{11} may be the same or different;

R_{23}, R_{24}, R_{25}, R_{26} are H;

R_{27} is H;

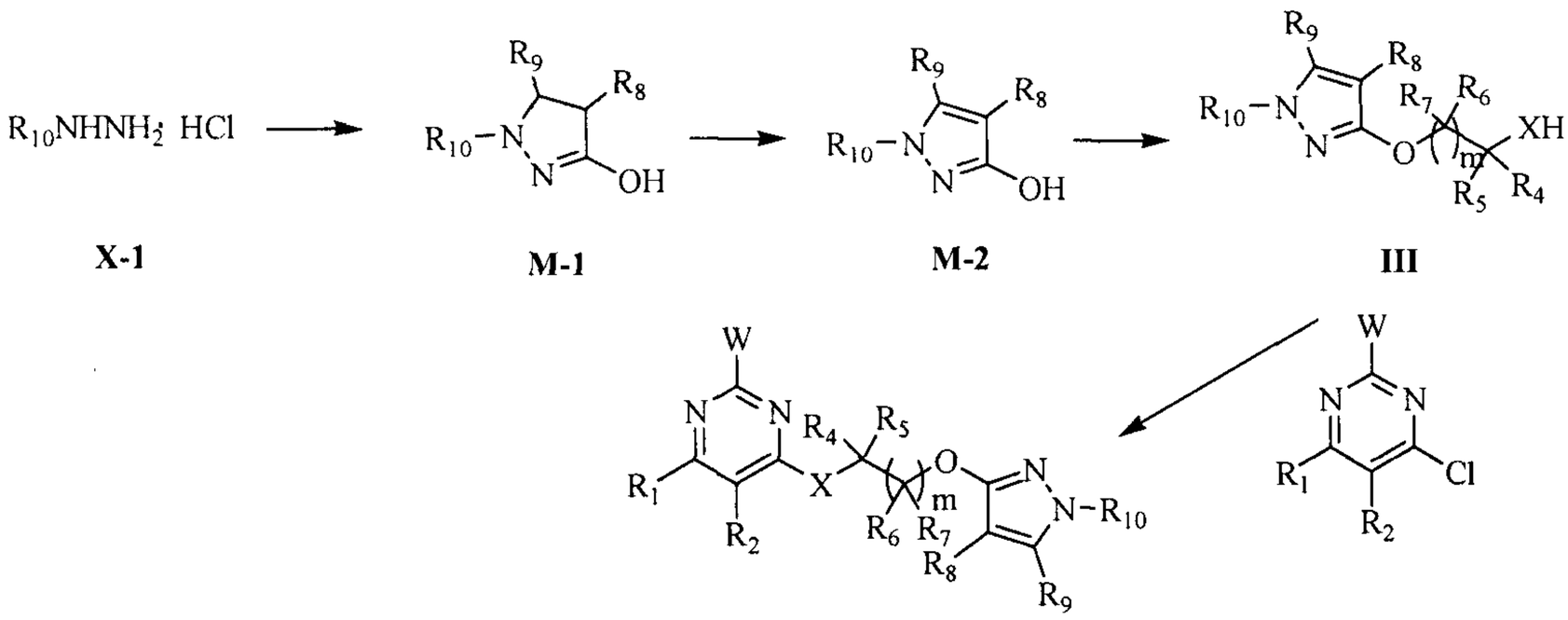
R_{28} is Cl;

W is selected from H, F, Cl, Br or I;

