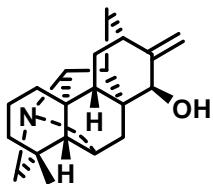


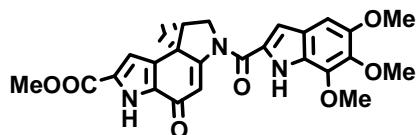
# 乙卯研究所 全合成天然有機化合物 構造式集 (1 / 10)

## (±)-Nominine



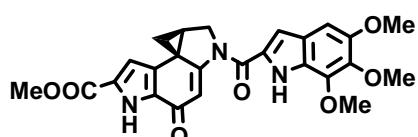
*Angew. Chem. Int. Ed.*, **43**, 4646-4649 (2004).  
有機合成化学協会誌, **64**(3), 237-250 (2006).  
*Tetrahedron*, **62**, 7056-7070 (2006).  
*Tetrahedron*, **62**, 7071-7092 (2006).  
*Tetrahedron*, **62**, 7093-7112 (2006).

## Natural (+)-Duocarmycin SA



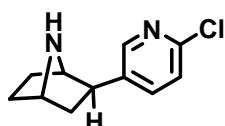
1st generation: *Chem. Pharm. Bull.*, **44**, 67-79 (1996).  
2nd generation: *Chem. Pharm. Bull.*, **44**, 1631-1633 (1996).  
2nd generation: *Chem. Pharm. Bull.*, **46**, 400-412 (1998).  
3rd generation: *Chem. Pharm. Bull.*, **46**, 559-571 (1998).

## (±)- and Unnatural (-)-Duocarmycin SA



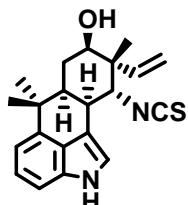
1st generation: *Tetrahedron Lett.*, **35**, 2573-2576 (1994).  
3rd generation: *Chem. Pharm. Bull.*, **43**, 1064-1066 (1995).  
1st generation: *Chem. Pharm. Bull.*, **44**, 67-79 (1996).  
2nd generation: *Chem. Pharm. Bull.*, **44**, 1631-1633 (1996).  
2nd generation: *Chem. Pharm. Bull.*, **46**, 400-412 (1998).

## (±)-Epibatidine



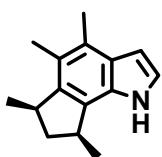
*Chem. Pharm. Bull.*, **42**, 1432-1436 (1994).

## Natural (+)-Hapalindole O



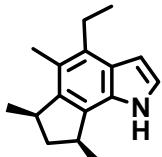
*Chem. Pharm. Bull.*, **42**, 1393-1398 (1994).

## Unnatural (+)-Herbindole A



*Tetrahedron Lett.*, **33**, 4595-4598 (1992).  
*Chem. Pharm. Bull.*, **42**, 854-864 (1994).

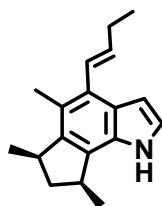
## Unnatural (+)-Herbindole B



*Tetrahedron Lett.*, **33**, 4595-4598 (1992).  
*Chem. Pharm. Bull.*, **42**, 854-864 (1994).

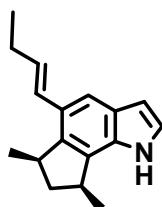
# 乙卯研究所 全合成天然有機化合物 構造式集 (2/10)

## Unnatural (+)-Herbindole C



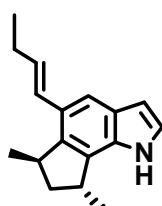
*Tetrahedron Lett.*, **33**, 4595-4598 (1992).  
*Chem. Pharm. Bull.*, **42**, 854-864 (1994).

## Natural (+)- and ( $\pm$ )-cis-Trikentrin B



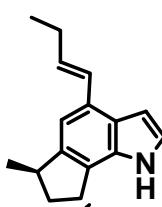
*Tetrahedron*, **46**, 4179-4192 (1990).  
*Tetrahedron Lett.*, **34**, 4815-4818 (1993).  
*Chem. Pharm. Bull.*, **42**, 854-864 (1994).

