

[illegible]

B: Tác động đến Cytoskeleton và kiểm soát Proteins

B1: tubulin polymerization
1: Các thuốc trừ nấm MBC (= Methyl Benzimidazole Carbamates)

benzimidazoles

fuberidazole

benomyl

carbendazim

thiabenzazole

thiophanate-methyl

thiophanate

thiophanate

thiophanate

Nhóm 1

B2: tubulin polymerization*
10 N-phenyl carbamates

diethofencarb

*negative cross-resistance to B1

Nhóm 10

B4:
phân chia tế bào
(Vị trí chưa rõ)
20 phenylureas

penicucuron

phenylurea

Nhóm 20

B3:
tubulin polymerization
22 benzimidazoles and thiazole carboxamides

zoxamide

tolamidine

ethaboxam

ethylamino-thiazole carboxamide

Nhóm 22

B5: định vị các protein spectrin-like
43 benzimides

fluopimomide

pyridinylmethyl benzamides

fluopicolide

Nhóm 43

B6: chức năng actin/myosin/fibrin
47 cyanoacrylates

phenamacril

aminocynoacrylates

Nhóm 47

B6:
50 aryl-phenyl-ketones

pyriofenone

benzoylpyridine

metrafenone

benzophenone

Nhóm 50

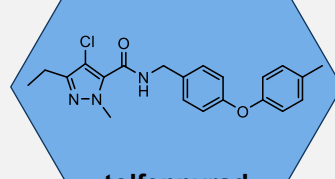
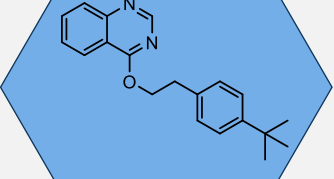
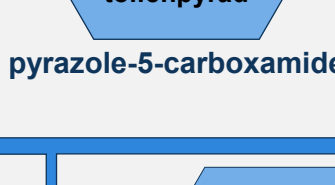
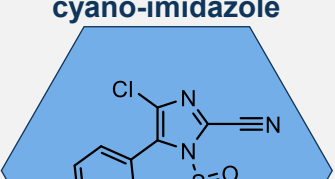
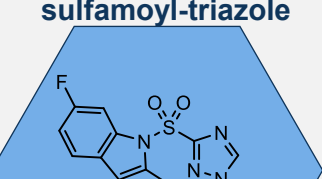
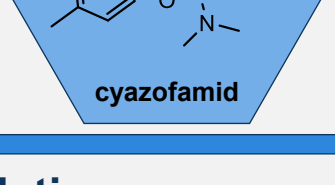
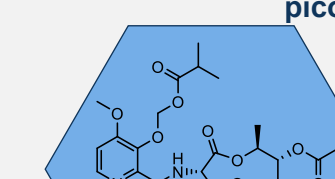
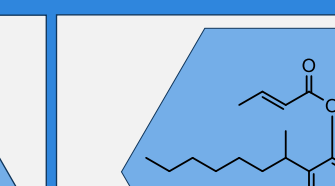
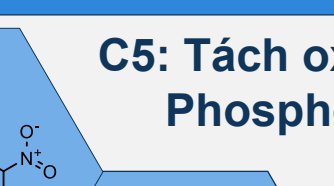
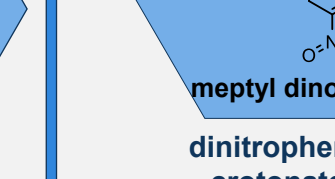
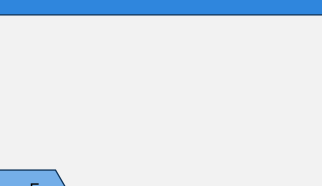
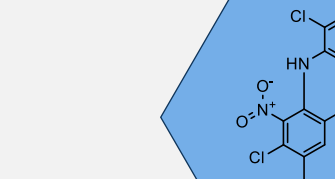
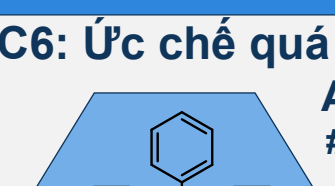
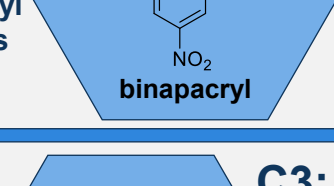
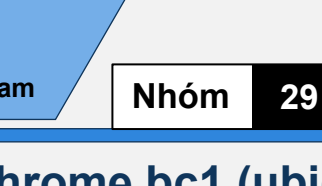
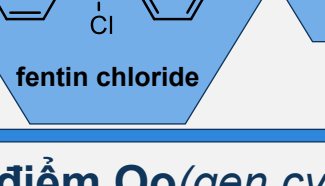
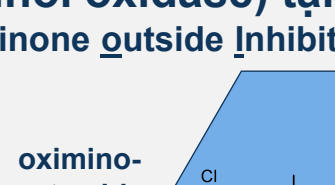
B7: điều tiết vận động tubulin
53 pyridazine

