

ENCYCLOPEDIA OF ENDOCRINOLOGY

by

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SECTION I

Classified Index of the Steroid Hormones and Related Compounds

VOLUME III

Ethyl- Δ^5 -androstene,
Other Alkyl-androstanes (-enes),
D-Homoandrostane

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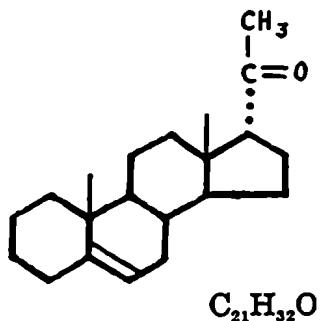
By

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**17(α)-[1-KETOETHYL]- Δ^5 -ANDROSTENE
(Δ^5 -Pregnene-20-one)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS:

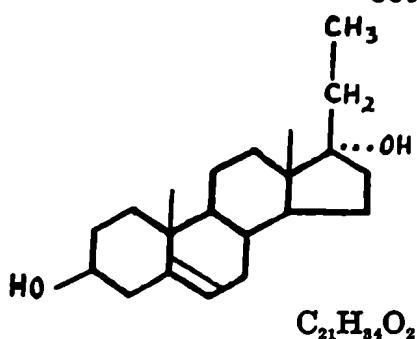
DERIVATIVES:

3-Cl. 146.5° ; $[\alpha]_D^{25} = +31.5^\circ$ (CHCl_3): (1)
3-Cl.-oxime 181° : (1)

REFERENCES:

1. 69135

**17(β)-ETHYL- Δ^5 -ANDROSTENE-3(β),17(α)-DIOL
(17-Ethyl-androstendiol; Δ^5 -pregnene-3(β),17(α)-diol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (2,3)

M.P.: 198° (u): (3,4,6)

200-2°: (2)

$[\alpha]_D = -68.4^\circ$ (alc.): (2)

PHARMACOLOGY:

Testoid: **29**: I. U. = 500-570 γ -C (7); **32A**: U. = 1.5 mg.-C (4); **45**: s.ves. 43%/200 γ , 230%/1000 γ , pta. 16%/200 γ , 51%/1000 γ -R (7).

Luteoid: **46**: Up to 20 mg. of "Ethyl-trans-androstenediol" inact.-Rb. (1).

Folliculoid: **7**: Threshold dose = 2 mg./day-R (4); **62**: 1 mg./day inact.-M (4).

Gonadotropic: **21**: Up to 12 mg. of "Ethylandrostanediol" inact.-X (5).

Corticoid: **146**: 2 mg. of "Ethylandrostanediol" inact.-M (10).

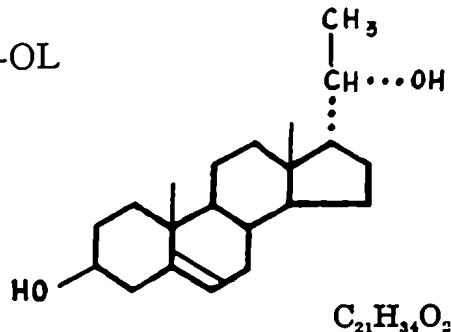
REMARKS: First recorded m.p. 173° (9); later shown to be Δ^5 -androstene-3(β),17(α)-diol (8).

DERIVATIVES:

REFERENCES:

1. 67357
2. 72151
3. 71848
4. 60175
5. 75731
6. 60176
7. A33511
8. 56783
9. 54129
10. A36403

**17(α)-[1(α)-HYDROXYETHYL]- Δ^5 -ANDROSTENE-3(β)-OL
(Δ^5 -pregnene-3(β),20(α)-diol)**



ISOLATION: Ur. (preg. mare); after epimerization: (1)

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 172-6°: (1)

174-6°: (2)

170-4°: (3)

PHARMACOLOGY:

REMARKS:

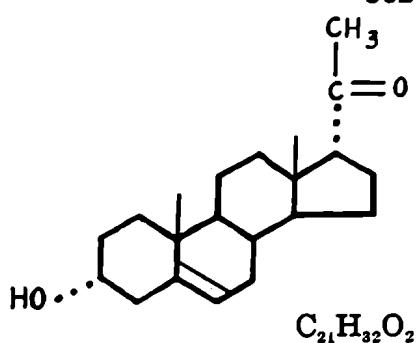
DERIVATIVES:

Diac. 144-6°: (2)

REFERENCES:

- 1 A17990
- 2 800067
- 3 79008

**17(α)-[1-KETOETHYL]- Δ^5 -ANDROSTENE-3(α)-OL
 (Epi- Δ^5 -pregnenol-(3)-one; 3-iso-pregnenolone;
 Δ^5 -pregnene-3(α)-ol-20-one)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 148-52°: (1)

$[\alpha]_D^{20} = +54.5^\circ$ (alc.): (1)

PHARMACOLOGY:

REMARKS:

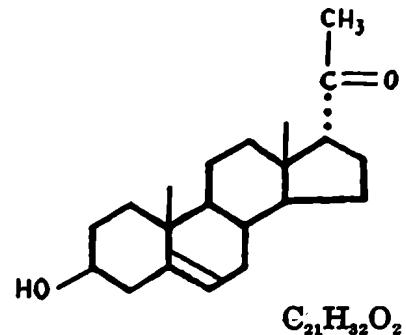
DERIVATIVES:

Ac. 147°; $[\alpha]_D^{20} = 57.2^\circ$: (1)

REFERENCES:

1. A57496

**17(α)-[1-KETOETHYL]- Δ^5 -ANDROSTENE-3(β)-OL
(Pregnenolone)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (2,3,4,5,6,16)

M.P.: 185-7°: (1,22,23)

192-4°: - (14)

190°: (2,3,4,5,6,11)

$[\alpha]_D^{18} = +30^\circ \pm 2^\circ$ (alc.): (14)

$[\alpha]_D^{20} = +28.2^\circ$ (alc.): (3); $[\alpha]_D^{20} = +30^\circ$ (alc.): (5)

PHARMACOLOGY:

Testoid: **132**: inact. on s.ves., pta. and prep. gl. at 2 mg.-R (26); **128B**: prep. gl. 48(± 22)%/2 mg., 100(± 27)%/10 mg.-R (31); **138B**: 10 mg./day inact.-R (31).

Luteoid: **46**: I.U. = 40-100 mg.-Rb. (29); **49**: 6 mg. inact.-Rb. (2); **48**: 25 mg. inact.-Rb. (18).

Folliculoid: **105**: Vag. cornification, and *metrotropic* act.-R (10); **128C**: 1 mg./day vag. stratification, cornification or slight mucification-R (22); **128A**: *metrotropic* act. 2 mg. inact., 67(± 17)%/10 mg.; *anti-castration* cell act. up to 10 mg. inact.-R (34); **30**: 1 mg./day inact.-C (8); **133B**: *anti-Leydig* cell act. ++/10 mg./day-R (27).

Corticoid: **53B**: 2 mg./day inact.-R (25); **99**: Act.-R (9).

Gonadotropic: **102**: act. on testis-R (12); **138A**: 10 mg./day act.-R (31).

Anesthetic: **11**: U. = 12 mg.-R (13,28); **127**: U. = 6 mg.-Fish (28).

Anti-folliculoid: **129**: up to 10 mg. inact. on Hyp., Ad. 13.4(± 3)%/2-10 mg., Te. 61(± 5)%/2 mg., 63(± 10)%/10 mg.-R (23).

REMARKS. Neopregnolone of D-homo series-m.p. 220-2° (7).

DERIVATIVES:

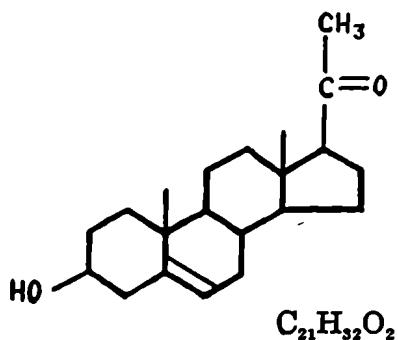
Me. ether	123-4°; $[\alpha]_D^{18} = +18^\circ$ (CHCl_3): (1)
Ac.	{ 146-7° (u); $[\alpha]_D = +19.9^\circ$ (alc.): (2,3)
	{ 149-29.5°: $[\alpha]_D^{20} = +22^\circ \pm 2^\circ$ (alc.): (4,14,20)
Ac.-semicarb.	262-3° (u): (2)
Oxime	218-9° (u): (5)
3-ac.-17 ^a -I	129-31°: (7)
17 ^a -Cl.	162-4°: (15); 165-7°: (30)
3-ac.-17 ^a -Cl.	157-8°: (7,15)
17-Br.-3-ac.	149-51°; $[\alpha]_D = -179^\circ$ (dioxane): (7,17)
Tosylate	139-40°; $[\alpha]_D^{20} = +9^\circ$ (CHCl_3): (1)
3-ac.-17 ^a -diazo ca.	148-50°: (15)
17 ^a -diazo	144°: (15)
Pr.	119-20°: (20)
Tetra-bromo-pr.	175°: (20)
17 ^a -benzal	130-1°: (21)

Ac.-17 ² -benzal	180-2°:	(21)
17 ² -Br.	149-51°: (7); 159-9.5°:	(30)
17 ² -pyridinium-Br.	ca. 300°:	(30)
17 ² -pyridinium-Cl.	289-90°:	(30)
5:6(α)oxide	180-4°; [α] _D ²⁴ = + 1° (acetone):	(33)
5:6(α)oxide-ac.	167-8°:	(32.33)
5:6-oxide-ac-oxime	219-21°:	(32)

REFERENCES:

- | | | | | |
|----------|------------|-----------|------------|------------|
| 1. 69135 | 8. 73572 | 15. A0077 | 22. A37486 | 29. A56335 |
| 2. 29849 | 9. A36370 | 16. 83021 | 23. A37637 | 30. 76734 |
| 3. 66856 | 10. A36637 | 17. 75678 | 24. A38712 | 31. A57917 |
| 4. 75054 | 11. 81790 | 18. 71855 | 25. A56191 | 32. 81156 |
| 5. 60177 | 12. A36745 | 19. 75743 | 26. A38071 | 33. 81867 |
| 6. 80962 | 13. A36744 | 20. 83173 | 27. A38086 | 34. A56752 |
| 7. 73853 | 14. 79624 | 21. 83175 | 28. A38070 | |

**17(β)-[1-KETOETHYL]- Δ^5 -ANDROSTENE-3(β)-OL
(17-Iso-pregnenolone)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 172-3° : (1,3)

$[\alpha]_D^{20} = -140.5^\circ$ (alc.) : (1,3)

PHARMACOLOGY:

REMARKS: Not ppt. with digitonin (1); this cpd. was formerly considered to be the 3(α)-OH epimer rather than the 17(α)-alkyl epimer of n-pregnenolone (2); but this assumption proved incorrect (3,4).

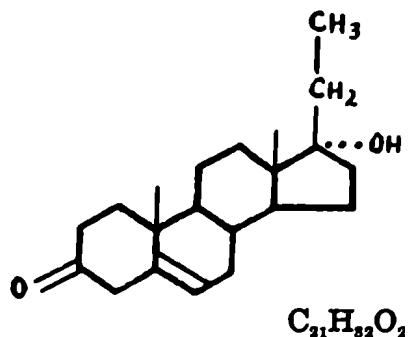
DERIVATIVES:

Ac. 170-1°; $[\alpha]_D^{20} = -126^\circ$ (alc.) : (1,3)

REFERENCES:

1. 60850
2. 75743
3. A54237
4. A57496

**17(β)-ETHYL- Δ^5 -ANDROSTENE-3-ONE-17(α)-OL
 (Δ^5 -pregnene-3-one-17(α)-ol; Δ^5 -17-Ethyl-testosterone)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 149° (u) : (1)

$[\alpha]_D^{20} = -35^\circ$ (alc.) : (1)

PHARMACOLOGY:

Testoid: 32A: U. = 500γ-C (1); 33: U. = 200γ-R (3).

Folliculoid: 7: 1 mg./day vag. opening but no cornification-R (1); 62: 1 mg./day inact.-M (1).
Luteoid: 49: 7.5 mg. inact.-Rb. (1).

REMARKS: First given as Δ^4 cpd. (2).

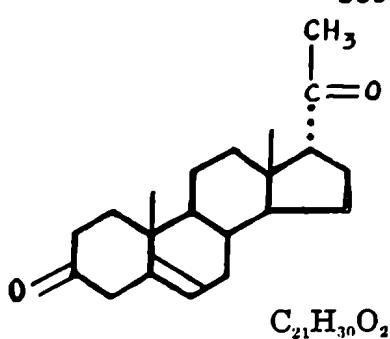
DERIVATIVES:

Semicarb. 210° (u) : (1)

REFERENCES:

1. 60175
2. 60176
3. A92

**17(α)-[1-KETOETHYL]- Δ^5 -ANDROSTENE-3-ONE
(Δ^5 -Iso-progesterone; Δ^5 -pregnene-3,20-dione)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 158-60°: (1)

$[\alpha]_D^{20} = + 65.5^\circ$ (CHCl_3): (1)

PHARMACOLOGY: Luteoid: 49: 2 mg. inact.-Rb. (1).

REMARKS:

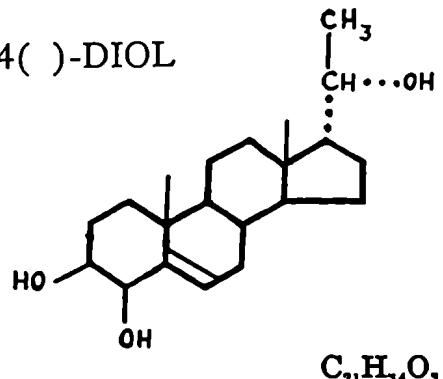
DERIVATIVES:

Dioxime 203-5°: (1)

REFERENCES:

1. 60174

**17(α)-[1(α)-HYDROXYETHYL]- Δ^6 -ANDROSTENE-3(β),4(β)-DIOL
 (Δ^6 -pregnene-3(β),4(β),20(α)-triol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 207-10°: (1)

PHARMACOLOGY:

REMARKS:

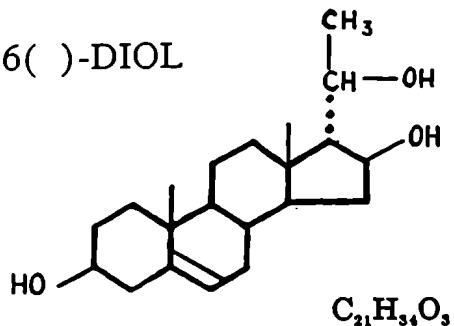
DERIVATIVES:

Triae. 153-4°: (1)

REFERENCES:

1 50067

**17(α)[1(β)-HYDROXYETHYL]- Δ^5 -ANDROSTENE-3(β),16(β)-DIOL
 $(\Delta^5$ -pregnene-3(β),16(β),20(β)-triol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 281-5°: (1)

PHARMACOLOGY:

REMARKS:

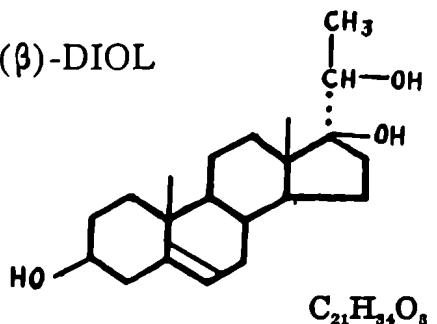
DERIVATIVES

Triac. 143°: (1)

REFERENCES:

1 80966

**17(α)[1(β)-HYDROXYETHYL]-Δ⁴-ANDROSTENE-3(β),17(β)-DIOL
(Δ⁴-pregnone-3(β),17(β),20(β)-triol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

MP.: 227°: (1)

$[\alpha]_D^{20} = -75^\circ$ (alc.): (1)

PHARMACOLOGY:

REMARKS:

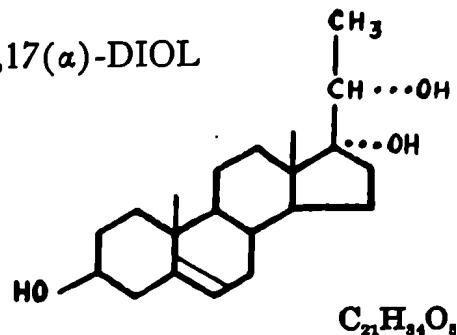
DERIVATIVES:

3,17¹-diac. { 152-3°; $[\alpha]_D^{20} = -36^\circ$ (alc.): (1)
 { 159-60°; $[\alpha]_D^{18} = -34.7^\circ \pm 2^\circ$ (acetone): (2)

REFERENCES:

1. A54237
2. 81147

**17(β)-[1(α)-HYDROXYETHYL]-Δ⁵-ANDROSTENE-3(β),17(α)-DIOL
(Δ⁵-pregnene-3(β),17(α),20(α)-triol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 241°: (1)

$[\alpha]_D^{20} = -102^\circ$ (alc.): (1)

PHARMACOLOGY:

REMARKS:

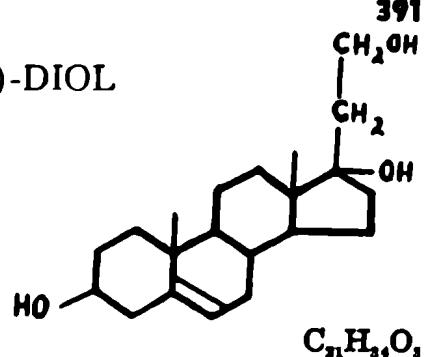
DERIVATIVES:

3,17¹-diac. { 182°; $[\alpha]_D^{20} = -74^\circ$ (alc.): (1)
185-6°; $[\alpha]_D^{16} = -72.6^\circ \pm 2^\circ$ (acetone): (2)

REFERENCES:

1. A54237
2. 81147

**17()-[2-HYDROXYETHYL]- Δ^5 -ANDROSTENE-3(β),17()-DIOL
 (Δ^5 -pregnene-3(),17(),21-triol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 243-5°: (1)

PHARMACOLOGY:

REMARKS:

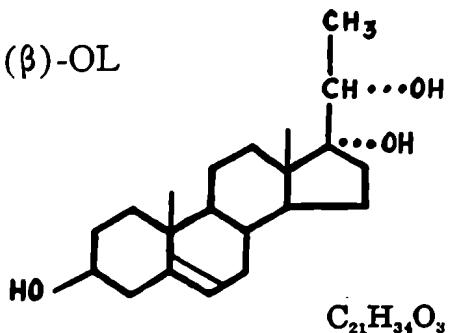
DERIVATIVES:

Diac. 159-61°; $[\alpha]_D^{20} = -65.3^\circ \pm 1.5^\circ$ (acetone): (1)

REFERENCES:

1. 75157

17()-[1(α),2-DIHYDROXYETHYL]- Δ^5 -ANDROSTENE-3(β)-OL



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2,3)

M.P.: 222-9°: (3)
204-18°: (1)
223-8°: (2)

$[\alpha]_D^{21} = -54.0^\circ$ (methanol): (3)

PHARMACOLOGY:

REMARKS: Contaminated with the 17¹-epimer (1,2).