## Unnatural (+)- and ( $\pm$ )-trans-Trikentrin B



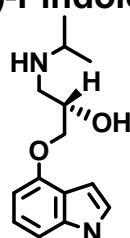
*Tetrahedron*, **46**, 4179-4192 (1990).  
*Tetrahedron Lett.*, **34**, 4815-4818 (1993).  
*Chem. Pharm. Bull.*, **42**, 854-864 (1994).

## Unnatural (+)- and ( $\pm$ )-iso-trans-Trikentrin B



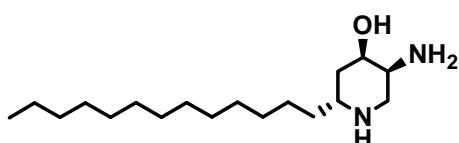
*Tetrahedron*, **46**, 4179-4192 (1990).  
*Tetrahedron Lett.*, **34**, 4815-4818 (1993).  
*Chem. Pharm. Bull.*, **42**, 854-864 (1994).

## (S)-(-)- and ( $\pm$ )-Pindolol



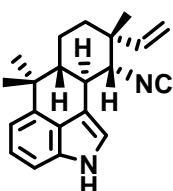
*Chem. Pharm. Bull.*, **40**, 2353-2357 (1992).  
*Chem. Pharm. Bull.*, **40**, 2358-2361 (1992).

## ( $\pm$ )-Tetrahydropseudodistomine



*Heterocycles*, **33**, 349-356 (1992).

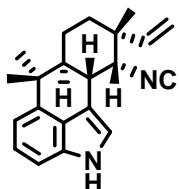
## ( $\pm$ )-Hapalindole H



*Tetrahedron*, **46**, 6351-6360 (1990).

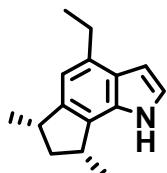
# 乙卯研究所 全合成天然有機化合物 構造式集 (3/10)

## ( $\pm$ )-Hapalindole U



*Tetrahedron*, **46**, 6351-6360 (1990).

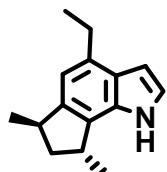
## Unnatural (-)- and ( $\pm$ )-cis-Trikentrin A



*Tetrahedron Lett.*, **30**, 5771-5772 (1989).

*Tetrahedron*, **46**, 4179-4192 (1990).

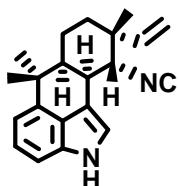
## Unnatural (-)- and ( $\pm$ )-trans-Trikentrin A



*Tetrahedron Lett.*, **30**, 5771-5772 (1989).

*Tetrahedron*, **46**, 4179-4192 (1990).

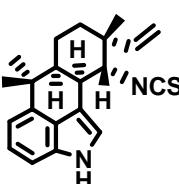
## ( $\pm$ )-Hapalindole J



*Tetrahedron Lett.*, **30**, 1815-1818 (1989).

*Tetrahedron*, **46**, 6331-6342 (1990).

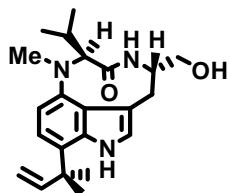
## ( $\pm$ )-Hapalindole M



*Tetrahedron Lett.*, **30**, 1815-1818 (1989).

*Tetrahedron*, **46**, 6331-6342 (1990).

## Natural (-)-Pendolmycin

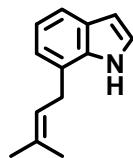


*Tetrahedron*, **46**, 5113-5120 (1990).

*Tetrahedron*, **47**, 7615-7624 (1991).

*Tetrahedron*, **47**, 8545-8558 (1991).

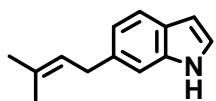
## 7-(3-Methyl-2-butenyl)indole



*Heterocycles*, **29**, 771-782 (1989).