pyridacholometyl

pyridazine

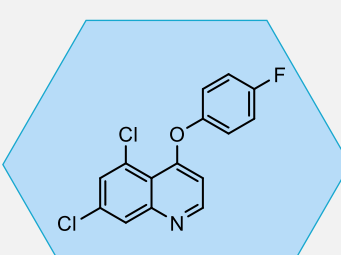
Nhóm 53

[illegible]

C1: Phức hợp I NADH Oxi-dore-tase # 39 pyrimidinamines, pyrazole-MET1, quinoxaline    pyrimidinamine pyrazole-5-carboxamide quinoxaline Nhóm 39	C4: Phức hợp III cytochrome bc1<i>i</i> (ubiquinone reductase) tại điểm Qi # 21 Thuốc trừ nấm Q<i>i</i> (Quinone inside Inhibitors)    cyano-imidazole sulfamoyl-triazole picolinamide cyazofamid amisulbrom fenpicoxamid florypicoxamid	C8:ức chế phức hợp III cytochrome bc1 (ubiquinone reductase) tại điểm Qi và Qo (điểm phụ nối stigmatellin) # 45 Q<i>i</i>/S<i>i</i>-fungicide (Quinone inside and outside inhibitor, stigmatellin binding mode)  ametoctradin triazolo-pyrimidinamine Nhóm 45
C5: Tách oxidative Phosphorylation # 29    meptyl dinocap dinitrophenyl crotonates binasapryl	C6: Ức chế quá trình phosphoryl hóa oxy, ATP synthase # 30 organo tins    fenitin acetate fenitin chloride fenitin hydroxide Nhóm 29 Nhóm 30	C7: Vận chuyển ATP (đề xuất) # 38 thiophene-carboxamides  siltiofame Nhóm 38
C3: Phức hợp III cytochrome bc1<i>i</i> (ubiquinol oxidase) tại điểm Qo (gen cyt b) # 11 Thuốc trừ nấm Q<i>o</i> (Quinone outside Inhibitors)    fluindapyr inpyrflumax trifluram phenyl-butyl amide benzodanil phenyl-benzamides mepronil flutolanil Nhóm 7	C3: Phức hợp III cytochrome bc1<i>i</i> (ubiquinol oxidase) tại điểm Qo (gen cyt b) # 11 Thuốc trừ nấm Q<i>o</i> (Quinone outside Inhibitors)    coumoxystrobin enoxystrobin picoxystrobin pyraoxystrobin flufoxystrobin methoxy-acrylates azoxystrobin oximinio-acetamides fenaminostrobin orysastrobin dimoxystrobin metominostrobin pyrametostrobin triclopyricarb pyraclostrobin methyletrazole methoxy-acetamides imidazolinones benzy-carbamates Nhóm 29 Nhóm 30 Nhóm 11 Nhóm 11A	C3: Phức hợp III cytochrome bc1<i>i</i> (ubiquinol oxidase) tại điểm Qo (gen cyt b) # 11 Thuốc trừ nấm Q<i>o</i> (Quinone outside Inhibitors)    fluoxastrobin fenoxydione fenamidone Nhóm 29 Nhóm 30 Nhóm 11 Nhóm 11A