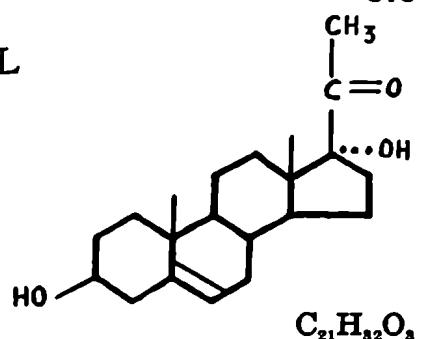
DERIVATIVES:

17¹,17²-monoacetone cpd. { 157-63°:
166-9°; $[\alpha]_D^{21} = -50.8^\circ \pm 3^\circ$ (acetone): (1)
5:6-oxide 218-22°; $[\alpha]_D^{20} = -63.5^\circ$ (acetone): (3)

REFERENCES:

- (2) 1. 72133
- 2. 70623
- 3. 83077

**17(β)-[1-KETOETHYL]-Δ⁴-ANDROSTENE-3(β),17(α)-DIOL
(Δ⁵-pregnene-3(β),17(α)-diol-20-one)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,3,4,8,9,10)

M.P.: 161-3°: (1)
174-6°: (3)
176-9°: (10)

$[\alpha]_D = -65^\circ$: (4)
 $[\alpha]_D^{21} = -60^\circ \pm 3^\circ$ (CHCl_3): (10)

PHARMACOLOGY:

Folliculoid: 55: 10 mg. act.-R (3); 128C: 2 mg./day vag. cornifying-R (5).

Anesthetic: 11: U. = 10 mg.-R (3).

REMARKS: Cpd. originally assigned this structure (6,7) has been shown to be a member of the D-homoandrostane series (1,3). For acetates however see cpd. 532.

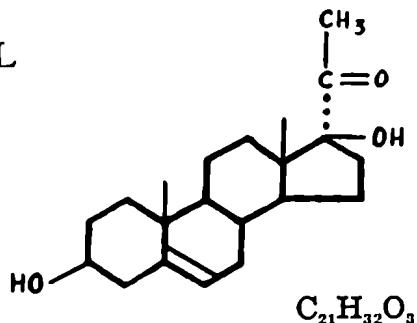
DERIVATIVES:

17 ¹ -Anil	{ 148°; 148°; 190-1° (anhydrous);	$[\alpha]_D^{23} = -196^\circ \pm 2^\circ$ (CHCl_3): (2) $[\alpha]_D = -197.5^\circ \pm 2^\circ$ (CHCl_3): (1)
Diac.-17 ¹ -anil	207-9°;	$[\alpha]_D = -155^\circ \pm 2^\circ$ (CHCl_3): (1)
3-ac.	196-8°;	$[\alpha]_D^{23} = -61^\circ \pm 1.5^\circ$ (CHCl_3): (2,10)
3-ac.-oxime	254-6°:	(2)
3-ac.-17 ¹ -anil	232-4°;	$[\alpha]_D^{24} = -176^\circ \pm 2^\circ$ (CHCl_3): (2)
Diac.	190-2°;	$[\alpha]_D = -54^\circ$ (dioxane): (8,9,10)
17-ac.	221-2°;	$[\alpha]_D = -53^\circ$ (dioxane): (8,9,11)
3-ac.-17-bz.	214-8°:	(11)

REFERENCES:

1. 77143
2. 78994
3. A36744
4. Wintersteiner (personal communication)
5. A37486
6. A34071
7. 73580
8. 84189
9. 75679
10. 84188
11. 84182

**17(α)-[1-KETOETHYL]- Δ^5 -ANDROSTENE-3(β),17(β)-DIOL
 (Δ^5 -pregnene-3(β),17(β)-diol-20-one)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 286°: (1)
 271-3° + 287°: (2)

$[\alpha]_D^{10} = -34.9^\circ \pm 4^\circ$ (dioxane-alc.): (1)
 $[\alpha]_D^{15} = -37.2^\circ \pm 3^\circ$ (dioxane): (2)

PHARMACOLOGY:

REMARKS:

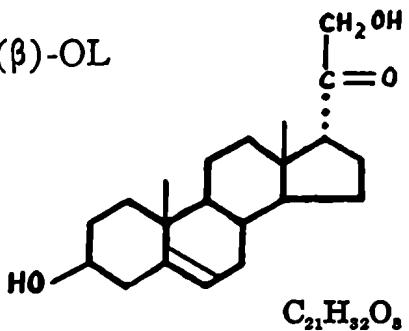
DERIVATIVES:

3-ac. { 234-5°; $[\alpha]_D^{15} = -40.9^\circ \pm 1^\circ$ (dioxane): (2)
 } 231° + 270°:

REFERENCES:

1. S1791
 (1)
 2. S1790

**17(α)-[1-KETO-2-HYDROXYETHYL]- Δ^5 -ANDROSTENE-3(β)-OL
(Δ^5 -pregnene-3(β),21-diol-20-one; 21-hydroxy-pregnolone)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,4).

M.P.: 139-59° (impure) : (4)

PHARMACOLOGY:

Corticoid: **82**: 2.5-5 mg. act.-D (6); **112**: 3 mg. inact.-R (6); **83**: threshold dose of 17²-ac. = ca. 1 mg./kg./day-D (17); **99**: 17²-ac. "only slightly less act. than D.C.A."-R (10); **47B**: threshold dose of 17²-ac. = 0.5 mg./day-R (2); **47C**: threshold dose of 17²-ac. = ca. 0.25-0.5 mg./day-R (2); **53B**: threshold dose of 17²-ac. = 0.5 mg./day-R (14); **87**: threshold dose = 3 mg. of 17²-ac.-R (14).

Folliculoid: **128C**: 10 mg./day of 17²-ac. causes vag. stratification or cornification-R (8); **55**: 17²-ac. act.-R (9); **105**: 3 mg./day of 17²-ac. act.-R (7); **133B**: slight anti-Leydig cell act.: 17²-ac. trace. of act. at 10 mg./day-R (10); **128A**: metrotropic act. 17²-ac. inact./2 mg., 41 (\pm 6)%/10 mg.; anti-castration cell act. of 17²-ac. up to 10 mg. inact.-R (21); **128A**: + + +/3 mg./day-R (22,23).

Testolid: **57**: 10 mg./day of 17²-ac. inact.-R (9,15,16); **128B**: up to 10 mg. of 17²-ac. inact. on prep.gl.-R (21).

Luteoid: **46**: I.U. of 17²-ac. = 200 mg.-Rb. (12,13)

Anti-folliculoid: **129**: 10 mg. of 17²-ac. inact.-R (11).

Anesthetic: **11**: U.-17²-ac. = 4 mg.-R (9); **127**: U. = 7 mg. of 17²-ac.-Fish (18).

REMARKS:

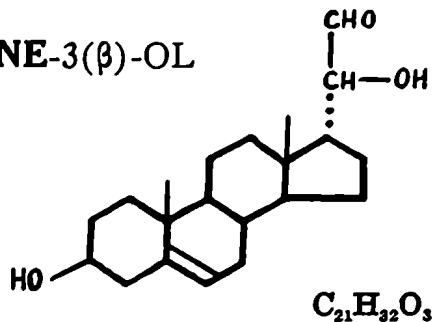
DERIVATIVES:

Diac.	165-7°:	(1,3)
3-ac.	149-56°:	(4)
17 ² -ac.	184-5°:	(4)
17 ² -bz.	171-3°:	(4)
3-ac.-17 ² -tosylate	120-1°:	(5)
17 ² -tosylate	123-4°:	(5)
17 ¹ :17 ² -acetonide	174-5°; $[\alpha]_{D}^{20.5} = -46.5^\circ$ (acetone):	(19)
5 ¹ -O-oxide-17 ² -ac.	197°; $[\alpha]_{D}^{20} = +15.6^\circ$ (acetone):	(20)

REFERENCES:

1. 80944
2. A33452
3. 76735
4. A9077
5. 78853
6. 75612
7. A36337
8. A37486
9. A30744
10. A36370
11. A37637
12. A56335
13. A38712
14. A56101
15. A38071
16. A38088
17. A56504
18. A38070
19. 83977
20. A36674
21. A56752
22. A36337
23. A57513

**17(α)-[1(β)-HYDROXY-2-ALDOETHYL]- Δ^5 -ANDROSTENE-3(β)-OL
 $(\Delta^5\text{-pregnene-}3(\beta),20(\beta)\text{-diol-}21\text{-al})$**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS:

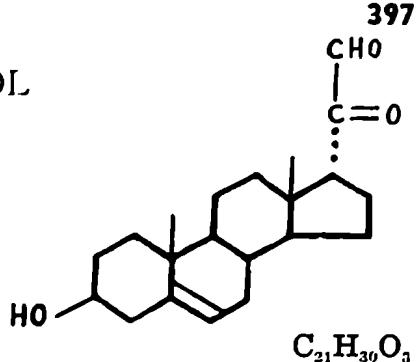
DERIVATIVES:

Dimethylacetal-diac.	$185\text{-}6^\circ; [\alpha]_D^{17} = -21.5^\circ$ (acetone): (1)
Dimethylacetal	$135\text{-}6^\circ; [\alpha]_D^{16} = -48^\circ$ (methanol): (1)
Dimethylacetal-3-ac.	$123^\circ; [\alpha]_D^{20} = -21.4^\circ$ (acetone): (1)
Dimethylacetal-17¹-ac.	$151\text{-}2^\circ; [\alpha]_D^{17} = -17^\circ$ (methanol): (1)

REFERENCES:

1. 81148

**17(α)-[1-KETO-2-ALDOETHYL]- Δ^5 -ANDROSTENE-3(β)-OL
 $(\Delta^5\text{-pregnene-3}(\beta)\text{-ol-20-one-21-al})$**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 135-6° (+H₂O): (1)
 170°: (1)

PHARMACOLOGY:

REMARKS: Probably exists in two polymeric forms (1).

DERIVATIVES:

Dimethylacetal	112-3°; $\left\{ \begin{array}{l} [\alpha]_D^{22} = +39.1^\circ \pm 1^\circ \text{ (methanol)} \\ [\alpha]_{5461}^{22} = +52.2^\circ \pm 1^\circ \text{ (methanol)} \end{array} \right.$	(1)
Diethyl mercaptal	124-5°; $[\alpha]_D^{21} = +137.6^\circ \pm 3^\circ \text{ (acetone)}$	(2)
Diethyl mercaptal-3-ac.	130-2°; $[\alpha]_D^{17} = +149.5^\circ \pm 3^\circ \text{ (acetone)}$	(2)
Dioxime	285-90°:	(1)
Quinoxalin	229-31°:	(1)
Dianil	85-90°:	(1)

REFERENCES:

1. 76734

2. 81148

(2)

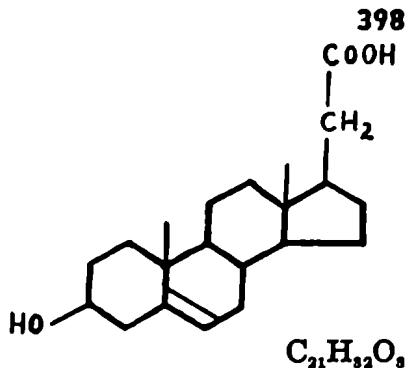
(2)

(1)

(1)

(1)

**17()-CARBOXYMETHYL- Δ^5 -ANDROSTENE-3(β)-OL
 (3(β)-hydroxy- Δ^5 -pregnenoic acid)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 241-2°: (1)

$[\alpha]_D = -56.4^\circ \pm 1^\circ$ (dioxane): (1)

PHARMACOLOGY:

REMARKS:

DERIVATIVES:

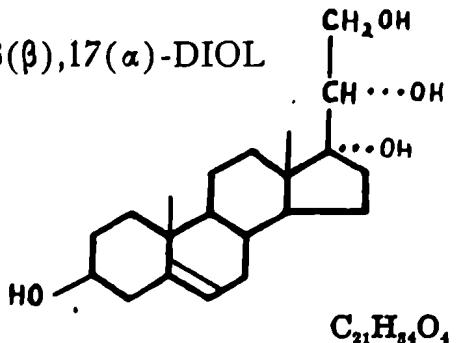
Me. ester 132-3°; $[\alpha]_D = -63.5^\circ \pm 1^\circ$ (dioxane): (1)

Me. ester-3-ac. 128-9°; $[\alpha]_D = -57^\circ \pm 1^\circ$ ($CHCl_3$): (1)

REFERENCES:

1. 77141

**17(β)-[1(α),2-DIHYDROXYETHYL]-Δ⁴-ANDROSTENE-3(β),17(α)-DIOL
(Δ⁵-pregnene-3(β),17(α),20(α),21-tetrol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 229-31°: (2)

$[\alpha]_D^{20} = -73.3^\circ$ (dioxane) : (2)

PHARMACOLOGY:

REMARKS:

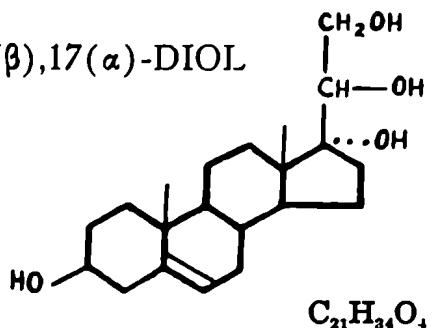
DERIVATIVES:

3,17 ¹ ,17 ² -triac.	166-8°;	$[\alpha]_D^{19} = -90.8^\circ \pm 4^\circ$ (acetone) : (1,2)	1. 81696
17 ¹ ,17 ² -monoacetone adduct	130° + 157°;	$[\alpha]_D^{13} = -62.7^\circ \pm 2^\circ$ (acetone) : (1)	2. A36445

REFERENCES:

**17(β)-[1(β).2-DIHYDROXYETHYL]- Δ^5 -ANDROSTENE-3(β),17(α)-DIOL
(Δ^5 -pregnene-3(β),17(α),20(β),21-tetrol)**

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ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS:

DERIVATIVES:

3,17¹,17²-triac.

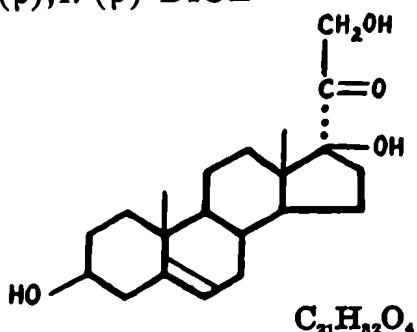
123-5°; $[\alpha]_D^{10} = -44^\circ \pm 3^\circ$ (acetone) : (1) 1. 81696

17¹,17²-monoacetone adduct ca. 100° + 160°; $[\alpha]_D^{15} = -59^\circ \pm 2^\circ$ (acetone) : (1)

REFERENCES:

**17(α)-[1-KETO-2-HYDROXYETHYL]- Δ^5 -ANDROSTENE-3(β),17(β)-DIOL
 $(\Delta^5\text{-pregnene-}3(\beta),17(\beta),21\text{-triol-}20\text{-one})$**

ISOLATION:



STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS:

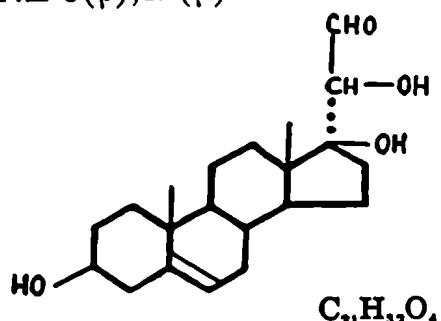
DERIVATIVES:

3,17²-diac. 198-200°; $[\alpha]_D^{20} = -15.3^\circ \pm 3^\circ$ (CHCl_3): (1)

REFERENCES:

1. 81791

**17(α)-[1(β)-HYDROXY-2-ALDOETHYL]- Δ^5 -ANDROSTENE-3(β),17(β)-DIOL
 $(\Delta^5\text{-pregnene-3}(\beta),17(\beta),20(\beta)\text{-triol-21-al})$**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: amorphous; (2)

PHARMACOLOGY:

REMARKS:

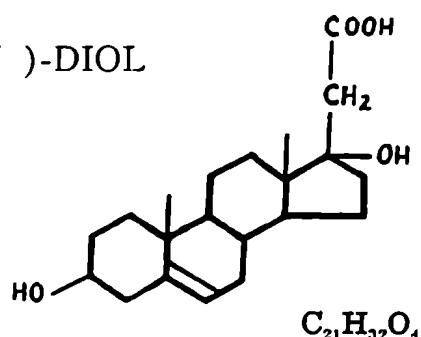
DERIVATIVES

3,17 β -diol 164.5° , $[\alpha]_D^{25} = -24.4^\circ \pm 3^\circ$ (dioxane); (1,2)

REFERENCES:

- 1 81790
- 2 81791

17()-[1-CARBOXYMETHYL]- Δ^5 -ANDROSTENE-3(β),17()-DIOL
 (Δ^5 -3,17-dihydroxy-androstene-17-acetic acid; Δ^5 -3(β),
 17()-dihydroxy-pregnenoic acid)



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 246-7°: (1)
 95-8° + 145-9° (+H₂O): (1)

PHARMACOLOGY:

REMARKS: Two crystalline forms of diac-me. ester (2).