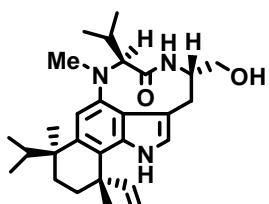
# 乙卯研究所 全合成天然有機化合物 構造式集 (4/10)

## 6-(3-Methyl-2-butenyl)indole



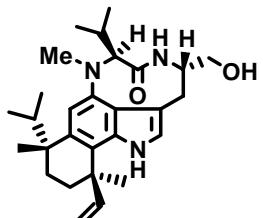
*Heterocycles*, **29**, 771-782 (1989).

## Natural (-)-Teleocidin B-3



*Chem. Pharm. Bull.*, **37**, 563-564 (1989).  
*Tetrahedron*, **47**, 8559-8572 (1991).

## Natural (-)-Teleocidin B-4



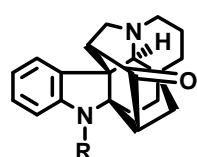
*Chem. Pharm. Bull.*, **37**, 563-564 (1989).  
*Tetrahedron*, **47**, 8559-8572 (1991).

(±)-Kopsinine (R=H, formal syn.) ; (±)-Pleiocarpinine (R=Me, formal syn.)  
(±)-Aspidofractine (R=CHO, formal syn.) ; (±)-Pleiocarpine (R=COOMe, formal syn.)



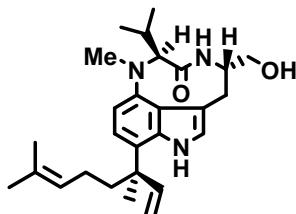
*Tetrahedron Lett.*, **28**, 3985-3986 (1987).

(±)-Kopsanone (R=H, formal syn.); (±)-N-ethylkopsanone (R=Me, formal syn.)



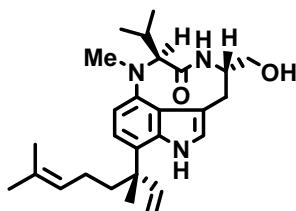
*Tetrahedron Lett.*, **28**, 3985-3986 (1987).

## Lyngbyatoxin A (= Teleocidin A-1)



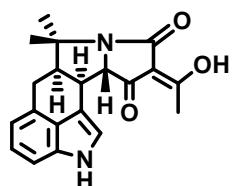
*Tetrahedron Lett.*, **28**, 2265-2268 (1987).  
*Tetrahedron*, **47**, 8545-8558 (1991).

## Teleocidin A-2



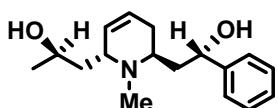
*Tetrahedron Lett.*, **28**, 2265-2268 (1987).  
*Tetrahedron*, **47**, 8545-8558 (1991).

( $\pm$ )- $\alpha$ -Cyclopiazonic Acid



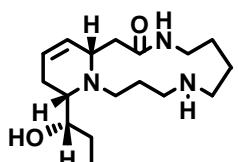
*Heterocycles*, **23**, 1111-1117 (1985).

( $\pm$ )-Sedinine



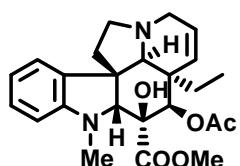
*Heterocycles*, **23**, 831-834 (1985).

( $\pm$ )-Palustrine



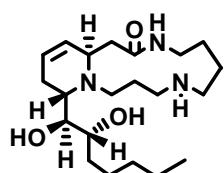
*Chem. Pharm. Bull.*, **32**, 812-814 (1984).  
*Chem. Pharm. Bull.*, **32**, 3789-3791 (1984).

( $\pm$ )-Vindorosine (formal syn.)



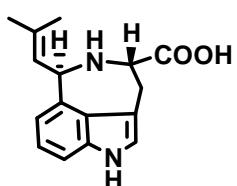
*Chem. Pharm. Bull.*, **32**, 2477-2479 (1984).

( $\pm$ )-Cannabisativine



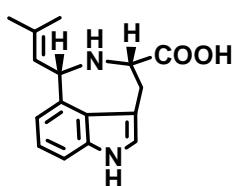
*Tetrahedron Lett.*, **25**, 969-972 (1984).

( $\pm$ )-Clavicipitic Acid I



*Heterocycles*, **20**, 1963-1968 (1983).