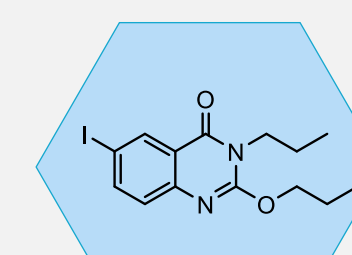
E2: Truyền tín hiệu (cơ chế chưa biết)

#13 azanaphthalenes



aryloxyquinoline

quinoxyfen



quinazolinone

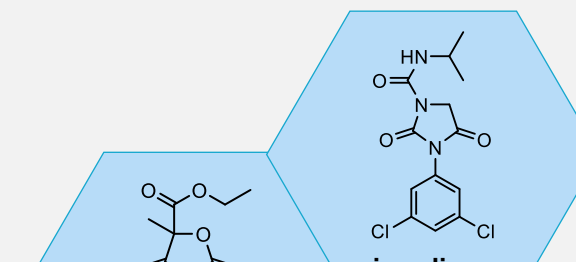
proquinazid

Nhóm **13**

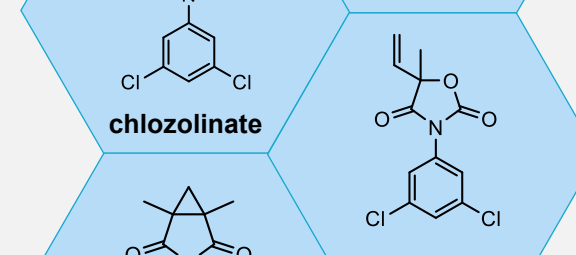
E3: Truyền tín hiệu nghiêm trọng thảo luận

☒ MAP / histidine kinase (os-1, Daf1)

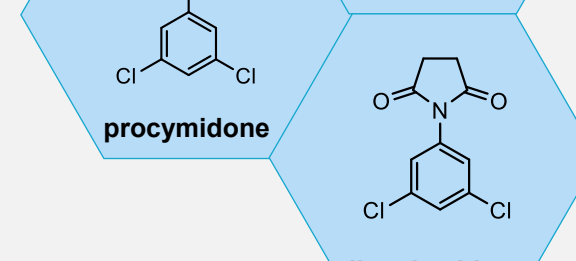
#2 dicarboximides



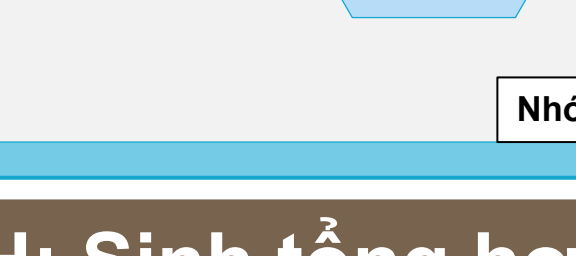
iprodione



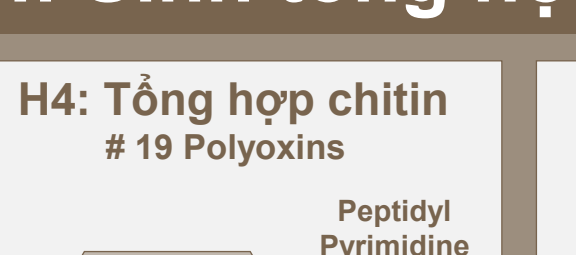
chlozolinat



vinclozolin



procymidone

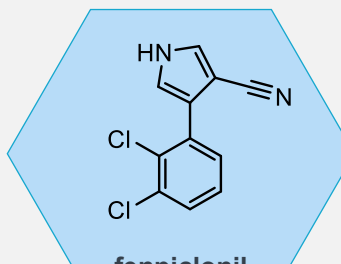


dimethachione

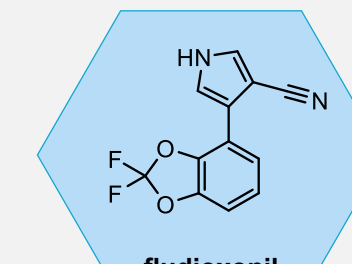
E2: osmotic signal transduction

☒ MAP / histidine- kinase (os-2, HOG1)