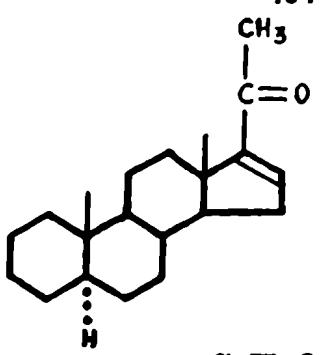
DERIVATIVES:

Diac.-me. ester	{ 110-2°;	(1)
	{ 113° and 121°; [α] _D = - 70° ± 2° (CHCl ₃): (2)	(2)
3,17-diac.	210-1°:	(1)
3-ac.	206-9°:	(2)
3-ac.-me. ester	{ 66-8° + 111-3°: [α] _D = - 68° ± 2° (CHCl ₃): (2)	(1)
	{ 117°; [α] _D = - 89° ± 2° (CHCl ₃): (2)	(1)
Me. ester	{ 151-3°: [α] _D = - 89° ± 2° (CHCl ₃): (2)	(1)
3-bz.-me. ester	180-3°:	(1)

REFERENCES:

1. 75157
2. 77141

**17-[1-KETOETHYL]- Δ^{10} -ANDROSTENE
(Δ^{10} -allo-pregnenone-20)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 156-8°: (1)
155-7°: (2)

PHARMACOLOGY:

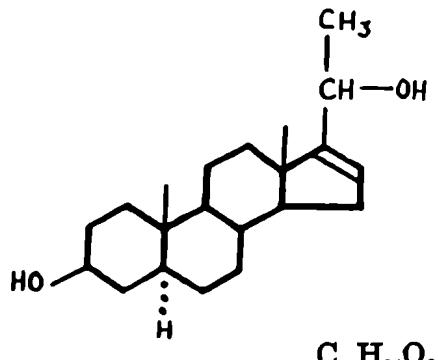
REMARKS:

DERIVATIVES:

REFERENCES:

1. 83009
2. 83068

**17-[1(β)-HYDROXYETHYL]- Δ^{16} -ANDROSTENE-3(β)-OL
 $(\Delta^{16}\text{-pregnene-}3(\beta),20(\beta)\text{-diol})$**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 188-90°: (1)

PHARMACOLOGY:

REMARKS:

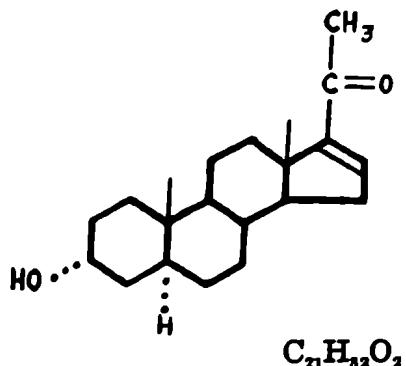
DERIVATIVES:

Diac. 102-4°: (1)

REFERENCES:

1. 80968

**17-[1-KETOETHYL]- Δ^{10} -ANDROSTENE-3(α)-OL
(Δ^{10} -epi-allo-pregnene-3-ol-20-one)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2,3)

M.P.: 219-22°: (1,2)
226° (u) : (3)

$[\alpha]_D^{24} = +54^\circ$ (CHCl_3) : (3)

PHARMACOLOGY:

REMARKS:

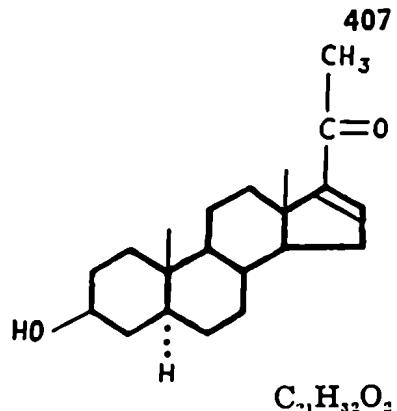
DERIVATIVES:

Ac. $\left\{ \begin{array}{l} 156-8^\circ: \\ 159^\circ; \end{array} \right.$ $[\alpha]_D^{24} = +57^\circ$ (CHCl_3) : (3) (1)

REFERENCES:

1. 79639
2. 80969
3. A57490

**17-[1-KETOETHYL]- Δ^{10} -ANDROSTENE-3(β)-OL
 $(\Delta^{10}\text{-allo-pregnene-3}(\beta)\text{-ol-20-one})$**



ISOLATION:

STRUCTURE AND SYNTHESIS: (12)

M.P.: 202-4°: (12)

PHARMACOLOGY:

REMARKS

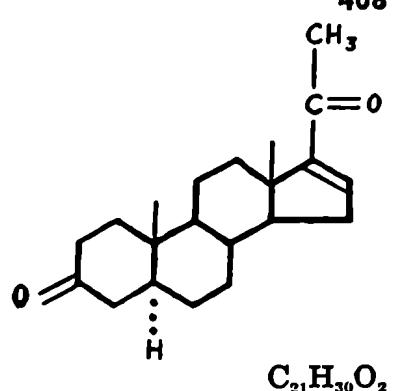
DERIVATIVES

Ac - 159.62° - 3°

REFERENCES:

1 - 50000

**17-[1-KETOETHYL]- Δ^{10} -ANDROSTENE-3-ONE
 (Δ^{10} -allo-pregnene-3,20-dione)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2,3)

M.P.: 209-11°: (2)

211-2°: (1,3)

205-8° (u): (4)

$[\alpha]_D^{24} = +72^\circ$ (CHCl₃): (4)

PHARMACOLOGY: Luteoid: **49**: 5 mg. inact.-Rb. (4).

REMARKS:

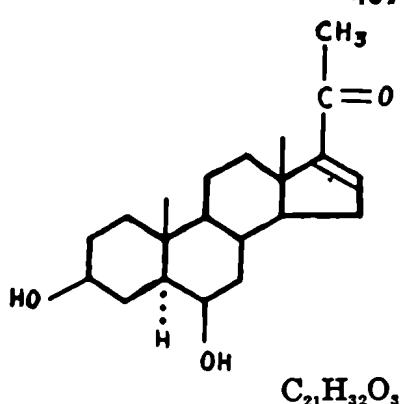
DERIVATIVES:

Dioxime 198-202°: (4)

REFERENCES:

1. 79005
2. 79639
3. 80968
4. A57490

**17-[1-KETOETHYL]- Δ^{10} -ANDROSTENE-3(β),6(β)-DIOL
(Δ^{10} -allo-pregnene-3(β),6(β)-diol-20-one)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 214-6°: (1)

PHARMACOLOGY:

REMARKS:

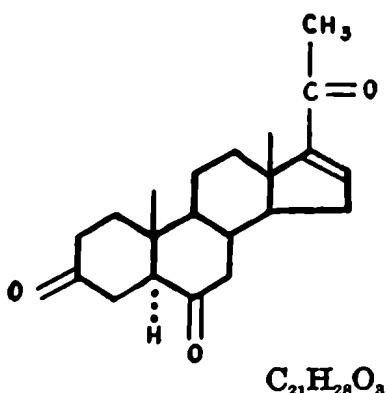
DERIVATIVES:

Diac. 233-5°: (1)

REFERENCES:

- 1. 83068

**17-[1-KETOETHYL]- Δ^{10} -ANDROSTENE-3,6-DIONE
(Δ^{10} -allo-pregnene-3,6,20-trione)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 224-7°: (1)

PHARMACOLOGY:

REMARKS:

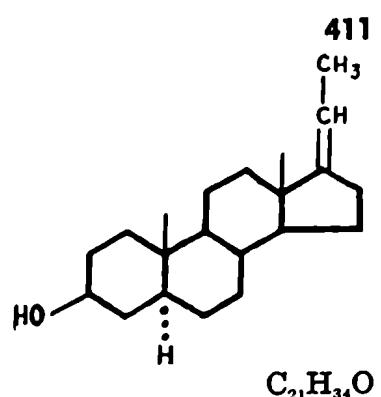
DERIVATIVES:

REFERENCES:

1. 83068

**17-ETHYLIDENE-ANDROSTANE-3(β)-OL
(Δ^{17} -allo-pregnene-3(β)-ol)**

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ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 136-7°: (1)

PHARMACOLOGY:

REMARKS:

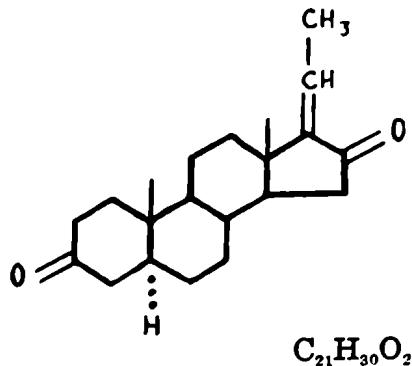
DERIVATIVES:

Ac. 120-1.5°: (1)

REFERENCES:

1. 78849

**17-ETHYLIDENE-ANDROSTANE-3,16-DIONE
(Δ^{17} -allo-pregnene-3,16-dione)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 190-2°: (1)

PHARMACOLOGY:

REMARKS:

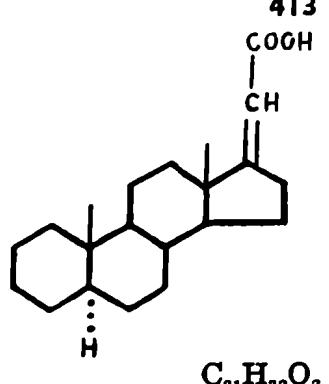
DERIVATIVES:

Bis-2:4-dinitrophenylhydrazone 190°: (1)

REFERENCES:

- 1. 75333

17-CARBOXYMETHYLENE-ANDROSTANE
($\Delta^{17,20}$ -allo-pregnenoic acid)



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 242-4°: (1)

PHARMACOLOGY:

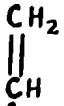
REMARKS:

DERIVATIVES:

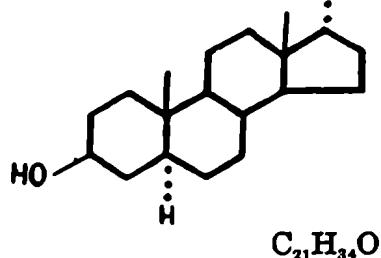
REFERENCES:

1. 83009

**17(α)-ETHYLENE-ANDROSTANE-3(β)-OL
 $(\Delta^{20}$ -allo-pregnene-3(β)-ol)**



ISOLATION:



STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS:

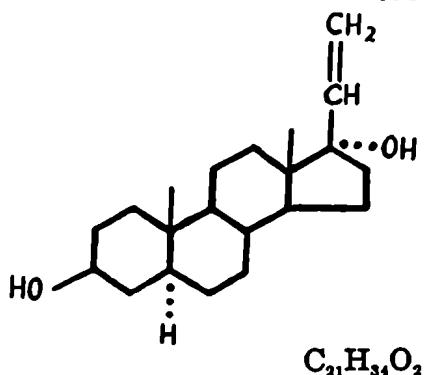
DERIVATIVES:

17:17¹-oxide 225°: (1)

REFERENCES:

1. 30540

17-ETHYLENE-ANDROSTANE-3(β),17(α)-DIOL
(17-vinyl-3-trans,17-dihydroxy-androstane;
(Δ²⁰-allo-pregnene-3(β),17(α)-diol)



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 207°: (1)

PHARMACOLOGY:

REMARKS:

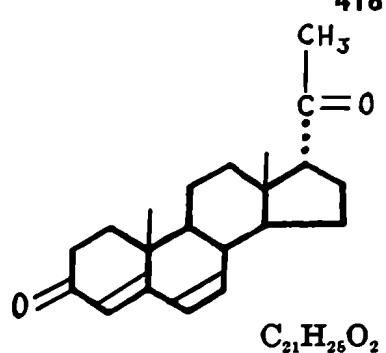
DERIVATIVES:

Diac. 156-8°; [α]_D = + 20.4° (dioxane): (2)
 17¹;17²-oxide 180-2°: (3)

REFERENCES:

1. A9025
2. 75676
3. A36445

**17(α)-[1-KETOETHYL]- $\Delta^{4,6}$ -ANDROSTADIENE-3-ONE
 (6-dehydroprogesterone; $\Delta^{4,6}$ -pregnadiene-3,20-dione)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 147-8°: (1)

$[\alpha]_D^{18} = +149.5^\circ$ (alc.): (1)

PHARMACOLOGY: Luteoid: **86A**: "Definite uterine proliferation" with 1.5 mg.-Rb. (1); **86A**: 20 mg. per os inact.-Rb. (1); Test?: inact. dose?-Rb. (2).

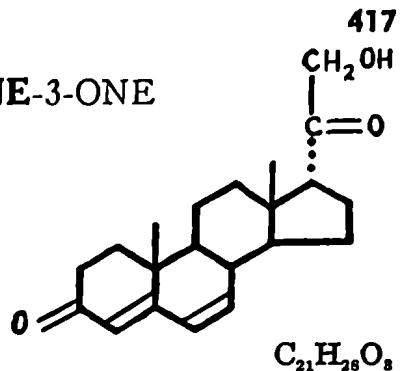
REMARKS:

DERIVATIVES:

REFERENCES:

1. 79620
2. 81151

**17(α)-[1-KETO-2-HYDROXYETHYL]- $\Delta^{4,6}$ -ANDROSTADIENE-3-ONE
 (6-dehydrodesoxycorticosterone; $\Delta^{4,6}$ -pregnadiene-3,20-dione-21-ol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY: Corticoid: **53A**: 1 mg./day of ac. inact.-R (1).

REMARKS:

DERIVATIVES

Ac. 115-6°; $[\alpha]_D = +151.5^\circ$ (alc.): (1)

REFERENCES:

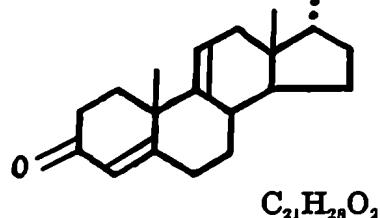
1. 79620

417.1

**17(α)-[1-KETOETHYL]- $\Delta^{4,0}$ -ANDROSTADIENE-3-ONE
 (9-dehydro-progesterone; $\Delta^{4,0}$ -pregnadiene-3,20-dione)**



ISOLATION:



STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 120-2°: (1)

$[\alpha]_D^{18} = +145^\circ \pm 5^\circ$ (acetone): (1)

$[\alpha]_{5461}^{18} = +184.5^\circ \pm 2.5^\circ$ (acetone): (1)

PHARMACOLOGY: Luteoid: 54: "Complete progestational proliferation" with 4 mg.-Rb (1).

REMARKS: Had originally been assigned the structure of 11-dehydro-progesterone (1), but above structure more probable (2).

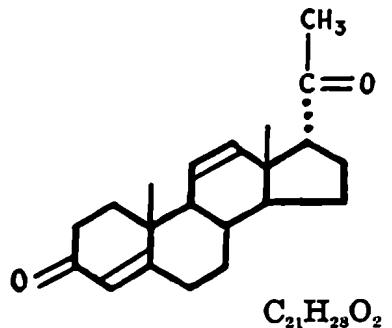
DERIVATIVES:

REFERENCES:

1. 81151
2. 84186

**17(α)-[1-KETOETHYL]- $\Delta^{4,11}$ -ANDROSTADIENE-3-ONE
(11-dehydroprogesterone; $\Delta^{4,11}$ -pregnadiene-3,20-dione)**

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ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 175-7°: (1)

$[\alpha]_D^{15} = +180.5^\circ \pm 2^\circ$ (acetone) : (1)

PHARMACOLOGY: Luteoid: **85A**: "at least $\frac{1}{2}$ as act. as progesterone"-Rb (2).

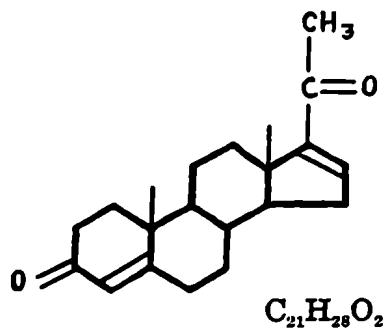
REMARKS: Cpd. 417.1 to which this formula had previously been assigned (1), is more probably 9-dehydro-progesterone (2).