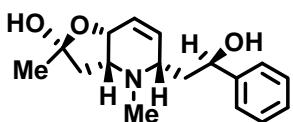
( $\pm$ )-Clavicipitic Acid II



*Heterocycles*, **20**, 1963-1968 (1983).

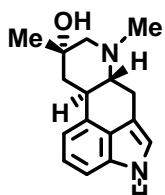
# 乙卯研究所 全合成天然有機化合物 構造式集 (6/10)

## (±)-Sedacryptine



*Heterocycles*, **22**, 601-605 (1983).

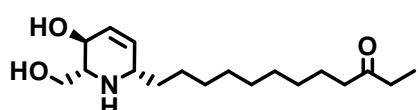
## (±)-Dihydrosetoclavine



*Heterocycles*, **16**, 375-379 (1981).

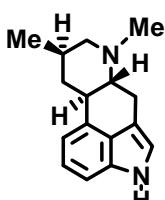
*Heterocycles*, **16**, 1481-1486 (1981).

## (±)-Prosophylline



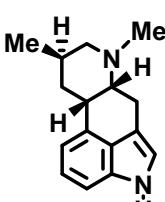
*Heterocycles*, **16**, 973-977 (1981).

## (±)-Festuclavine



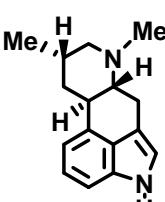
*unpublished data*

## (±)-Costaclavine



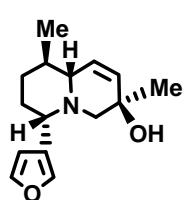
*unpublished data*

## (±)-Pyroclavine



*unpublished data*

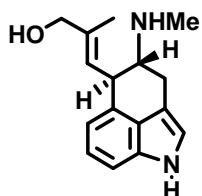
## (±)-Nupharolutine



*Heterocycles*, **15**, 237-240 (1981).

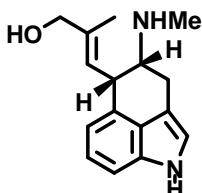
# 乙卯研究所 全合成天然有機化合物 構造式集 (7/10)

## (±)-Chanolavine I



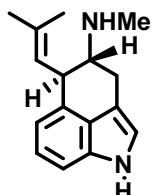
*Heterocycles*, **16**, 375-379 (1981).

## (±)-Chanolavine II



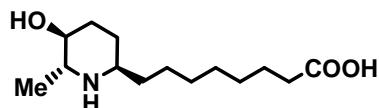
*unpublished data*

## (±)-6,7-Secoauroclavine



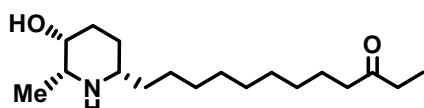
*Heterocycles*, **14**, 1101-1105 (1980).

## (±)-Pseudocarpamic Acid



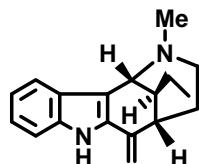
*Heterocycles*, **14**, 615-618 (1980).

## (±)-Prosafrinine



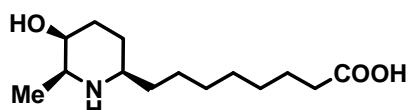
*Heterocycles*, **14**, 615-618 (1980).

## (±)-3-Epiuleine



*Tetrahedron Lett.*, **21**, 839-840 (1980).

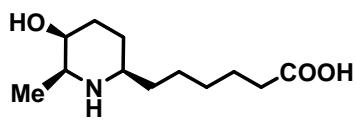
## (±)-Carpamic Acid



*Heterocycles*, **14**, 169-173 (1980).

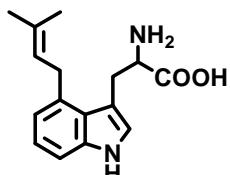
# 乙卯研究所 全合成天然有機化合物 構造式集 (8/10)

## (±)-Azimic Acid



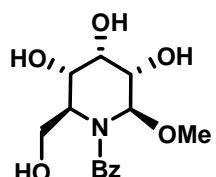
*Heterocycles*, **14**, 169-173 (1980).