#12 phenylglyroles (PP- fungicides)



fenpiclonil



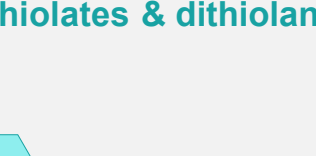
fludioxonil

Nhóm **12**

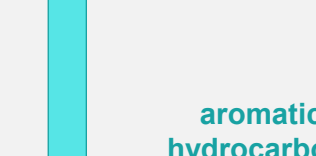
Nhóm **2**

F2: Sinh tổng hợp phosphoribitol & methyltransferase

6 phosphorothiolates & dithiolanes



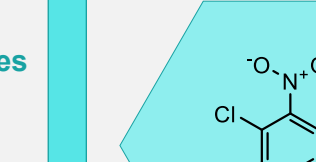
pyrazophos



iprofenos



edifenphos



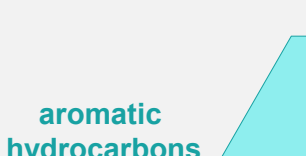
dithiolanes



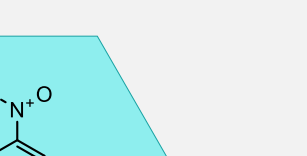
isoprothiolane

F3: Peroxid hóa tảo bào (đề xuất)

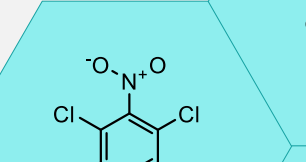
14 aromatic hydrocarbons & heteroaromatics



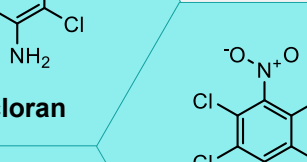
aromatic hydrocarbons



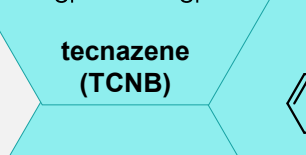
dicloran



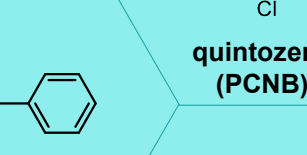
tecnazene (TCNB)



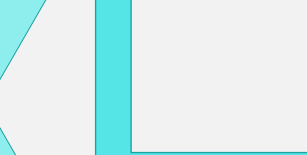
quintozone (PCNB)



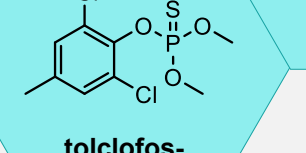
biphenyl



tolclorfen-methyl



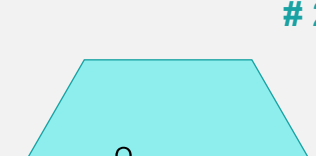
chloroneb



etridiazole

F4: Thẩm thấu màng tế bào peroxell axit béo (đề xuất)

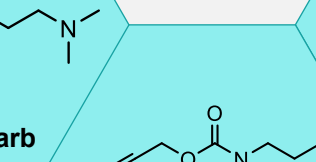
28 carbamates



prothiocarb



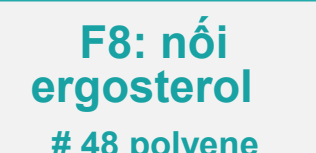
propamocarb



lodocarb

F8: nôi ergosterol

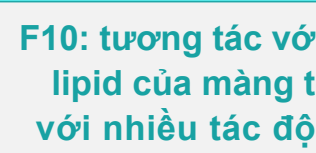
48 polyene



natamycin (pimaricin)