DERIVATIVES:

REFERENCES:

1. 81151
2. 84186

**17-[1-KETOETHYL]- $\Delta^{4,10}$ -ANDROSTADIENE-3-ONE
(16-dehydroprogesterone; $\Delta^{4,10}$ -pregnadiene-3,20-dione)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,4)

M.P.: 186-8°: (1)
182-5°: (4)

PHARMACOLOGY: Luteoid: **46**: I.U. > 100 mg.-Rb. (3); **49**: 5 mg. inact.-Rb. (1).
Folliculoid: **62**: 1 mg./day inact.-M (1).
Testoid: **63**: U. = ca. 30γ-C (1); **32A**: 3 mg./day inact.-C (1).
Anesthetic: **11**: U. > 20 mg.-R (2); **127**: U. = 1.0 mg.-Fish (2).

REMARKS:

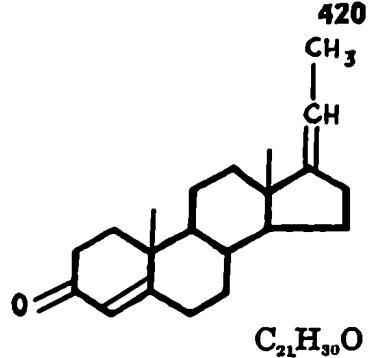
DERIVATIVES:

REFERENCES:

1. 75054
2. A38070
3. A50335
4. 79008

**17-ETHYLIDENE- Δ^4 -ANDROSTENE-3-ONE
[$\Delta^{4,17}$ -pregnadienone-(3)]**

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ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 135° (u) : (1,3,6)

PHARMACOLOGY: Luteoid: 85A: 17:17¹-oxide B-isomer up to 40 mg. inact.-Rb. (6).

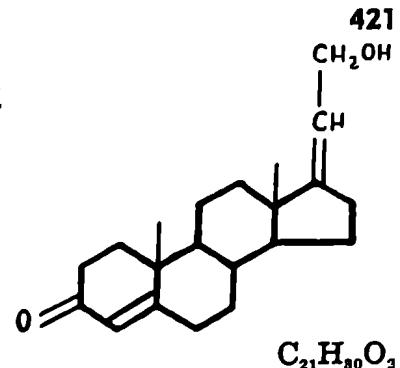
REMARKS: Not identical with cpd. m.p. 142-3°; $[\alpha]_D = +117.5^\circ \pm 1^\circ$ (CHCl_3), which may be geometric isomeride at 17¹ or the corresponding $\Delta^{4,17\text{I}}$ -dienone (6). A cpd. "C" m.p. 190°; $[\alpha]_D = +111^\circ$ (CHCl_3), is probably a doubly unsaturated ketol isomeric with the 17:17¹ oxides (6).

DERIVATIVES:

17²-pyridinium-Br.	213-4°:	(2)	1. 71848
Nitrone-17²-pyridinium-Br.	152-5°:	(2)	2. 78848
17²-Br.	126-7°:	(4)	3. 60175
Semicarb.	225°:	(1,6)	4. 75877
17:17¹-oxide A-isomer	174°; $[\alpha]_D = +82^\circ$ (CHCl_3): (6)	(6)	5. 77144
17:17¹-oxide B-isomer	189°; $[\alpha]_D = +105^\circ$ (CHCl_3): (6)	(6)	6. 84060
Semicarb.-17:17¹ oxide A	227-8°:	(6)	
Semicarb.-17:17¹ oxide B	217-8°:	(6)	

REFERENCES:

**17-[2-HYDROXYETHYLIDENE]- Δ^4 -ANDROSTENE-3-ONE
 $[\Delta^4,17\text{-}21\text{-hydroxy-pregnadienone-(3)}]$**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 138-9°: (1,2)

$[\alpha]_D = +116.5^\circ \pm 2^\circ$ (alc.): (1)

PHARMACOLOGY:

REMARKS:

DERIVATIVES:

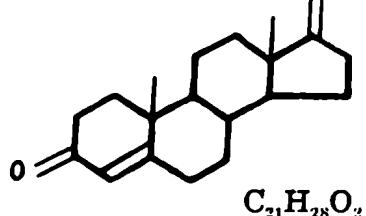
Ac. 107°: (1,2)
 Ac.-17:17¹-oxide 125°; $[\alpha]_D = +99^\circ \pm 1^\circ$ (dioxane): (3)

REFERENCES:

- 1. 75677
- 2. 75746
- 3. 75680

17-ALDOETHYLIDENE- Δ^4 -ANDROSTENE-3-ONE
($\Delta^{4,17}$ -pregnadiene-3-one-21-al)

ISOLATION:



STRUCTURE AND SYNTHESIS: (1)

M.P.: 149-52°: (1,2)

$[\alpha]_D^{20} = +139^\circ$ (alc.): (3)

PHARMACOLOGY:

REMARKS:

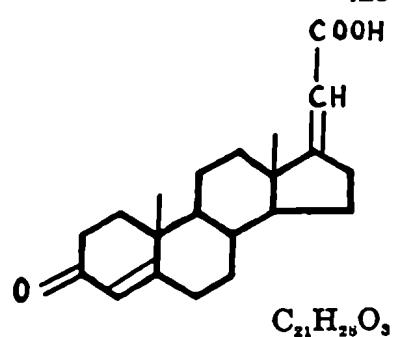
DERIVATIVES:

Disemicarb. ca. 370°: (3)

REFERENCES:

1. 78848
2. A54802
3. 75741

17-CARBOXYMETHYLENE- Δ^4 -ANDROSTENE-3-ONE
 ($\Delta^4,17$ -3-one-pregnadienoic acid)



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 265-7°: (2)

PHARMACOLOGY:

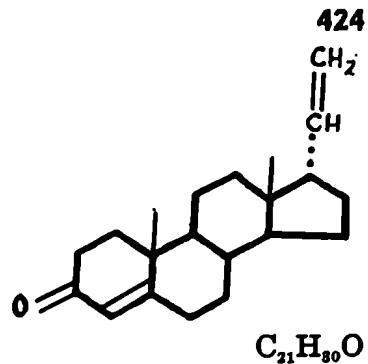
REMARKS:

DERIVATIVES:

Mc. ester $\{\Delta^4,152-4^\circ, 151-2^\circ\}$, $[\alpha]_D = +80^\circ \pm 1^\circ$ (dioxane); (2) 1 77141
 (1) 2 75741

REFERENCES:

**17(α)-ETHENYL- Δ^4 -ANDROSTENE-3-ONE
 $(\Delta^{4,20}$ -pregnadiene-3-one)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 142-3°: (1)

$[\alpha]_D = +117.5^\circ \pm 1^\circ$ ($CHCl_3$): (1)

PHARMACOLOGY:

REMARKS: May be $\Delta^{4,17}$ -dienone (1).

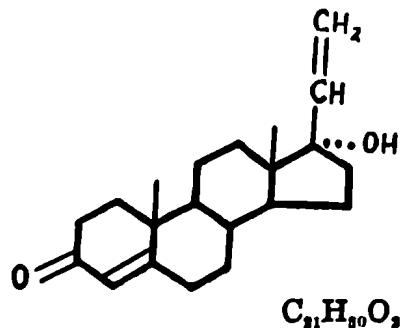
DERIVATIVES:

REFERENCES:

- 1. 77144

17(β)-ETHENYL-Δ⁴-ANDROSTENE-3-ONE-17(α)-OL

[vinyl-testosterone; ethenyl-testosterone;
pregnadiene-(4,20)-ol-(17)-one(3)]

**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1,2,3,4,12)

M.P.: 142° (u): (3)

140-1°: (1,7)

168.5°-70.5°: (12)

$[\alpha]_D = +77.6^\circ$ (dioxane): (3)

$[\alpha]_D = +87.6^\circ$ (alc.): (1)

PHARMACOLOGY:

Luteoid: 46: I.U. < 20 mg.-Rb. (9); 49: U. = ca. 6-7.5 mg.-Rb. (3,6); 49: U. = ca. 15 mg. per os-Rb. (3,6).

Folliculoid: 55: 10 mg. act.? -R (5,7).

Anesthetic: 11: U. = 10 mg.-R (5); 127: U. = 1.5 mg.-Fish (10).

—

REMARKS:**DERIVATIVES:**

Semicarb.

223° (u): (3)

Ac.

120-2°; $[\alpha]_D^{15} = +82.7^\circ \pm 3^\circ$ (acetone): (8)

17:17¹-oxide;

198-200°; $[\alpha]_D^{18} = +71.4^\circ \pm 3^\circ$ (acetone): (11)

REFERENCES:

1. 72151

2. A32424

3. 72048

4. 72150

5. A36744

6. 75676

7. A37486

8. 83470

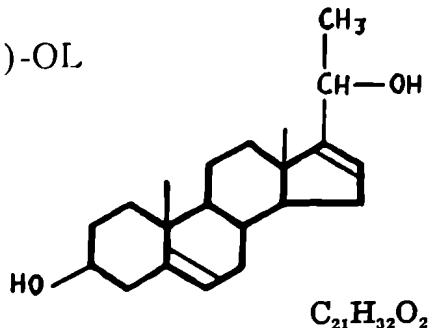
9. A56335

10. A38070

11. 81695

12. A57695

**17-[1(β)-HYDROXYETHYL]- $\Delta^{5,10}$ -ANDROSTADIENE-3(β)-OL
 $(\Delta^{5,10}\text{-pregnadiene-}3(\beta),20(\beta)\text{-diol})$**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 169-71°: (1)
 168-70°: (2)

PHARMACOLOGY: Testoid: Test?: inact. dose?-Species? (2).

REMARKS:

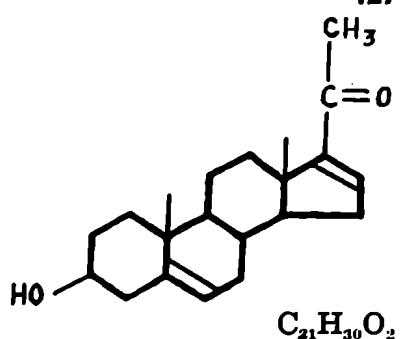
DERIVATIVES:

Diac. 121°: (1,2)

REFERENCES:

1. 80968
2. A57694

**17-[1-KETOETHYL]- $\Delta^{5,10}$ -ANDROSTADIENE-3(β)-OL
($\Delta^{5,10}$ -pregnadiene-3(β)-ol-20-one)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2,3,6)

M.P.: 211-3°: (1)
212-4°: (4,7)
213-5°: (5)
216°: (2)
178° (u): (3)

PHARMACOLOGY:

Folliculoid: **55**: free cpd. and ac. inact. at 20 mg.-R (8); **128C**: free cpd. and ac. inact. at 10 mg./day-R (9); **128A**: no *metrotropic* act. and no *anti-castration* cell act. with 2 mg. of ac.-R (12).

Luteoid: **46**: 50 mg. of ac. inact.-Rb. (10).

Anesthetic: **11**: U. of free cpd. > 20 mg.; ac. inact.-R (8); **127**: 7 mg. inact.-Fish (11); **127**: U. = 7 mg. of ac.-Fish (13).

REMARKS:

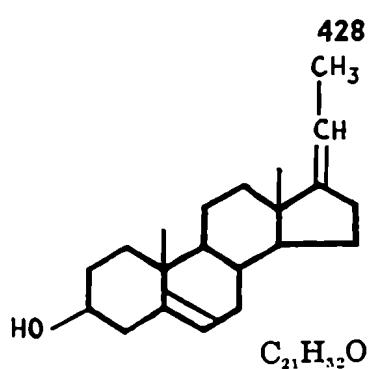
DERIVATIVES:

Ac. $\left\{ \begin{array}{l} 175-7^\circ; [\alpha]_D = -30^\circ \pm 1.5^\circ \text{ (alc.)} : (1,2) \\ 174^\circ; [\alpha]_D^{12} = -29.1^\circ \pm 4^\circ \text{ (acetone)} : (14) \\ 175-7^\circ; [\alpha]_D^{16} = -59.9^\circ \pm 3^\circ \text{ (dioxane)} : (14) \end{array} \right.$
Oxime 219-20°: (1,2)

REFERENCES:

1. 77142
2. 75054
3. 71852
4. 80962
5. 80966
6. 80968
7. 80969
8. A30744
9. A37486
10. A56335
11. A38070
12. A56752
13. 100000
14. 84182

17-ETHYLIDENE- Δ^5 -ANDROSTENE-3(β)-OL
 ($\Delta^{5,17}$ -3-trans-hydroxy-pregnadiene; $\Delta^{5,17}$ -pregnadiene-3(β)-ol) •



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2,3,4)

M.P.: 132-3 : (1)

PHARMACOLOGY:

REMARKS

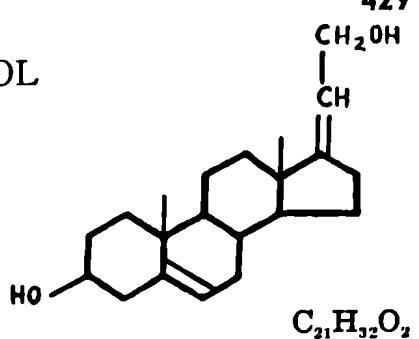
DERIVATIVES

Ac	140°	(3)
Ac-17- pyridinium-Br	216-7°	(1)
Nitrone-ac-17-pyridinium-Br	ca 170	(1)
Nitrone-17-pyridinium-Br (2)	133-5	(1)
Ac-17-Br (144 and 205 (two Br likely geometrical isomerids))	(2)	

REFERENCES:

- (1) 74448
- (2) 75677
- (3) A54217
- (4) 81090

**17-[2-HYDROXYMETHYLENE]- Δ^5 -ANDROSTENE-3(β)-OL
 $(\Delta^5,17\text{-pregnadiene-}3(\beta),21\text{-diol})$**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 198-9°: (1,2)

$[\alpha]_D = -59.5^\circ \pm 1.5^\circ$ (alc.): (1)

PHARMACOLOGY:

REMARKS:

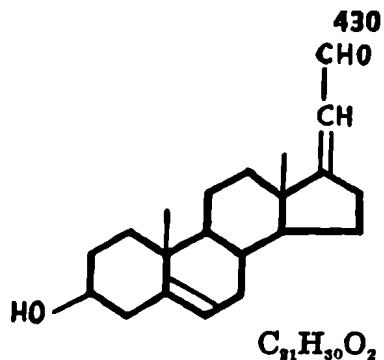
DERIVATIVES:

Diac. 136.5-7°: (1,2)

REFERENCES:

1. 75677
2. 75746

**17-ALDOMETHYLENE- Δ^5 -ANDROSTENE-3(β)-OL
($\Delta^5,17$ -pregnadiene-3(β)-ol-21-al)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2,3)

M.P.:

PHARMACOLOGY:

REMARKS:

DERIVATIVES:

Ac. 185-7°: (1,2,4)

Ac. semicarb. 245-6°: (4)

REFERENCES:

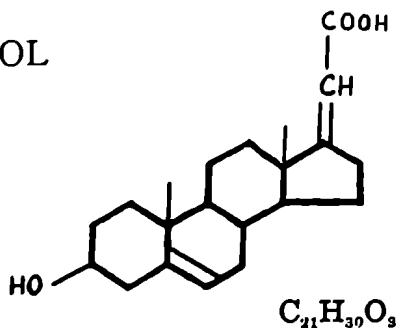
1. 78848

2. 81791

3. A54802

4. 75741

**17-[1()-CARBOXYMETHYLENE]- Δ^5 -ANDROSTENE-3(β)-OL
 (3(β)-hydroxy-pregnadiene- $5,17$ -acid-21; (β)-hydroxy- $\Delta^{5,17}$ -pregnadienoic acid)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2,3,4)

M.P.: 249-50°: (1)

$[\alpha]_D = -82^\circ \pm 1^\circ$ (dioxane) : (1)

217-8°: (3)

252-3°: (4)

PHARMACOLOGY:

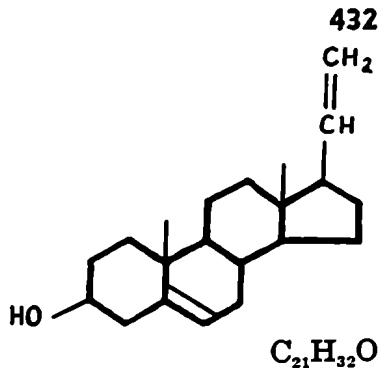
REMARKS: Cpd. of m.p. 217-8° may be 17¹ geometrical isomerid (1).