## (±)-4-(3-Methyl-2-butenyl)tryptophan (formal syn.)



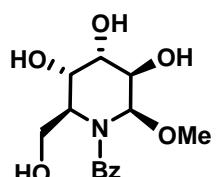
*Tetrahedron Lett.*, 1979, 3477-3480.

## (±)-1-O-Methyl-5-benzamido-5-deoxyallopiperidinose



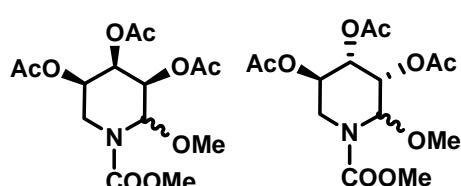
*Chem. Pharm. Bull.*, **26**, 3364-3372 (1978).

## (±)-1-O-Methyl-5-benzamido-5-deoxyaltropiperidinose



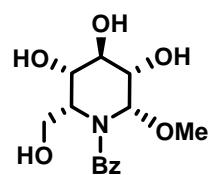
*Chem. Pharm. Bull.*, **26**, 3364-3372 (1978).

## (±)-5-Amino-5-deoxyribose deriv. and (±)-5-Amino-5-deoxylyxose deriv.



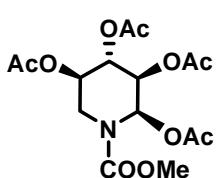
*Chem. Pharm. Bull.*, **26**, 2188-2197 (1978).

## (±)-1-O-Methyl-5-benzamido-5-deoxy-dl-idopiperidinose



*Chem. Pharm. Bull.*, **24**, 2657-2660 (1976).

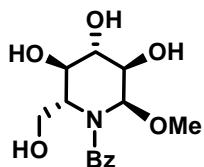
## (±)-5-Methoxycarbonyl-5-deoxy-dl-xylopiperidinose tetraacetate



*Chem. Pharm. Bull.*, **24**, 2651-2656 (1976).

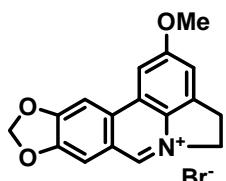
# 乙卯研究所 全合成天然有機化合物 構造式集 (9 / 10)

## (±)-1-O-Methyl-N-benzoyl-dl-nojirimycin



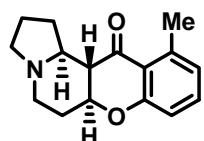
*Chem. Pharm. Bull.*, **23**, 2567-2572 (1975).

## Ungeremine III Methobromide



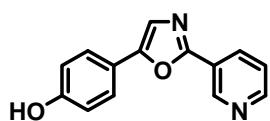
*Tetrahedron Lett.*, **1974**, 1179-1180.

## (±)-Elaeocarpine



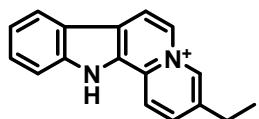
*Tetrahedron Lett.*, **1971**, 4395-4398.

## Halfordinol



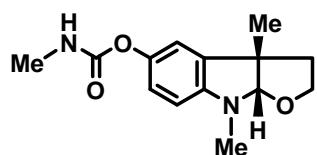
*Tetrahedron Lett.*, **1971**, 4393-4394.

## Flavopereirine (formal syn.)



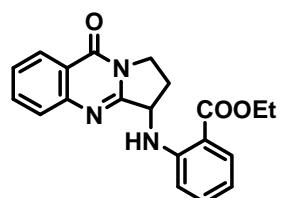
*unpublished data*

## (±)-Physovenine (formal syn.)



*Tetrahedron Lett.*, **1971**, 4391-4392.

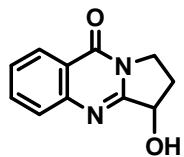
## (±)-Anisessine



*Tetrahedron Lett.*, **1971**, 4387-4390.

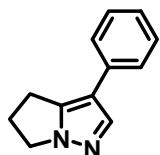
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(±)-Vasicinone



*Tetrahedron Lett.*, 1971, 4387-4390.

Withasomnine



*Tetrahedron Lett.*, 1968, 5711-5714.