F10: tương tác với phân lipid của màng tế bào, với nhiều tác động đến tính toàn vẹn của màng tế bào

51 protein fragment



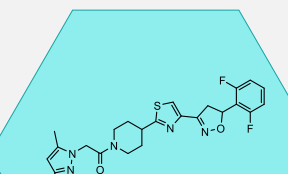
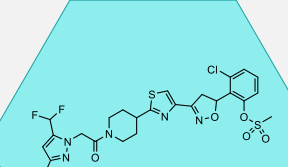
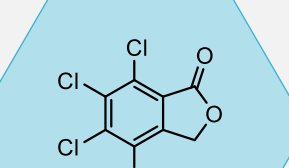
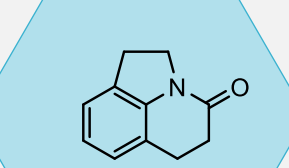
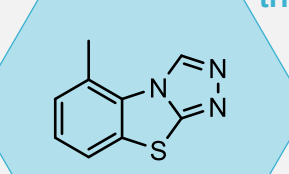
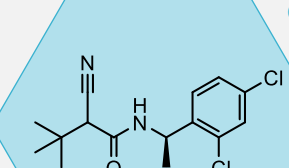
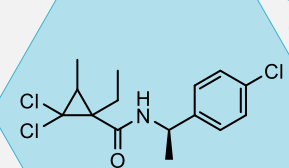
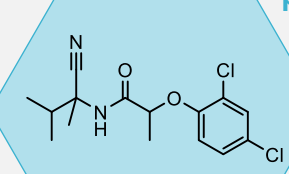
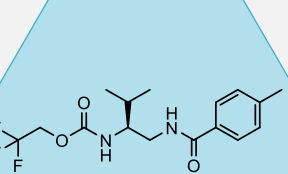
Polypeptide ASFBIOF01-02

Nhóm 6

Nhóm 14

Nhóm 48

Nhóm 51

F9: Cân bằng nội môi lipid và vận chuyển lưu trữ # 49 OSBP1 Oxysterol binding protein homologue inhibition  oxathiapiprolin  fluoxapiprolone Piperidinyl thiazole - isoxazoline Nhóm 49	I1: Khử trung sinh tổng hợp hắc tố # 16.1 Melanin Biosynthesis Inhibitors: Reductase (MBI-R)  tthalide  pyrrolo-quinolone  tricyclazole isobenzofuranone pyrrolo-quinolone triazolobenzothiazole Nhóm 16.1	I2: Khử âm trung sinh tổng hợp hắc tố # 16.2 Melanin Biosynthesis Inhibitors: Dehydrodrase (MBI-D)  diclocymet  carpropamid  fenoxanil carboxamide cyclopropane carboxamide propionamide Nhóm 16.2	I3: Tổng hợp polyketide trong hắc tố sinh tổng hợp # 16.3 Melanin Biosynthesis Inhibitors: Polyketide synthase (MBI-P)  tolprocarb trifluoroethyl-carbamate Nhóm 16.3
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G1: C14-demethylase trong sinh tổng hợp sterol (*erg11/cyp51*)
3 DMI-fungicides (DeMethylation Inhibitors) (SBI : Class I)

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G2: G2¹⁴-reductase và 8¹⁴ 8¹⁴-isomerase trong sinh tổng hợp sterol (*erg2, erg 24*)
5 Amines("Morpholines") (SBI : Class II)

Nhóm 5

G3:3-keto reductase in C4-de-methylation (*erg27*)
17 (KRI) fungicides KetoReductase Inhibitors) (SBI : Class III)

G4: squalene epoxidase in sterol biosynthesis (*erg1*)
18 (SBI : Class IV)