DERIVATIVES:

Me. ester	188-9°; $[\alpha]_D = -73^\circ \pm 1^\circ$ (dioxane) : (1)	1. 77141
3-ac.-me. ester	159°; $[\alpha]_D = -69^\circ \pm 1^\circ$ (CHCl ₃) : (1)	2. 81643
17 ² -Cl.-ac.	189-90°; $[\alpha]_D = -84^\circ$ (dioxane) : (2)	3. 75157
		4. 83173

REFERENCES:

**17(β)-ETHENYL- Δ^5 -ANDROSTENE-3(β)-OL
 $(\Delta^{5,20}\text{-pregnadiene-3}(\beta)\text{-ol})$**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 132-3°: (1)

$[\alpha]_D = -74^\circ \pm 1^\circ (\text{CHCl}_3)$: (1)

PHARMACOLOGY:

REMARKS:

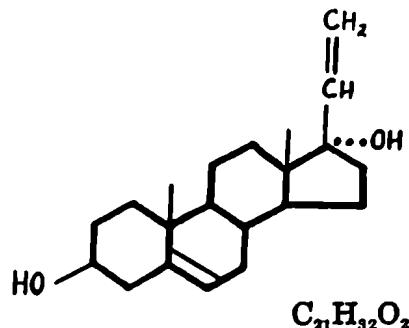
DERIVATIVES:

Ac. 143-4°; $[\alpha]_D = -70.3^\circ (\text{CHCl}_3)$: (1)

REFERENCES:

- 1. 77144

17(β)-ETHENYL- Δ^5 -ANDROSTENE-3(β),17(α)-DIOL
(Vinyl-androstendiol; Ethenyl-androstendiol;
 $\Delta^{5,20}$ -pregnadiene-3(β),17(α)-diol)



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2,4,7,8)

M.P.: 183-5° (u) : (4)
 183-4°: (2,7)
 184-7°: (3,8)

$[\alpha]_D = -71.4^\circ$ (dioxane) : (4)
 $[\alpha]_D = -84^\circ$ (dioxane) : (2)
 $[\alpha]_D = -64^\circ$ (alc.) : (3)

PHARMACOLOGY:

Folliculoid: 55: vag. stratification with 5-10 mg.-R (5,8).

Anesthetic: 11: U. = 10 mg.-R (5); 127: U. = 1.5 mg.-Fish (9).

REMARKS: Cpd. m.p. 148-9° (1) to which this formula was assigned later shown to be Δ^5 -androstene-3(β)-ol-17-one (2).

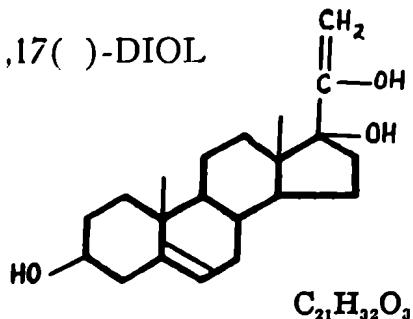
DERIVATIVES:

3-ac. 160-1°: (1,2)
 Diac. 120-1°; $[\alpha]_D = -37.4^\circ$ (dioxane) : (7)
 17-ac. 172-4°: (6)

REFERENCES:

1. A32423
2. 72150
3. 72151
4. 72048
5. A36744
6. 83470
7. 75676
8. A37486
9. A38070

**17()-[1()-HYDROXYETHENYL]- Δ^5 -ANDROSTENE-3(β),17()-DIOL
 $(\Delta^{5,20}\text{-pregnadiene-3}(\beta)\text{,17()},20()\text{-triol})$**



ISOLATION:

STRUCTURE AND SYNTHESIS:

M.P.:

PHARMACOLOGY:

REMARKS: Does not exist in free form since saponification gives 17 (α)-[1-ketoethyl]- Δ^5 -androstene-3(β),17()-diol.

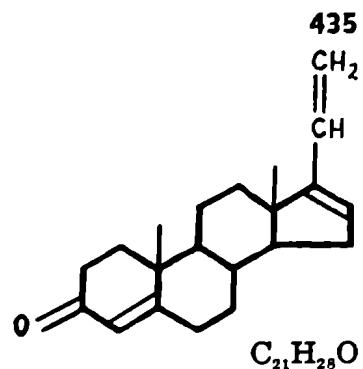
DERIVATIVES:

17¹-ac. 175-7°: (1)
 3,17¹-diac. 191-2°: (1)

REFERENCES:

1. A58754

**17-[ETHENYL]- $\Delta^{4,16}$ -ANDROSTADIENE-3-ONE
 ($\Delta^{4,16,20}$ -pregnatriene-3-one)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 124-35° (impure): (1)

PHARMACOLOGY:

REMARKS:

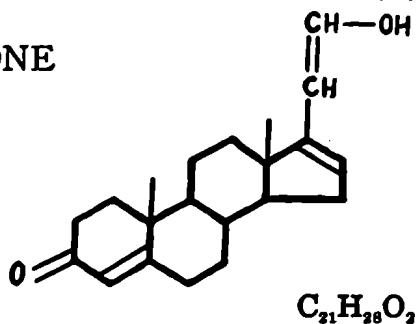
DERIVATIVES:

REFERENCES:

1. 78848

**17-[2-HYDROXYETHENYL]- $\Delta^{4,16}$ -ANDROSTADIENE-3-ONE
($\Delta^{4,16,20}$ -pregnatriene-3-one-21-ol)**

436



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS:

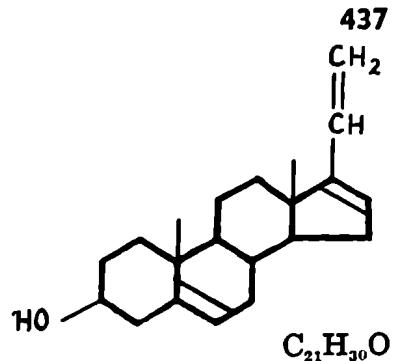
DERIVATIVES:

Ac. (2 isomers) { 192-4°: (1)
 { 262-4°: (4)

REFERENCES:

1. 75741

**17-ETHENYL- $\Delta^{5,10}$ -ANDROSTADIENE-3(β)-OL
 $(\Delta^{5,10,20}\text{-pregnatriene-3-ol})$**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 125.5-6°: (2)

PHARMACOLOGY:

REMARKS:

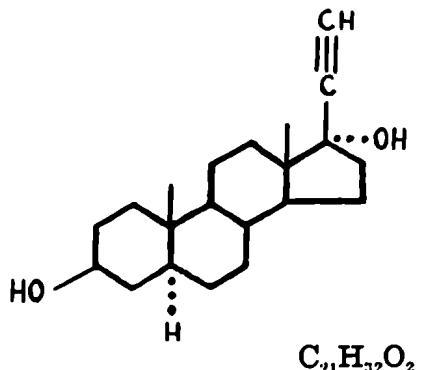
DERIVATIVES:

3-ac.-17^α-diphenyl 193-5°: (1)
 Ac. 87°: (2)

REFERENCES:

1. 75157
2. 75746

17(β)-ETHYNYL-ANDROSTANE-3(β),17(α)-DIOL
(17-ethinyl-androstane-3(β),17(α)-diol; Δ^{20} -pregnine-3(β),17(α)-diol)



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 255-7°: (1)
 257°: (2)

PHARMACOLOGY:

REMARKS:

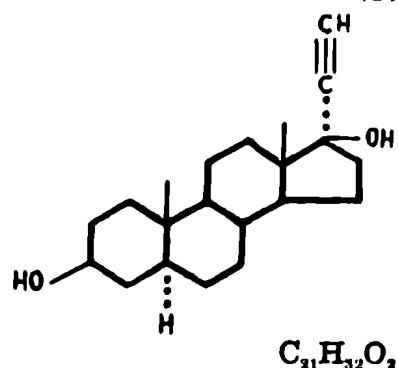
DERIVATIVES:

3-ac. 205-7°: (1)
 Diac. 199-200°: (1)

REFERENCES:

1. 69946
2. A9625

17(α)-ETHYNYL-ANDROSTANE-3(β),17(β)-DIOL
 (17(α)-ethinyl-androstane-3(β),17(β)-diol;
 Δ^{20} -pregnane-3(β),17(β)-diol)



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 228-9°: (1)

PHARMACOLOGY:

REMARKS:

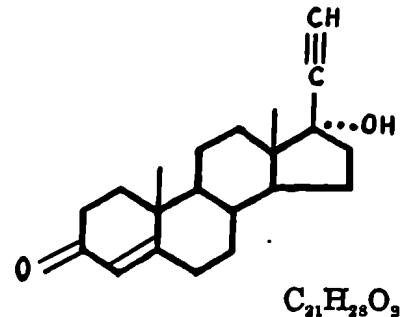
DERIVATIVES:

3-ac. 174-5°; $[\alpha]_D^{20} = +27^\circ \pm 6^\circ$ (acetone): (1)

REFERENCES:

1. 75154

17(β)-ETHYNYL-Δ⁴-ANDROSTENE-3-ONE-17(α)-OL
 (pregneninolone; pregneninonol; ethinyl-testosterone;
 anhydro-hydroxyprogesterone)



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2,3,4)

M.P.: 264-6° (u): (2,3)
 270-2°: (1)

$[\alpha]_D = + 21.5^\circ$ (dioxane) : (2,3)
 $[\alpha]_D = + 22.5^\circ$ (dioxane) : (1)

PHARMACOLOGY:

Testoid: **59A**: I.U. = ca. 6 mg.-C (5); **32A**: 2 mg. inact.-C (3); **59A,59B**: "About 1/600 the potency of testosterone"-almost as act. per os as by s.c. injection-C (6); **59C**: 0.15 mg. act.-C (6); **65A**: 0.5 mg./day s.c. stimulates preputial glands and clitoris-R (14); **114**: "more act. than Δ⁶-androstenediol (β,α) in prepubertal ♂/c but less act. than this diol in postpubertal ♂/c"-R (19); **117**: 3-20 mg. per os or s.c. act on prostate-R (8); **74B**: up to 60 mg./day inact.-Human (12); **92**: 0.25 mg./day act-C (33); **114**: 10-20 mg./day act.-R (35); **135**: 10 mg./day more act. than 20 mg./day-Chick (35). **128B**: prep.gl. 90(± 13)%/2 mg.-R (30); **132**: at 2 mg. dose s.ves. 432(± 35)%, pta. 250(± 20), prep.gl. 60(± 9)%-R (26); **96**: at 2 mg. dose, s.ves. 867(± 87), pta. 643(± 73), prep.gl. 158(± 28)%-R (37); **125**: at 2 mg. dose, s.ves. 981(± 134), pta. 480(± 89), prep.gl. 121(± 26)%-R (37).

Luteoid: **46**: I.U. = 10 mg., as act. s.c. as per os-Rb. (5,8); **46**: I.U. = 10 mg.-Rb. (20); **49**: 3 \times < act. than progesterone, 4 mg. act. per os-Rb. (2,3,4); **48**: U. = 3-4 mg. s.c., 6-7 mg. per os, orally more act. in alcohol sol. than in form of pills-Rb. (21); **58**: "effects similar to those produced by progesterone", as act. s.c. as per os-R (6); **27**: 1-2 mg. act. per os-G (16,17); **86A**: 4-6 mg. s.c. and 10 mg. per os act.-Rb. (1); **74A**: act. s.c. and per os-Human (20,34); **74A**: per os 30 mg./day optimally act. and equivalent to 4 mg. s.c.-Human (13); **48**: per os 4 \times and s.c. 8-10 \times less act. than progesterone-Rb. (22); **124**: 50 mg./day act.-Rb. (36); **124**: s.c. 15 \times less act. than progesterone-Rb. (22); **116**: act.-Rb. (22); **134B**: 1 mg./day inact.-Rb. (22).

Folliculoid: **116**: stimulates uterine contractions-Rb. (8); **117**: mucification and cornification-R (8); **39B**: 0.5 mg./day causes vaginal opening-R (14); **58**: vaginal opening and cornification, more act. by injection than per os-R, M (5,6); **74B**: 60 mg./day slightly act.-Human (12); **128C**: stratification and cornification with 2 mg./day-R (10,23); **130**: S/L = ca. 1-R (31); **90**: 3 mg. act.-R (9); **58**: mammotropic U. = 10-20 mg.-M (15); **133B**: anti-Leydig cell act: +/1 - 10 mg./day-R (27); **118**: act. on endometrial mole formation-R (10); **128A**: metrotropic act: 337(± 14)%/2 mg.; anti-castration cell act: + +/2 mg.-R (30).

Corticoid: **47A**: up to 20 mg. inact.-R (11); **72**: 10 mg./day inact.-Ferret (7); **53A**: 3 mg./day per os inact.-R (7); **53A**: up to 10 mg./day inact. s.c.-R (7,25); **146**: 2 mg. inact.-M (38).

Gonadotropic: **126**: 0.5 mg./day causes no corpus luteum formation-R (14); **125**: at 2 mg. inact. on testis-R (37).

Anti-Folliculoid: **129**: 10 mg./day inact.-R (24).

Anesthetic: **11**: U. = 20 mg.-R (18); **127**: U. = 7 mg.-Fish (28).

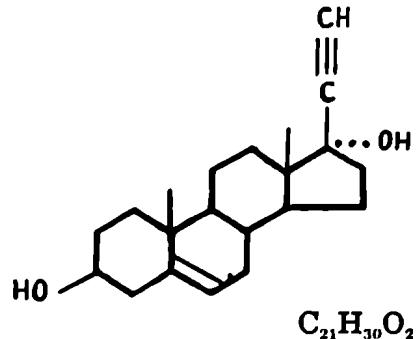
REMARKS:**DERIVATIVES:**

Semicarb. 230-1° (u); (3)
17-ac. 167-8°; (32)
Oxime 234-5°; (1)

REFERENCES:

1. 72150 21. 75676
2. 70097 22. A39497
3. 72048 23. A37486
4. A31085 24. A37637
5. 76246 25. A56191
6. 78328 26. A38071
7. 79154 27. A38086
8. 80260 28. A38070
9. 70053 29. A56335
10. A31650 30. A56752
11. A31765 31. A38663
12. A35288 32. 73580
13. A33403 33. 79061
14. A32790 34. 74221
15. A36499 35. 75712
16. A34940 36. 75711
17. 79119 37. A57917
18. A36744 38. A36403
19. A37420 39. 100000
20. 75105

**17(β)-ETHYNYL-Δ⁵-ANDROSTENE-3(β),17(α)-DIOL
(Ethinyl-Δ⁵-androstendiol-3,17)**



ISOLATION:

M.P.: 240°: (2)
240-2°: (3)
243-5°: (5)

$[\alpha]_D^{25} = -119^\circ$ (CHCl_3): (1)

PHARMACOLOGY: Folliculoid: 62?: U. = 0.2 mg. of mono-ac.-R (2).
Testoid: 32?: 1 mg. of mono-ac. inact.-C (2).
Luteoid: 46: I.U. < 100 mg.-Rb (7).
Anesthetic: U. > 20 mg.-R (6).

REMARKS: Not ppt. with digitonin (5).

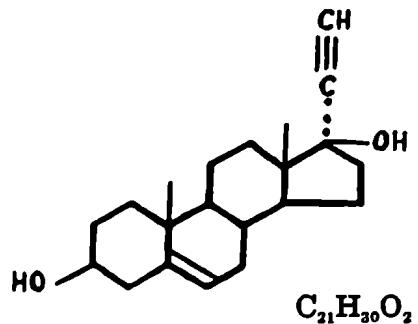
DERIVATIVES:

Ac. 175-6°: (3)
Diac. 169-9.5°: (3)
3-ac.-17-bz. 209-11°: (4)

REFERENCES:

1. A34071
2. A9625
3. 69946
4. 73580
5. A19373
6. A36744
7. 100000

**17(α)-ETHYNYL- Δ^4 -ANDROSTENE-3(β),17(β)-DIOL
 (Ethinyl- Δ^4 -androstene-3(β),17(β)-diol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 243-5°: (1)

PHARMACOLOGY:

REMARKS:

DERIVATIVES:

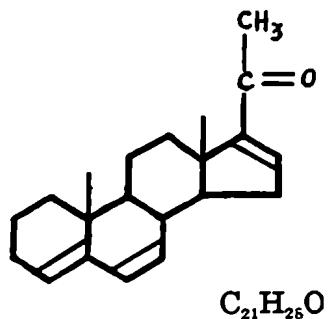
3-ac. 186-8°; $[\alpha]_D^{10} = -26.3^\circ \pm 2^\circ$ (acetone): (1)

REFERENCES:

1. 75154

**17-[1-KETOETHYL]- $\Delta^{4,6,10}$ -ANDROSTATRIENE
[$\Delta^{4,6,10}$ -pregnatrienone-(20)]**

442.1



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 142-3°: (1)

$[\alpha]_D^{13} = -106^\circ \pm 3^\circ$ (acetone): (1)

PHARMACOLOGY:

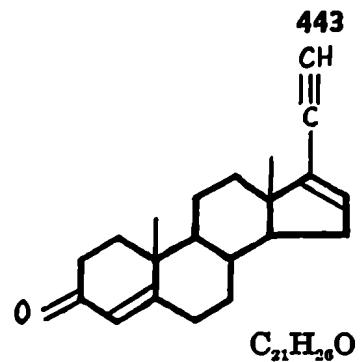
REMARKS:

DERIVATIVES:

REFERENCES:

1. 84182

17-ETHYNYL- $\Delta^{4,10}$ -ANDROSTADIENE-3-ONE
 (anhydro-pregn-en-3-one)



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 166°: (1)

PHARMACOLOGY: Luteoid: 54: 10 mg. s.c. or 20 mg. per os inact.-Rb. (1).