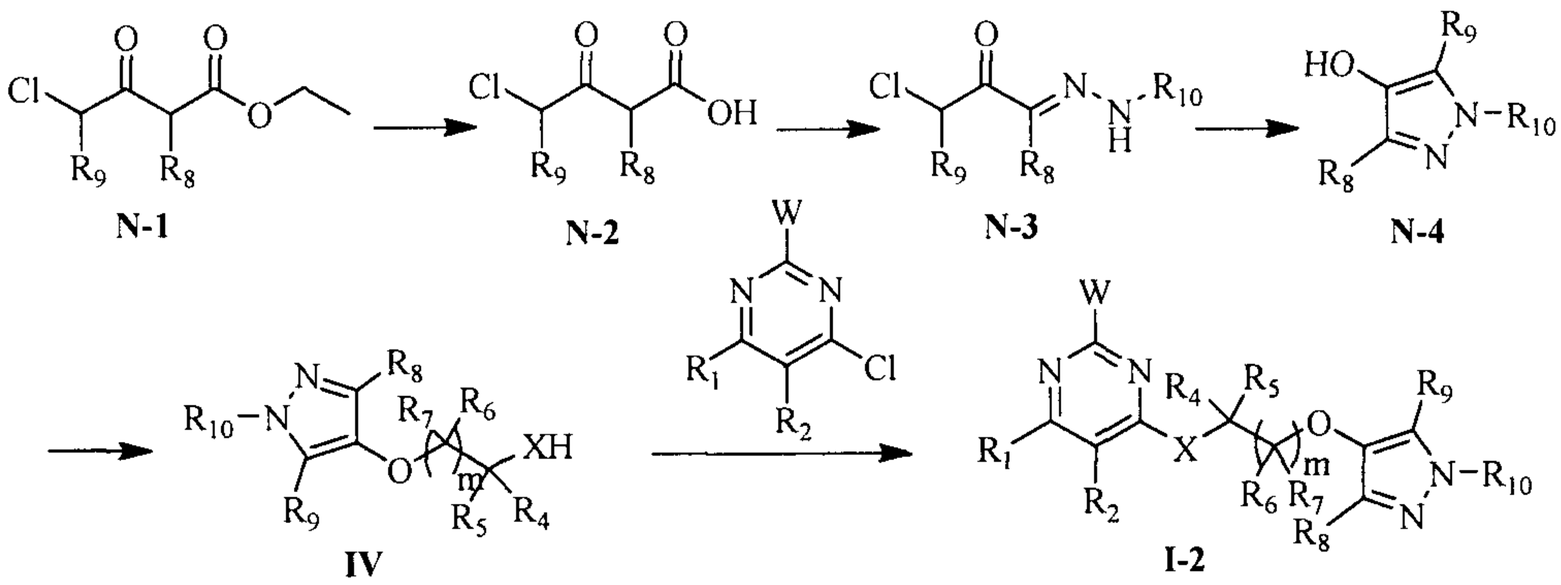
the salts represented by general formula **I** are: the salts formed from the compounds represented bygeneral formula**I-1C**, **I-1F**, **I-1G**, **I-2C**, **I-2G**, **I-4C**, **I-4F**or**I-4G**withhydrochloric acid, sulfuric acid, phosphoric acid, formic acid, acetic acid, trifluoroacetic acid, oxalic acid, methylsulfonic acid, *p*-toluenesulfonic acid, benzoic acid, alizaric acid, maleic acid, fumaric acid, sorbic acid, malic acid or citric acid.

8. A preparation method of the substituted pyrazole compounds containing pyrimidinyl according to the claim 3, characterized in that:

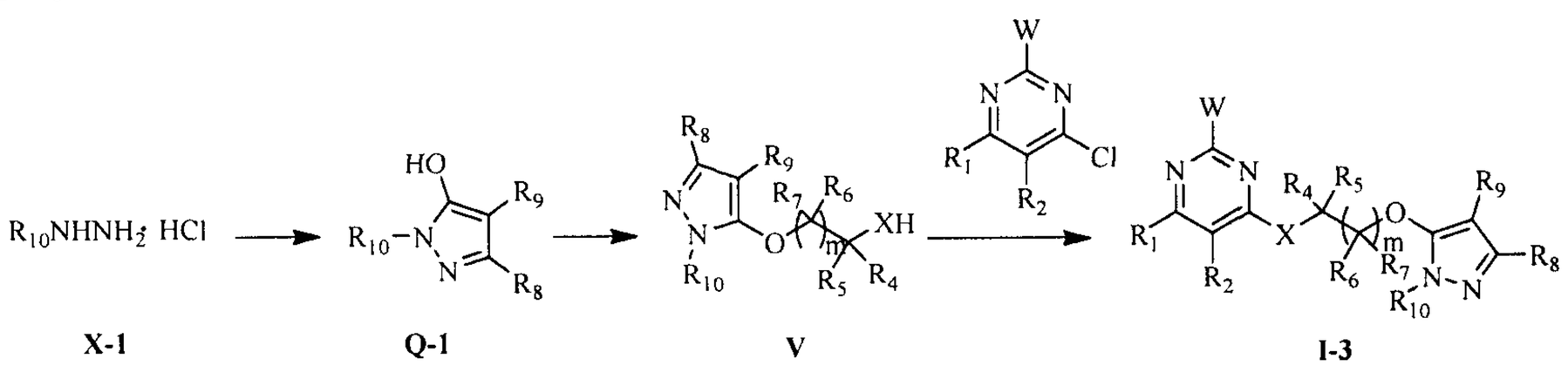
the preparation method of the general formula **I-1** is as follows:



the preparation method ofthe general formula **I-2** is as follows:



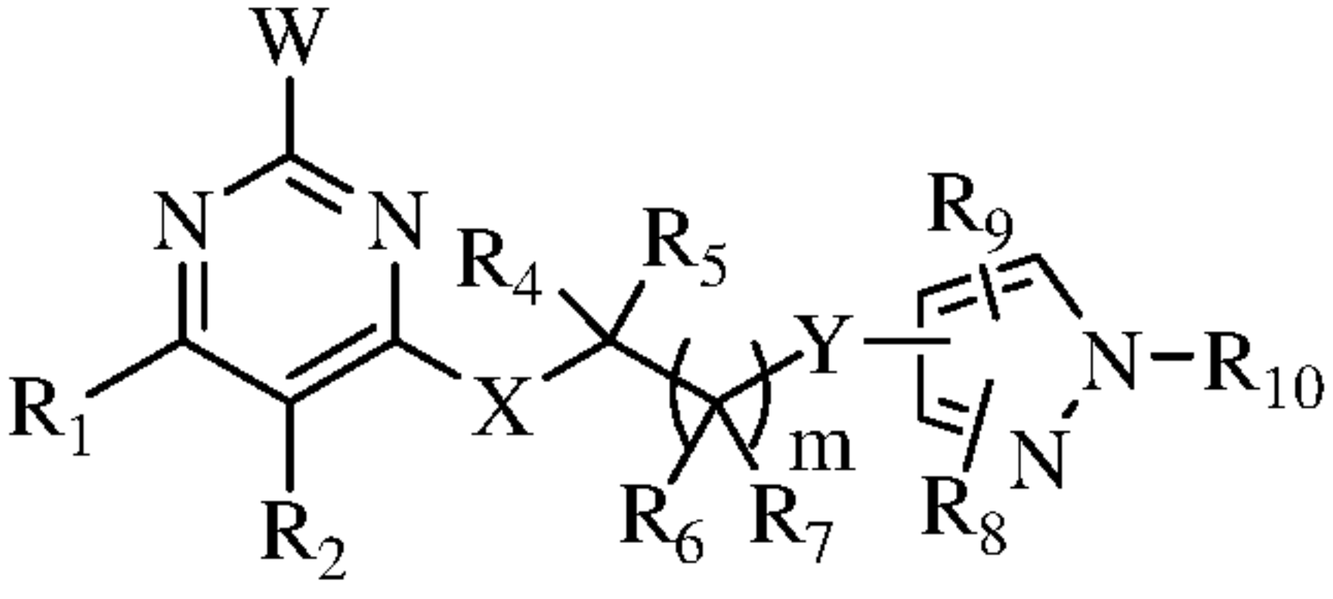
the preparation method of the general formula **I-3** is as follows:



9. According to one of the claims 1-7, a use of substituted pyrazole compounds containing pyrimidinylto prepare fungicides, insecticides/acaricides in agricultural or other fields.

10. According to one of the claims 1-7, acomposition of fungicides, insecticides/acaricides, characterized in containing the substituted pyrazole compounds containing pyrimidinyl represented by general formula Ias an active ingredient and acceptable carrier, wherein the weight percentage of the active ingredient in the composition is0.1-99%.

11. According to the claim 10, a use of the composition to prepare fungicides, insecticides/acaricides in agricultural or other field.



I