Nhóm 18

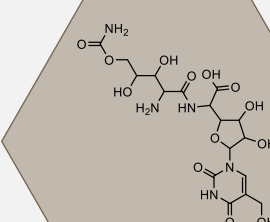
Nhóm 3

Nhóm 17

H4: Tổng hợp chitin

19 Polyoxins

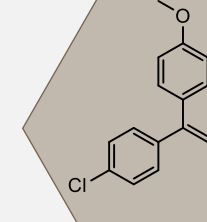
Peptidyl
Pyrimidine
nucleoside



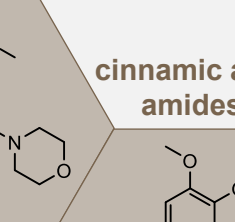
Polyoxin

H5: Tổng hợp cellulose

40 Carboxylic Acid Amides (CAA fungicides)



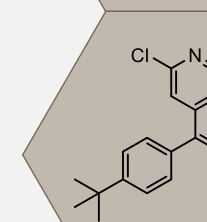
cinnamic acid amides



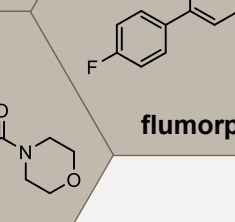
dimethomorph



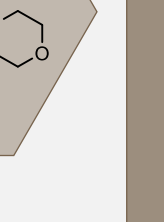
flumorph



pyrimorph

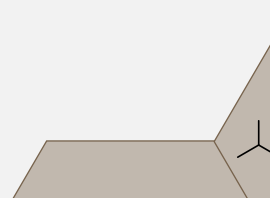


valinamate carbamates

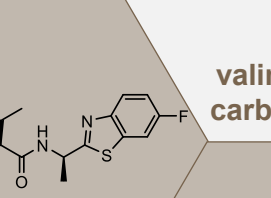


mandipropamid

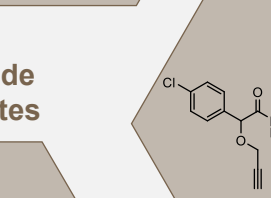
Nhóm 19



iprovalicarb



benthialvalicarb



valifenalate

Nhóm 40

The diagram is a grid of 16 chemical structures, each with a label and a biological activity. The structures are arranged in a 4x4 grid, with each structure in a green hexagon. The labels are in a light blue box, and the biological activities are in a light blue box. The structures are:

- P01: benzothiadiazole related**
*c1ccc2c(c1)sc(s2)S(=O)(=O)c3ccccc3
#P01 benzothiadiazole BTH
- P03: thiadiazole carboxamide**
*c1ccc2c(c1)sc(s2)C(=O)N
isotianil
- P05: anthraquinone elicitors**
*c1ccc2c(c1)sc(s2)C(=O)N
Reynoutria sachalinensis (Giant Knotweed Extract)
Nhóm P05
- P07: phosphonates**
*c1ccc2c(c1)sc(s2)C(=O)N
ethyl-phosphonates
#P07 phosphonates
fosetyl-al
Phosphorous acid
- P02: salicylate related**
*c1ccc2c(c1)sc(s2)C(=O)N
#P02 benzothiazole
- P06: microbial elicitors**
*c1ccc2c(c1)sc(s2)C(=O)N
Bacillus mycolides (Isolate J)
Bacterial Bacillus spp.
- P08: salicylate related**
*c1ccc2c(c1)sc(s2)C(=O)N
#P08 isothiazole
dichlobentiaxox
- P04: polysaccharide elicitors**
*c1ccc2c(c1)sc(s2)C(=O)N
laminarin
#P04 natural compound
- P09: benzothiazole related**
*c1ccc2c(c1)sc(s2)C(=O)N
probenazole
- P10: salicylate related**
*c1ccc2c(c1)sc(s2)C(=O)N
Cell walls of Saccharomyces cerevisiae Strain LAS117
Fungal Saccharomyces spp.