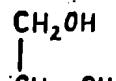
REMARKS:

DERIVATIVES:

REFERENCES:

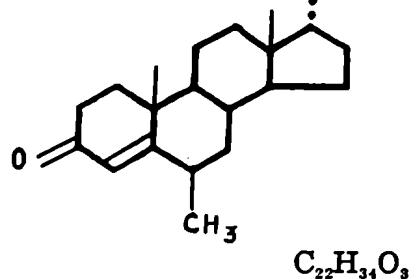
1. 72048

**6()-METHYL-17(α)-[1(),2-DIHYDROXYETHYL]- Δ^4 -ANDROSTENE-3-ONE
 (6-methyl- Δ^4 -pregnene-3-one-20,21-diol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)



M.P.:

PHARMACOLOGY:

REMARKS:

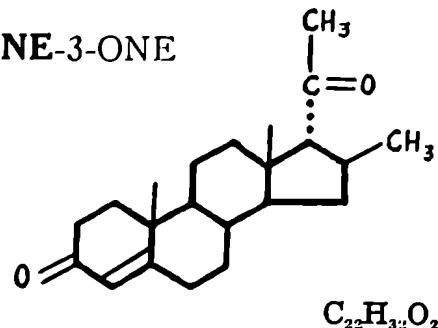
DERIVATIVES:

Diac. 165-70°: (1)

REFERENCES:

1. 83977

**16()-METHYL-17(α)-[1-KETOETHYL]- Δ^4 -ANDROSTENE-3-ONE
(16-methyl-progesterone)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 133-5°: (1)

PHARMACOLOGY:

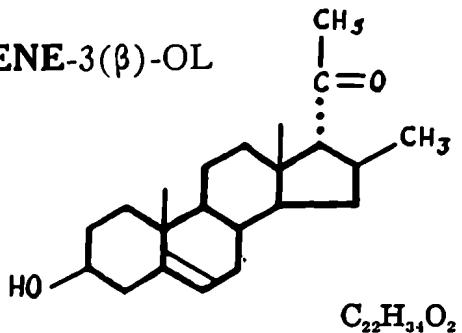
REMARKS:

DERIVATIVES:

REFERENCES:

1. 83174

**16()-METHYL-17(α)-[1-KETOETHYL]- Δ^5 -ANDROSTENE-3(β)-OL
(16-methyl-5-pregnene-3(β)-ol-20-one)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 191-2°: (1)

PHARMACOLOGY:

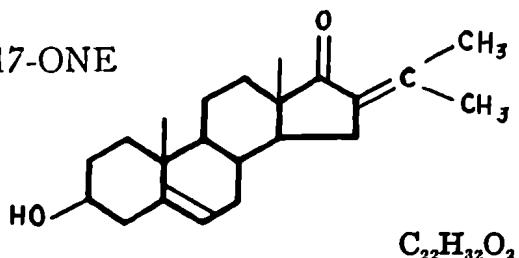
REMARKS:

DERIVATIVES:

Semicarb. 245°: (1)
Ac. 177-8.5°: (1)

REFERENCES:

1. 83174

16-ISOPROPYLIDENE- Δ^4 -ANDROSTENE-3(β)-OL-17-ONE**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)**M.P.:** 223°: (1)**PHARMACOLOGY:****REMARKS:****DERIVATIVES:**

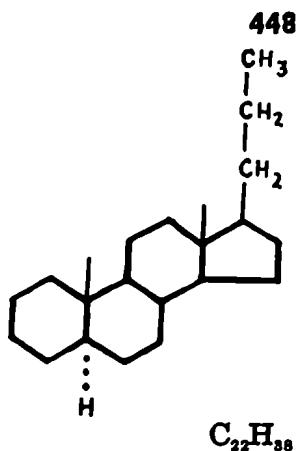
Ac. 189°: (1)

REFERENCES:

1. 75055

17()-PROPYL-ANDROSTANE
(allo-homo-(ω)pregnane)

ISOLATION:



STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

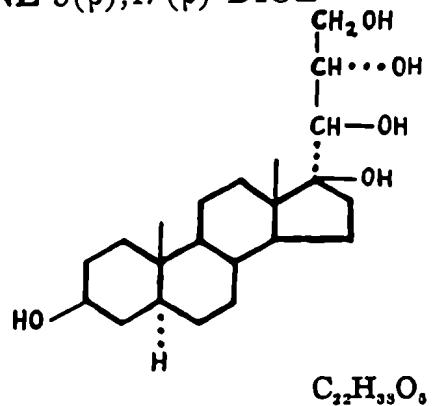
REMARKS: Theoretical parent hydrocarbon (1).

DERIVATIVES:

REFERENCES:

1. 81152

**17(α)-[1(β),2(α),3-TRIHYDROXYPROPYL]-ANDROSTANE-3(β),17(β)-DIOL
 (Allo-homo-(ω)-pregnane-3(β),17(β),20(β),21(α),22-pentol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS:

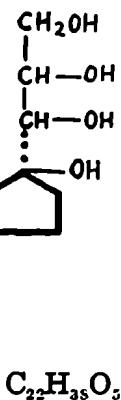
DERIVATIVES

3,17 β -diol	134-7°
17 α ,17 β -monoacetone adduct	155-60
3,17 β -diol·17 α ,17 β -monoacetone adduct	230-1°; $[\alpha]^{25} = +1.8^{\circ} \pm 2^{\circ}$ (CHCl_3)

REFERENCES:

- (1) 1-81152
- (1)
- (1)

**17(α)-[1(β),2(β),3-trihydroxypropyl]-ANDROSTANE-3(β),17(β)-DIOL
 (Allo-homo-(ω)-pregnane-3(β),17(β),20(β),21(β),22-pentol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 258-9° (+½ H₂O) : (1)

PHARMACOLOGY:

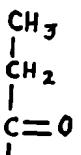
REMARKS:

DERIVATIVES:

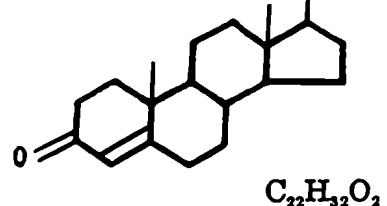
Mono-ac.	242-3.5°; $[\alpha]_D^{13} = -12^\circ \pm 2^\circ$ (CHCl ₃) :	(1) 1. 81152
17 ^a ,17 ^b -monoacetone adduct	206-7°:	(1,2) 2. 81791
17 ^a ,17 ^b -monoacetone adduct-3,20-diac.	213-4°; $[\alpha]_D^{13} = +35.8^\circ \pm 2^\circ$ (CHCl ₃) :	(1,2)
Ac.-monacetone adduct	241-3°; $[\alpha]_D^{13} = +12.8^\circ \pm 2^\circ$ (CHCl ₃) :	(1)

REFERENCES:

**17()-[1-KETOPROPYL]- Δ^4 -ANDROSTENE-3-ONE
(21-methyl-progesterone)**



ISOLATION:



STRUCTURE AND SYNTHESIS: (1)

M.P.: 151-2°: (1)

PHARMACOLOGY: Luteoid: 86A: 3 mg. s.c. slightly act.; 5 mg. s.c. definitely act.; 40 mg. per os inact.-Rb. (1).

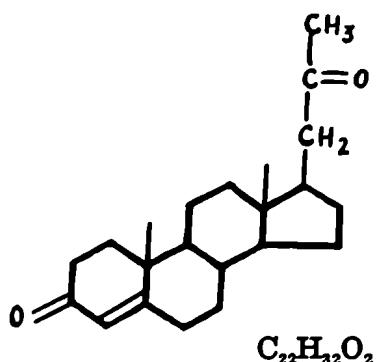
REMARKS:

DERIVATIVES:

REFERENCES:

1. 79824

**17()-[2-KETOPROPYL]- Δ^4 -ANDROSTENE-3-ONE
 $(\Delta^4$ -3-keto-17[17²-oxo-propyl]-androstene)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 153-4°: (1)

$[\alpha]_D = +89^\circ \pm 2^\circ$ (dioxane) : (1)

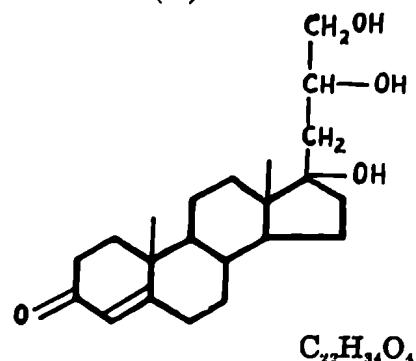
PHARMACOLOGY: Luteoid: 86A?: 20 mg. inact.-Rb. (1).

REMARKS:

DERIVATIVES:

REFERENCES:

1. 81643

17()-[2(),3-DIHYDROXYPROPYL]- Δ^4 -ANDROSTENE-3-ONE-17()-OL**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1,2)

M.P.: 168° and 198° (u): (1)
 190-5°: (2)
 207-7.5°: (2)

$[\alpha]_D^{20} = +48.3^\circ$ (CHCl_3): (1)

PHARMACOLOGY: Testoid: 63: 0.5 mg. inact.-C (1).

Folliculoid: 62: 1 mg./day inact.-M (1).

Corticoid: 15: 5 mg./day inact.-Cat (1).

REMARKS: Isomeric at C17² with cpd. 454.

DERIVATIVES:

17²,17³-monoacetone adduct ($\frac{1}{2}$ H₂O) 107°; $[\alpha]_D^{16} = +61^\circ \pm 2^\circ$ (acetone): (2)

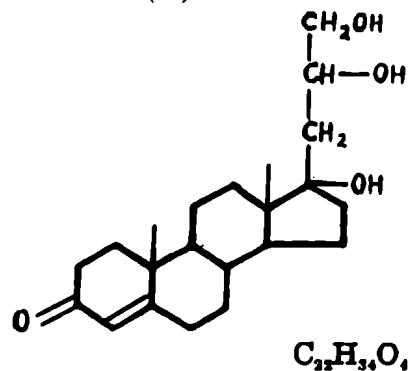
17²,17³-dibz. 161-2°: (2)

Diac. not crystalline: (2)

REFERENCES:

1. 75052

2. 79193

17()-[2(),3-DIHYDROXYPROPYL]- Δ^4 -ANDROSTENE-3-ONE-17()-OL**ISOLATION:****STRUCTURE AND SYNTHESIS:** (12)

M.P.: 224-5° (u): (1)
226-31°: (2)

$[\alpha]_D^{20} = +54^\circ$ (CHCl_3): (1)

PHARMACOLOGY:

REMARKS: Isomeric at C17² with cpd. 453, for bioassays see the latter.

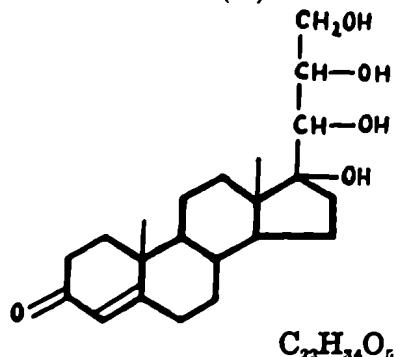
DERIVATIVES:

Trityl ether	197.5° (u):	(1)
17 ² ,17 ³ -monoacetone	135-6°; $[\alpha]_D^{15} = +38^\circ \pm 2^\circ$ (acetone):	(2)
17 ² ,17 ³ -dibz.	169-70°; $[\alpha]_{5461}^{15} = +45.2^\circ \pm 2^\circ$ (acetone):	(2)
Diac.	not crystalline:	(2)

REFERENCES:

1. 75052
2. 79193

**17()-[1().2().3-TRIHYDROXYPROPYL]- Δ^4 -ANDROSTENE-3-ONE-17()-OL
(Trihydroxy-propyl-testosterone)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 237.5° (u) : (1)
239-44°: (2)

PHARMACOLOGY: Testoid: 63: 0.5 mg. inact.-C (1).

Folliculoid: 62: 1 mg./day inact.-M (1).

Corticoid: 5 mg./day inact.-Cat (1).

REMARKS:

DERIVATIVES:

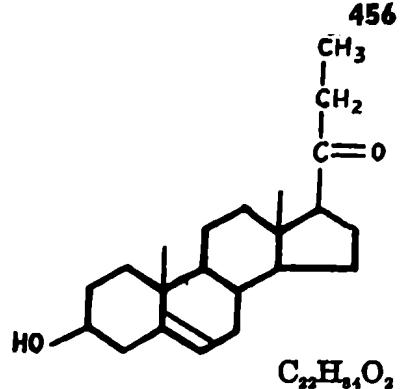
Monoacetone adduct	235-6.5°; $[\alpha]_D^{18} = + 66.7 \pm 2^\circ$ (dioxane) : (2)
17¹-ac.-monoacetone adduct	221-3°; $[\alpha]_D^{17} = + 107.4 \pm 2^\circ$ (acetone) : (2)
17¹-ac.	210-1.5°; $[\alpha]_D^{18} = + 100 \pm 2^\circ$ (dioxane) : (2)

REFERENCES:

1. 75052
2. 79193

17()-[1-KETOPROPYL]- Δ^5 -ANDROSTENE-3(β)-OL

456



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 170-1°: (1)

PHARMACOLOGY:

REMARKS:

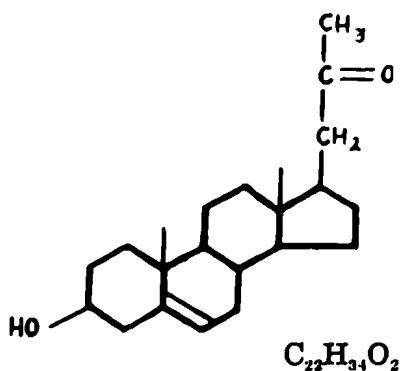
DERIVATIVES:

Ac. 175.5-6.5°: (1)

REFERENCES:

1. 79624

**17()-[2-KETOPROPYL]- Δ^5 -ANDROSTENE-3(β)-OL
 $(\Delta^5$ -3-hydroxy-17[17²-oxo-propyl]-androstene)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 177-8°: (1)

$[\alpha]_D = -48^\circ \pm 4^\circ$ (dioxane) : (1)

PHARMACOLOGY:

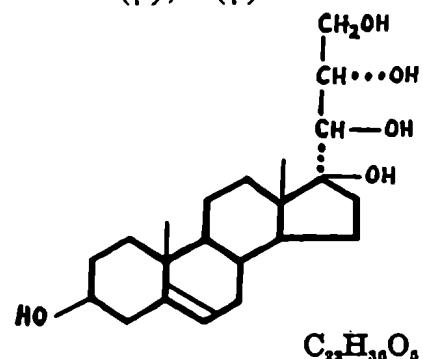
REMARKS:

DERIVATIVES:

Ac. 156-7°; $[\alpha]_D = -49^\circ \pm 4^\circ$ (dioxane) : (1)

REFERENCES:

1. S1643

17(α)-[1(β),2(α),3-TRIHYDROXYPROPYL]-Δ⁵-ANDROSTENE-3(β),17(β)-DIOL**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)**M.P.:****PHARMACOLOGY:****REMARKS:****DERIVATIVES:**3,17¹-diac.

125-30°:

REFERENCES:

(1) L 81791

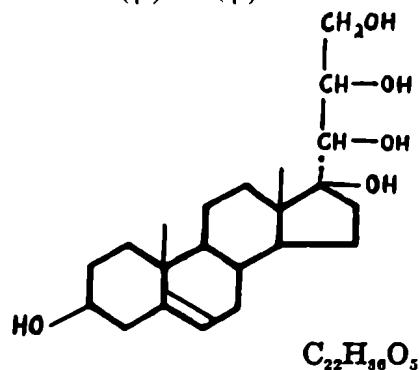
17¹,17²-monoacetone adduct

82° ± 171° (crude):

(1)

9,17¹-diac.,17¹,17²-monoacetone adduct 221-3.5°: $[\alpha]_{D}^{25} = -38.6^\circ \pm 4^\circ$ (acetone): (1)

**17(α)-[1(β),2(β),3-trihydroxypropyl]- Δ^5 -ANDROSTENE-3(β),17(β)-DIOL
(Δ^5 -allo-homo-(ω)-pregnene-3(),17(),20(),21()-22-pentol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 246-57°: (1)

$[\alpha]_D^{15} = -61^\circ \pm 2.5^\circ$ (acetone): (1)

PHARMACOLOGY:

REMARKS:

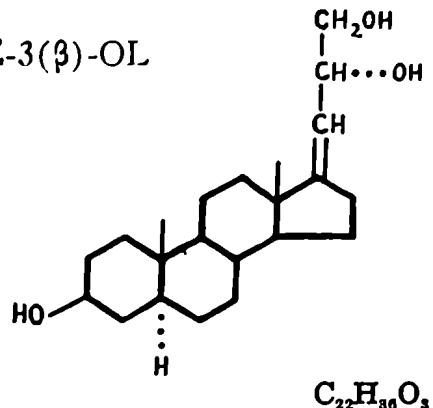
DERIVATIVES:

3,17 ¹ -diac.	(impure) :	(1)
17 ² ,17 ³ -monoacetone adduct	180-2° and 191-2°; $[\alpha]_D^{11} = -37.6^\circ$ (acetone):	(1)
3,17-diac.-17 ² ,17 ³ -monoacetone adduct	$[\alpha]_D^{10} = -12^\circ \pm 3^\circ$ (acetone):	(1)

REFERENCES:

1. 81791

**17-[2(α),3-DIHYDROXYPROPYLIDENE]-ANDROSTANE-3(β)-OL
(allo-homo-(w)- Δ^{17} -pregnene-3(β),21(α),22-triol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 176-8°: (1)

PHARMACOLOGY:

REMARKS:

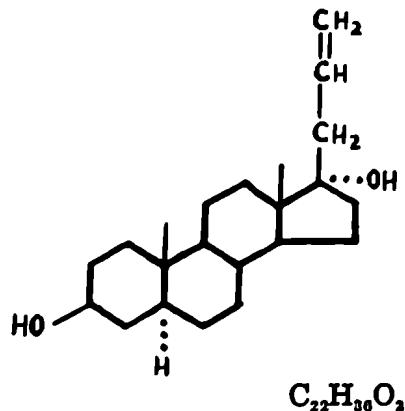
DERIVATIVES:

17 ² ,17 ³ -monoacetone	110-2° + 131-3°: (1)	1. 81152
3-ac.-17 ² ,17 ³ -monoacetone	168-9°: (1)	

REFERENCES:

**17(β)-[2-PROPYNYL]-ANDROSTANE-3(β),17(α)-DIOL
(allo-homo-(ω)-Δ²¹-pregnene-3(β),17(α)-diol)**

ISOLATION:



STRUCTURE AND SYNTHESIS: (1)

M.P.: 176-7°: (1)

PHARMACOLOGY:

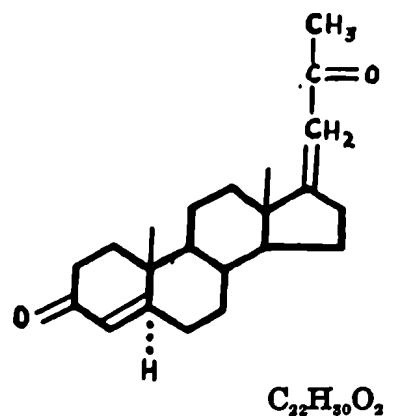
REMARKS:

DERIVATIVES:

3-ac. 135-6°; $[\alpha]_D^{17} = +9.5^\circ \pm 2^\circ$ (acetone): (1) 1. 81152 .

REFERENCES:

**17-[2-KETOPROPYLIDENE]- Δ^4 -ANDROSTENE-3-ONE
 (Δ^4 -3-keto-17-[17²-oxo-propylidene]-androstene)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 176-7°: (1)

$[\alpha]_D = +87^\circ \pm 2^\circ$ (dioxane): (1)

PHARMACOLOGY:

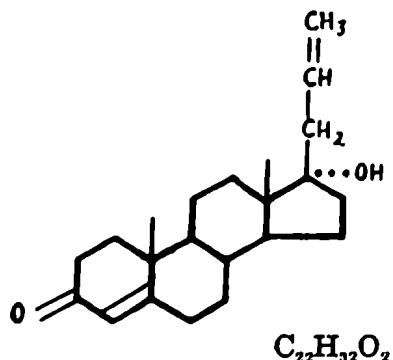
REMARKS:

DERIVATIVES:

REFERENCES:

1. 81643

**17(β)-[2-PROPENYL]-Δ⁴-ANDROSTENE-3-ONE-17(α)-OL
(17-allyl-testosterone)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 93° and 105-7.5° (u) (+½ H₂O): (1)

113-4°: (2)

150-3°: (3)

PHARMACOLOGY: **Testoid:** 63: 0.5 mg. inact.-C (1).

Folliculoid: 62: 1 mg./day inact.-M (1).

REMARKS:

DERIVATIVES:

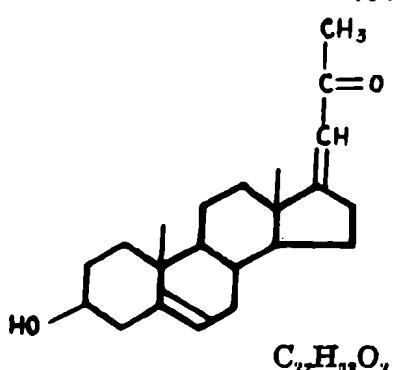
Oxime 144-6° (u) (+½ H₂O): (1)

REFERENCES:

1. 75052

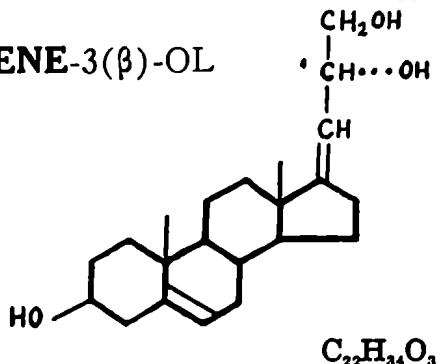
2. 79193

3. A57695

17-[2-KETOPROPYLIDENE]- Δ^5 -ANDROSTENE-3(β)-OL**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)**M.P.:** 168-9°: (1) $[\alpha]_D = -65^\circ \pm 2^\circ$ (dioxane): (1)**PHARMACOLOGY:****REMARKS:****DERIVATIVES:**3-ac. 189-90°; $[\alpha]_D = -63^\circ \pm 3^\circ$ (dioxane): (1) 1. 81643**REFERENCES:**

**17-[2(α),3-DIHYDROXYPROPYLIDENE]- Δ^5 -ANDROSTENE-3(β)-OL
[homo-(ω)-pregnadiene-(5,17)-triol-3(β),21(α),22]**

465



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 162-4°: (1)

$[\alpha]_D^{24} = -76^\circ \pm 3^\circ$ (dioxane): (1)

PHARMACOLOGY:

REMARKS:

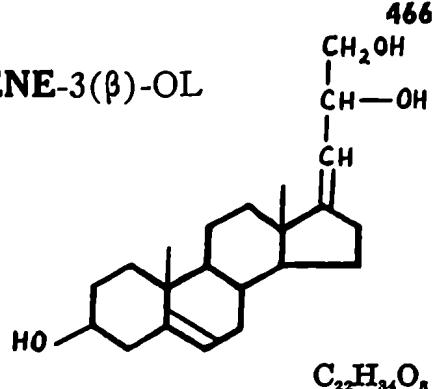
DERIVATIVES:

3-ac.-17^a,17^a-monoacetone adduct 167-8°; $[\alpha]_D^{24} = -56^\circ \pm 2^\circ$ (acetone): (1) 1. 81791
17^a,17^a-monoacetone adduct 93-5°: (1)

REFERENCES:

**17-[2(β),3-DIHYDROXYPROPYLIDENE]- Δ^5 -ANDROSTENE-3(β)-OL
[homo-(ω)-pregnadiene-(5,17)-triol-3(β),21(β),22]**

466



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 194.5-6°: (1)

$[\alpha]_D^{14} = -48^\circ \pm 3^\circ$ (dioxane) : (1)

PHARMACOLOGY:

REMARKS:

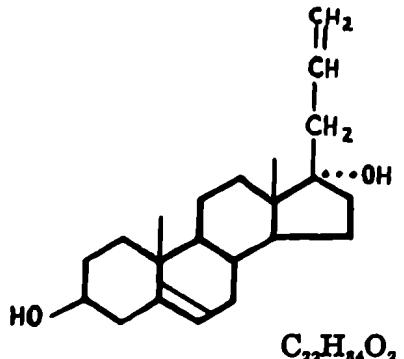
DERIVATIVES:

3-ac.-17 $^{\alpha}$,17 $^{\beta}$ -monoacetone adduct 169-71°; $[\alpha]_D^{13} = -33.5^\circ \pm 3^\circ$ (acetone) : (1)
17 $^{\alpha}$,17 $^{\beta}$ -monoacetone adduct 134-8°: (1)

REFERENCES

1. 81791

**17(β)-[2-PROPENYL]-Δ⁴-ANDROSTENE-3(β),17(α)-DIOL
(allyl-androstenediol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 151° (u): (1)
156-7°: (2)
153-4°: (3)

$[\alpha]_D^{20} = -42.2^\circ$ (alc.): (1)

PHARMACOLOGY: Testoid: 63: 0.5 mg. inact.-C (1).
Folliculoid: 62: 1 mg./day inact.-M (1).

REMARKS:

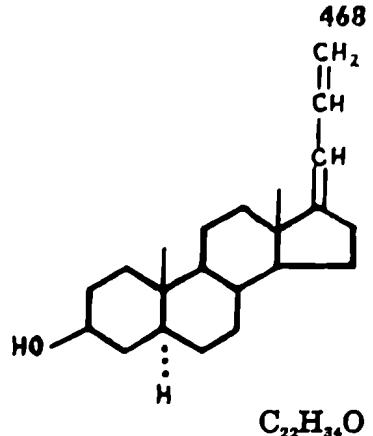
DERIVATIVES:

Ac. 158-9° (u): (1,2)

REFERENCES:

1. 75052
2. 79193
3. A57695

**17-[2-PROPYNYLIDENE]-ANDROSTANE-3(β)-OL
 (allo-homo-(*w*)- $\Delta^{17,21}$ -pregnadiene-3(β)-ol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS:

DERIVATIVES:

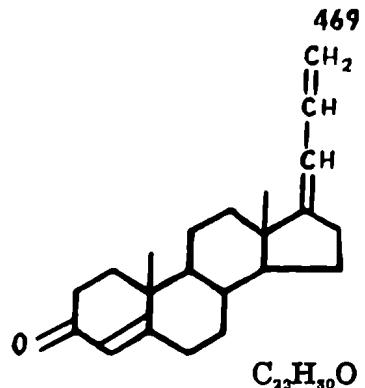
3-ac. 167-8°: (1)

REFERENCES:

1. 81152

17-[2-PROPYNYLIDENE]- Δ^4 -ANDROSTENE-3-ONE

ISOLATION:



STRUCTURE AND SYNTHESIS: (1)

M.P.: 172-4° (u) : (1)

PHARMACOLOGY: **Testoid: 63:** 0.5 mg. inact.-C (1).
Folliculoid: 62: 1 mg./day inact.-M (1).

REMARKS:

DERIVATIVES:

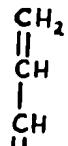
Semicarb. > 365° : (1)

REFERENCES:

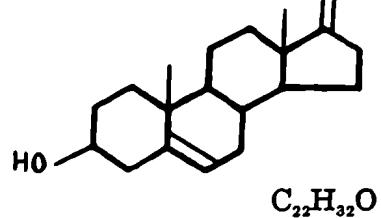
1. 75052

17-[2-PROPYNYLIDENE]- Δ^5 -ANDROSTENE-3-(β)-OL

470



ISOLATION:



STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS:

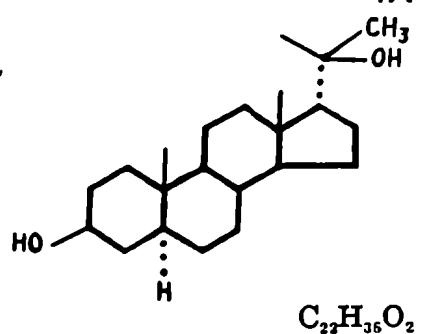
DERIVATIVES:

Ac. 201-10°: (1)

REFERENCES:

1. 81791

**17(α)-[1-HYDROXYISOPROPYL]-ANDROSTANE-3(β)-OL
(20-methyl-allo-pregnane-3,20-diol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 182-6° (u); (1)

PHARMACOLOGY:

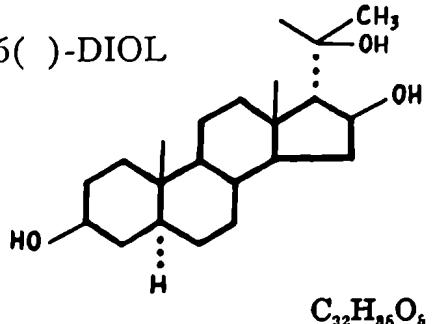
REMARKS:

DERIVATIVES:

REFERENCES:

1. 53441

**17(α)-[1-HYDROXYISOPROPYL]-ANDROSTANE-3(β),16(β)-DIOL
 (20-methyl-allo-pregnane-3(β),16,20-triol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 262-4°: (1)

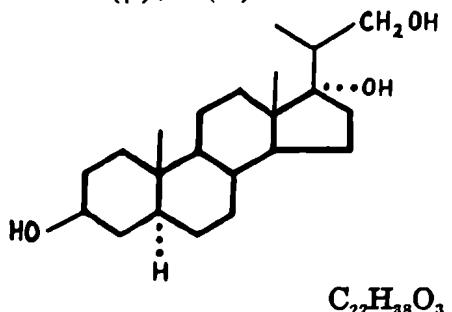
PHARMACOLOGY:

REMARKS:

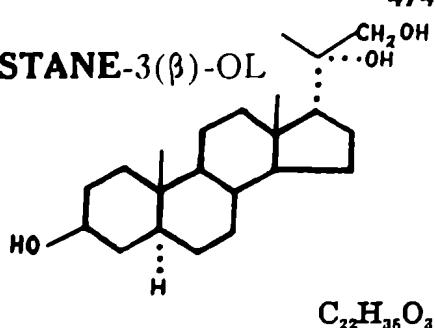
DERIVATIVES:

REFERENCES:

1. 82786

17(β)-[1()-METHYL-2-HYDROXYETHYL]-ANDROSTANE-3(β),17(α)-DIOL**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)**M.P.:****PHARMACOLOGY:****REMARKS:****DERIVATIVES:**3,17¹-diac. 184-6°: (1)**REFERENCES:**

1. 81792

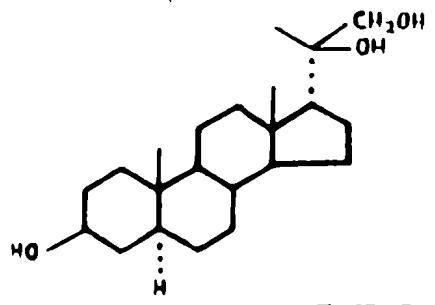
17(α)-[1-METHYL-1(α),2-DIHYDROXYETHYL]-ANDROSTANE-3(β)-OL**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)**M.P.:****PHARMACOLOGY:****REMARKS:****DERIVATIVES:**

Diac. 189-90°: (1)

REFERENCES:

1. 81790

17⁽²⁾-[1-METHYL-1(3),2-DIHYDROXYETHYL]-ANDROSTANE-3(3)-OL



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS:

DERIVATIVES:

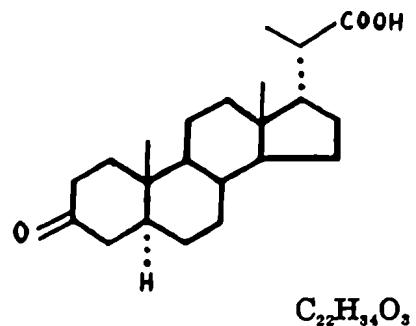
3,17²-diac. 221-3°: (1)

REFERENCES:

1. 81790

**17(α)-[1(β)-CARBOXYETHYL]-ANDROSTANE-3-ONE
(8-keto-bisnor-allo-cholanic acid)**

476



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 244-6°: (2)
244°: (1)

PHARMACOLOGY:

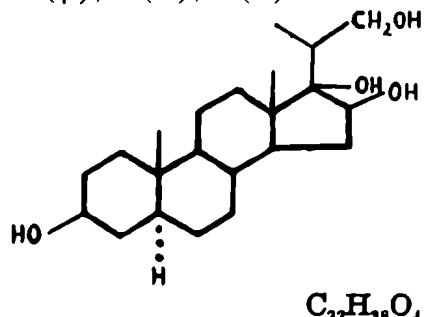
REMARKS:

DERIVATIVES:

2-Br. 230°: (1)

REFERENCES:

1. 53439
2. A57431

17()-[1()-METHYL-2-HYDROXYETHYL]-ANDROSTANE-3(β),16(),17()-TRIOL**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)

M.P.: 232-7%: (1)

PHARMACOLOGY:

REMARKS: Structure uncertain (1).

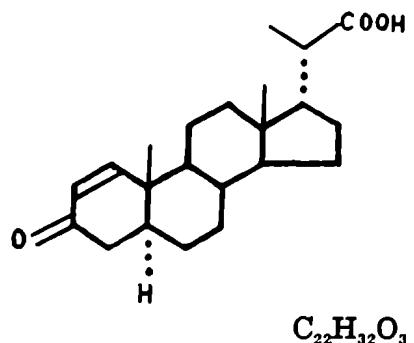
DERIVATIVES:

3,16,17²-triac. 135-7°; $[\alpha]_D^{10} = -64.4^\circ \pm 3^\circ$ (acetone): (1)

REFERENCES:

1. 81792

**17(α)-[1(β)-CARBOXYETHYL]- Δ^1 -ANDROSTENE-3-ONE
(Δ^1 -3-keto-bisnor-allo-cholenic acid)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

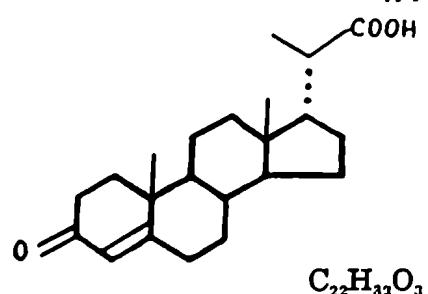
REMARKS: Cpd. m.p. 235° to which this structure had been assigned (1), is now designated as "Hetero- Δ^1 -3-keto-bisnor-allo-cholenic acid (2).

DERIVATIVES

REFERENCES:

1. 53439
2. A57420

**17(α)-[1-CARBOXYETHYL]- Δ^4 -ANDROSTENE-3-ONE
 (Δ^4 -3-keto-bisnor-cholenic acid)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2,3,4,5)

M.P.: 268° (u) : (1)

$[\alpha]_D^{20} = +60^\circ$ (CHCl₃) : (1)

PHARMACOLOGY: Luteoid: **49**: 25 mg. inact.-Rb. (1).

Testoid: **32A**: 6 mg. inact.-C (1).