Cu

copper preparations

Nhóm M01

Inorganic (electrophiles)

[NH4+].[Cu+].[NH4+]

S

Sulphur

Nhóm M02

Inorganic (electrophiles)

[S]

chlorothalonil

Nhóm M05

chlorotriflzes (unspecific mechanism)

ClC1(Cl)C(Cl)C(Cl)C1#N

anilazine

Nhóm M08

triazines (unspecific mechanism)

Nc1ccccc1n2nnc2

dithianol

Nhóm M09

anthraquinones (electrophiles)

O=C1C=CC(=O)C2=CC=CC=C2S1

Nhóm M12

thiocarbamates (electrophiles)

NC(=S)SC(=O)O

amobam

Nhóm M10

quinoxalines (electrophiles)

C1=CC=C2C(=C1)N(C)C(=O)N2

mancozeb

Nhóm M06

sulphamides (electrophiles)

NC(=O)Nc1ccc(S(=O)(=O)N)cc1

methasulfocarb

Nhóm M11

maleimides (electrophiles)

C1=CC=C2C(=C1)C(=O)N2

captan

Nhóm M04

phthalimides (electrophiles)

O=C1OC(=O)c2ccccc12

tolyluanid

Nhóm M07

bis-guanidines (membrane disruptors, detergents)

Nc1nc2c(ncn2C(=[NH2+])N)cc1

febram

Nhóm M03

dithiocarbamates & relatives (electrophiles)

NC(=S)SC(=S)N

propineb

Nhóm M05

chlorotriflzes (unspecific mechanism)

ClC1(Cl)C(Cl)C(Cl)C1#N

metiram

Nhóm M08

triazines (unspecific mechanism)

Nc1ccccc1n2nnc2

zineb

Nhóm M09

anthraquinones (electrophiles)

O=C1C=CC(=O)C2=CC=CC=C2S1

maneb

Nhóm M12

thiocarbamates (electrophiles)

NC(=S)SC(=O)O

captafol

Nhóm M10

quinoxalines (electrophiles)

C1=CC=C2C(=C1)N(C)C(=O)N2

folpet

Nhóm M11

maleimides (electrophiles)

C1=CC=C2C(=C1)C(=O)N2

thiram

Nhóm M04

phthalimides (electrophiles)

O=C1OC(=O)c2ccccc12

ziram

Nhóm M07

bis-guanidines (membrane disruptors, detergents)

Nc1nc2c(ncn2C(=[NH2+])N)cc1

ametrin

Nhóm M03

dithiocarbamates & relatives (electrophiles)

NC(=S)SC(=S)N

ametrin

Nhóm M05

chlorotriflzes (unspecific mechanism)

ClC1(Cl)C(Cl)C(Cl)C1#N

ametrin

Nhóm M08

triazines (unspecific mechanism)

Nc1ccccc1n2nnc2

ametrin

Nhóm M09

anthraquinones (electrophiles)

O=C1C=CC(=O)C2=CC=CC=C2S1

ametrin

Nhóm M12

thiocarbamates (electrophiles)

NC(=S)SC(=O)O

ametrin

Nhóm M10

quinoxalines (electrophiles)

C1=CC=C2C(=C1)N(C)C(=O)N2

ametrin

Nhóm M11

maleimides (electrophiles)

C1=CC=C2C(=C1)C(=O)N2

ametrin

Nhóm M04

phthalimides (electrophiles)

O=C1OC(=O)c2ccccc12

ametrin

Nhóm M07

bis-guanidines (membrane disruptors, detergents)

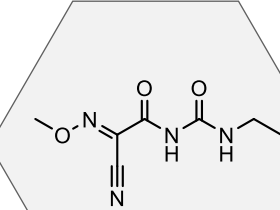
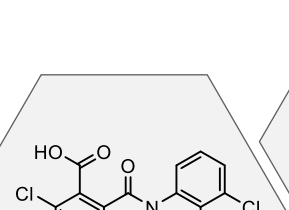
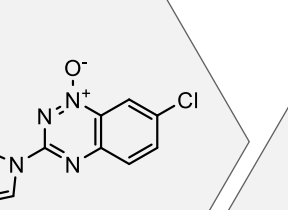
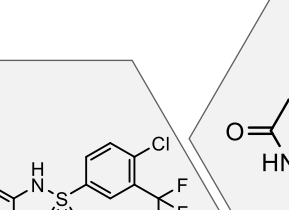
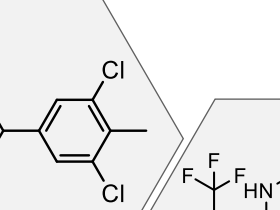
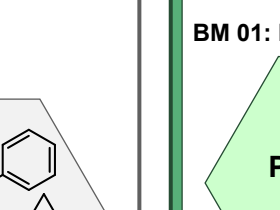
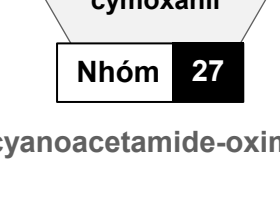
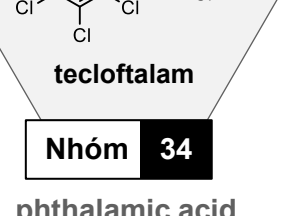
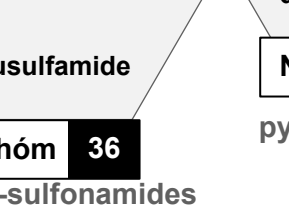
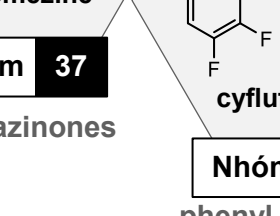
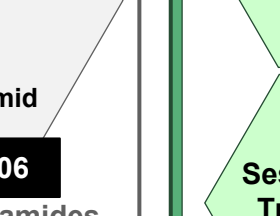
Nc1nc2c(ncn2C(=[NH2+])N)cc1

NC: Không xác định

Đầu không, đầu hữu cơ, muối và cơ nguyên tử có nguồn gốc sinh học

Nhóm NC

Tình trạng tam thối; thông tin và phương thức tác động vikhôe rừ ri kháng virus chưa chắc chắn

 cymoxanil Nhóm 27 cyanoacetamide-oxime	 teicoflaman Nhóm 34 phthalamic acid	 triazoxide Nhóm 35 benzotriazines	 flusulfamide Nhóm 36 benzene-sulfonamides	 diclomezone Nhóm 37 pyridazines	 cyflufenamid Nhóm 06 phenyl acetamides
 flutalan Nhóm U13 cyano-methylene thiazolidine	 ferimzone Nhóm U14 pyrimidinone-hydrzones	 tebufloquin Nhóm U16 4-quinoliny acetate	 plicarbutrazox Nhóm U17 tetrazoloxime	 validamycin Nhóm U18 glucopyranosyl antibiotic	 dodine Nhóm U12 guanidines

BM 01: Dịch chiết thực vật

Các chủng vi sinh vật sống hoặc các dịch chiết, các chất chuyển hóa

Polypeptide (lectin)

Fungal
Trichoderma spp.

Fungal
Clonostachys spp.

Bacterial
Bacillus spp.

Phenols, Sesquiterpenes, Triterpenoids, Coumarins

Fungal
Coniothyrium spp.

Fungal
Hanseniaspora spp.

Bacterial
Erwinia spp. (peptide)

Bacterial
Pseudomonas spp.

Terpene Hydrocarbons, Terpene alcohols and Terpene phenols

Fungal
Saccharomyces spp.

Fungal
Talaromyces spp.

Bacterial
Streptomyces spp.

BM 02: Vi sinh vật

BM 03: các chất chuyển hóa tinh khiết từ nguồn thực vật hoặc vi khuẩn hoặc các phân bản tổng hợp của các chất chuyển hóa này

cinnamaldehyde

O=CC=Cc1ccccc1

Nhóm BM01

Nhóm BM02

Nhóm BM03

Tên thương dụng được: mã tài nguyên Danh sách Mã số của IRAC