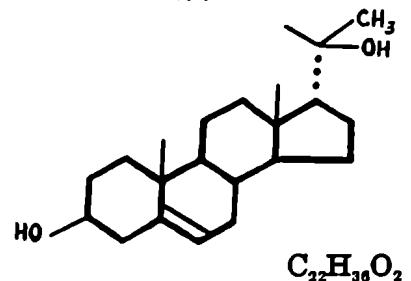
REMARKS:

DERIVATIVES:

REFERENCES:

1. 53439
2. 29849
3. 32392
4. 30223
5. 32391

**17()-[1()-METHYL-1()-HYDROXYETHYL]- Δ^5 -ANDROSTENE-3(β)-OL
 (20-methyl-5-prognene-3(β),20-diol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 194°: (1)

PHARMACOLOGY:

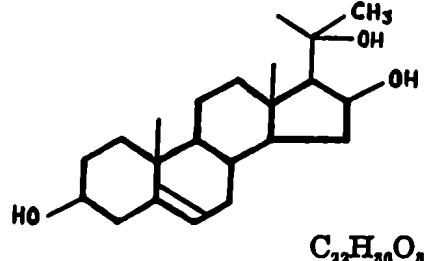
REMARKS:

DERIVATIVES:

REFERENCES:

1. 83173

**17()-[1()-METHYL-1()HYDROXYETHYL]- Δ^5 -ANDROSTENE-3(β),16()-DIOL
(20-methyl-5-pregnene-3(β),16,20-triol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 275-6°: (1)

PHARMACOLOGY:

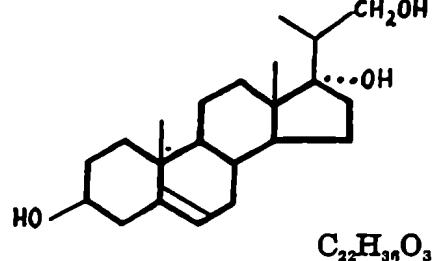
REMARKS:

DERIVATIVES:

REFERENCES:

- 1. 82786

**17(β)-[1(α)-METHYL-2-HYDROXYETHYL]-Δ⁵-ANDROSTENE-3(β),17(α)-DIOL
(20-methyl-Δ⁵-pregnene-3(β),17(α),21-triol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 206-9°: (1)

PHARMACOLOGY:

REMARKS:

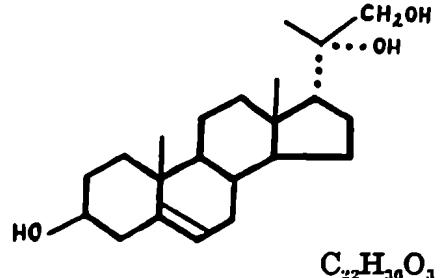
DERIVATIVES:

3,17²-diac. 162-3°: (1)

REFERENCES:

1. 81792

**17(α)-[1(β)-METHYL-1(α),2-DIHYDROXYETHYL]- Δ^6 -ANDROSTENE-3(β)-OL
(20-methyl- Δ^6 -pregnene-3(β),20(α),21-triol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 235-7°: (1)

PHARMACOLOGY:

REMARKS:

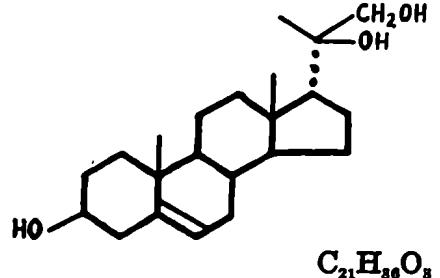
DERIVATIVES:

3,17 β -diac. 170-2°; $[\alpha]_D^{17} = -46.6^\circ \pm 2^\circ$ (acetone): (1)

REFERENCES:

1. 81790

**17(α)-[1(β)-METHYL-1(β),2-DIHYDROXYETHYL]- Δ^5 -ANDROSTENE-3(β)-OL
 (20-methyl- Δ^5 -pregnene-3(β),20(β),21-triol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 246-55°: (1)

PHARMACOLOGY:

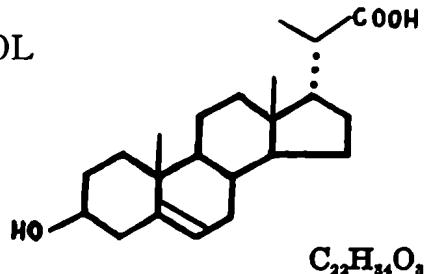
REMARKS:

DERIVATIVES:

3,17²-diac. 194-6°; $[\alpha]_D^{13} = -57.9^\circ \pm 1.5^\circ$ (CHCl_3): (1) 1. 81790

REFERENCES:

**17(α)-[1(β)-CARBOXYETHYL]- Δ^5 -ANDROSTENE-3(β)-OL
 $(\Delta^5\text{-}3\text{-hydroxy-bisnor-cholenic acid})$**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2,3,4,5)

M.P.: 295°: (2)

PHARMACOLOGY: **Testoid: 132:** at 10 mg. dose level inact. on s.ves., pta. and prep. gl.-R (6).
Anesthetic: 11: toxic at 20 mg.-R (6); **127:** 7 mg. inact.-Fish (6).

REMARKS:

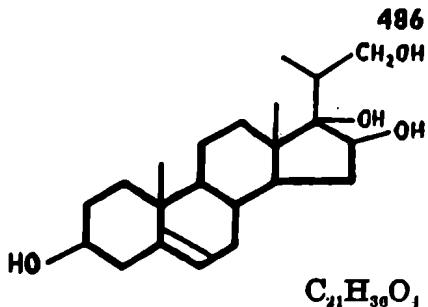
DERIVATIVES:

Ac.	235°:	(2)
Me. ester	140°:	(2)
Ac.-me. ester	138-9°; $[\alpha]_D = -64^\circ$:	(2)

REFERENCES:

1. 53439
2. A57431
3. 32020
4. 32391
5. 29849
6. 100000

**17()-[1()-METHYL-2-HYDROXYETHYL]- Δ^5 -
ANDROSTENE-3(β),16(),17()-TRIOL
(20-methyl- Δ^5 -pregnene-3(β),16,17,21-tetrol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS: Structure uncertain (1).

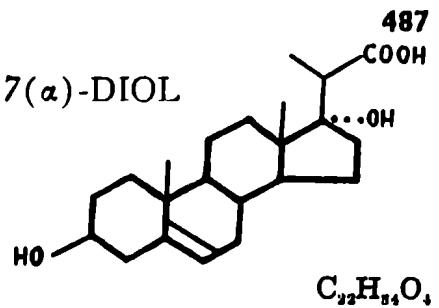
DERIVATIVES:

3,16,17²-triac. 167-8°; $[\alpha]_D^{17} = -119.6^\circ \pm 3^\circ$ (acetone) : (1)

REFERENCES:

1. 81792

**17(β)-[1(α)-CARBOXYETHYL]- Δ^5 -ANDROSTENE-3(β),17(α)-DIOL
(Δ^5 -pregnene-3(β),17(α)-diol-20-carboxylic acid)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 230-4°: (1)

PHARMACOLOGY:

REMARKS:

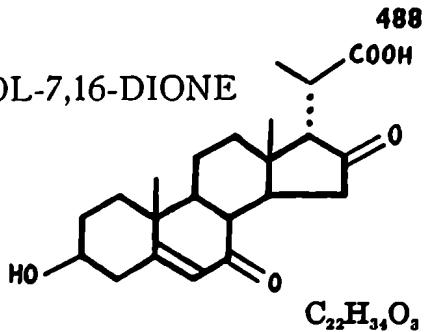
DERIVATIVES:

3-ac.-me. ester	201-4°; $[\alpha]_D^{21} = -67^\circ \pm 2^\circ$ (acetone): (1)
Isomer-3-ac.-me. ester	164-6°; $[\alpha]_D^{21} = -71.1^\circ \pm 2^\circ$ (acetone): (1)
Me. ester	182-3°; $[\alpha]_D^{21} = -61.1^\circ \pm 2^\circ$ (acetone): (1)

REFERENCES:

1. 81792

**17(α)-[1(β)-CARBOXYETHYL]- Δ^5 -ANDROSTENE-3(β)-OL-7,16-DIONE
(Δ^5 -3-hydroxy-7,16-diketo-bisnor-cholenic acid)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 226-7°: (1)

PHARMACOLOGY:

REMARKS:

DERIVATIVES:

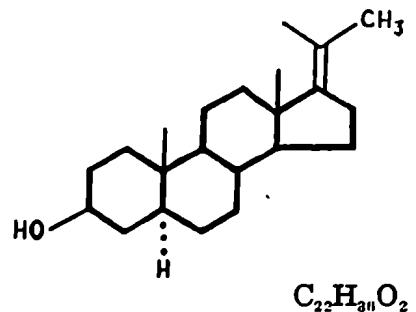
Ac.-mono-semicarb. 195°: (1)

REFERENCES:

1. 81142

**17-ISOPROPYLIDENE-ANDROSTANE-3(β)-OL
(Δ^{17} -20-methyl-allo-pregnene-3(β)-ol)**

489



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS:

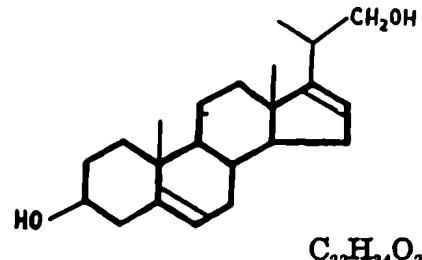
DERIVATIVES:

Ac. 144°; (1)

REFERENCES:

1. 53441

**17-[1()-METHYL-2-HYDROXYETHYL]- $\Delta^{5,10}$ -ANDROSTADIENE-3(β)-OL
(20-methyl- $\Delta^{5,10}$ -pregnadiene-3(β),21-diol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS: Structure uncertain (1).

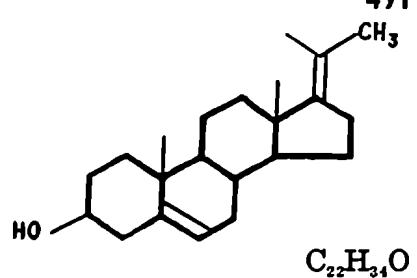
DERIVATIVES:

Diac. 114-6°; $[\alpha]_D^{21} = -40.5^\circ \pm 2^\circ$ (acetone): (1)
Isomer-diac. 99-102°: (1)

REFERENCES:

1. 81792

**17-ISOPROPYLIDENE- Δ^5 -ANDROSTENE-3(β)-OL.
(20-methyl- $\Delta^{5,17}$ -pregnadiene-3(β)-ol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 72°: (1)

PHARMACOLOGY:

REMARKS:

DERIVATIVES:

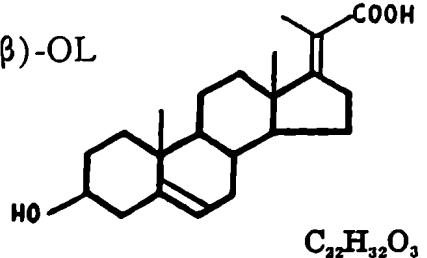
Ac. 139-41°: (1)

REFERENCES:

1. 83173

**17-[1()-CARBOXYETHYLIDENE]- Δ^5 -ANDROSTENE-3(β)-OL
($\Delta^5,17$ -pregnadiene-3(β)-ol-20-carboxylic acid)**

492



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 198-209°: (1)

PHARMACOLOGY:

REMARKS: Structure uncertain (1).

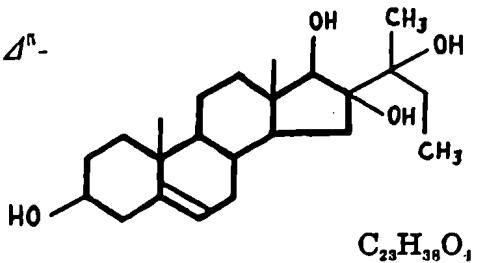
DERIVATIVES:

Me. ester 124-6°; $[\alpha]_D^{21} = -176.5^\circ \pm 2^\circ$ (acetone): (1)

REFERENCES:

1. 81792

16()-[1()-METHYL-1()-HYDROXYPROPYL]- Δ^5 -
ANDROSTENE-3(),16(),17()-TRIOL



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS:

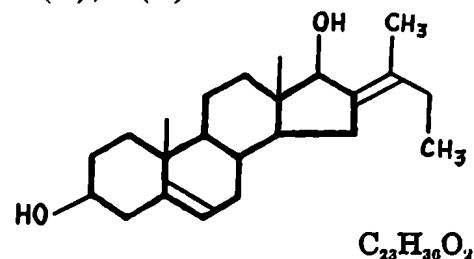
DERIVATIVES:

3,17-diac. (2 isomers) { 195-205°: (1)
 { 150-2°: (1)

REFERENCES:

1. A56999

**16-[1()-METHYLPROPYLIDENE]- Δ^6 -ANDROSTENE-3(),17()-DIOL
 (3,17-dihydroxy-16-iso-butyrylidene- Δ^6 -androstene)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

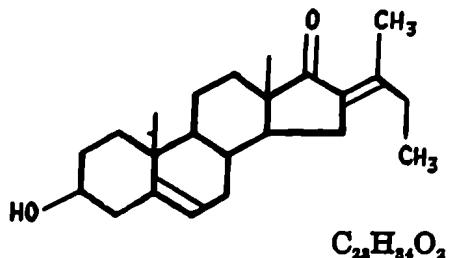
REMARKS:

DERIVATIVES:

Diac. 138-9°: (1)

REFERENCES:

1. A56990

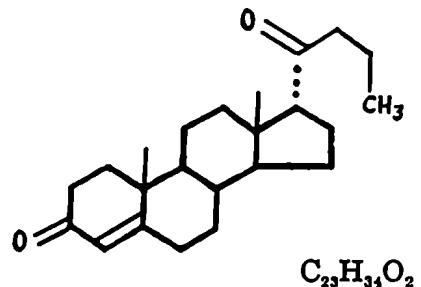
16-[2()-METHYLPROPYLIDENE]- Δ^6 -ANDROSTENE-3()-OL-17-ONE**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)**M.P.:** 176°: (1)**PHARMACOLOGY:****REMARKS:****DERIVATIVES:**

3-ac. 148° (leaves), and 156° (needles) : (1)

REFERENCES:

1. 75055

**17(α)-[1-KETOBUTYL]- Δ^4 -ANDROSTENE-3-ONE
(21-ethyl-progesterone)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 118-20°: (1,2)

PHARMACOLOGY:

Luteold: **86A:** 40 mg. s.c. or per os inact.-Rb. (1); **46:** I.U. = 4-40 mg.-Rb. (3,4); **50:** 2 mg. act.-Rb. (4).

Folliculold: **128C:** vag. stratification and cornification with 10 mg./day-R (2).

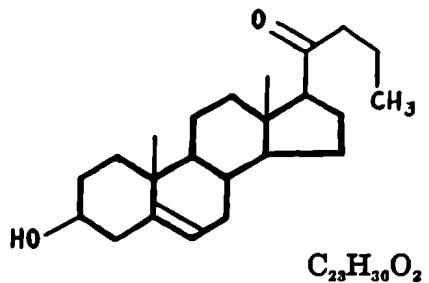
Anesthetic: **11:** U. = < 5.0 mg.-R (5); **127:** U. = 0.25 mg.-Fish (5).

REMARKS:

DERIVATIVES:

REFERENCES:

1. 70624
2. A37488
3. A38712
4. A56335
5. A38070

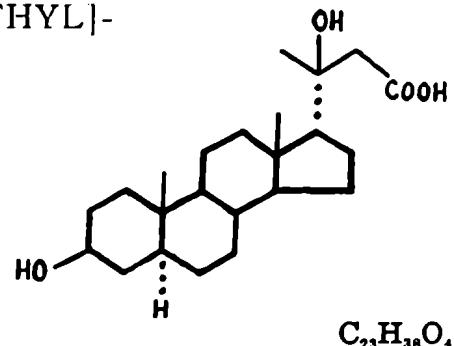
17()-[1-KETOBUTYL]- Δ^5 -ANDROSTENE-3(β)-OL**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)**M.P.: 125-7°:** (1)**PHARMACOLOGY:****REMARKS:****DERIVATIVES:**

Ac. 114-5°: (1)

REFERENCES:

- 1. 70624

**17(α)-[1(β)-METHYL-1(β)-HYDROXY-2-CARBOXYETHYL]-
ANDROSTANE-3(β)-OL
(3(β),20-dihydroxy-nor-allo-cholanic acid)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 201-2°: (1)

$[\alpha]_D^{15} = +9.2^\circ \pm 1^\circ$ (alc.): (1)

PHARMACOLOGY:

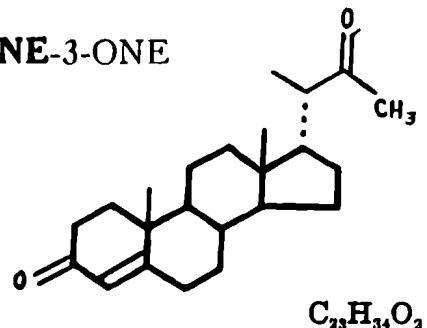
REMARKS:

DERIVATIVES:

Me. ester 163-5.5°; $[\alpha]_D^{15} = +6^\circ \pm 1^\circ$ ($CHCl_3$): (1)
3-ac.-me. ester 180-1°; $[\alpha]_D^{17} = +3.5^\circ \pm 1^\circ$ ($CHCl_3$): (1)

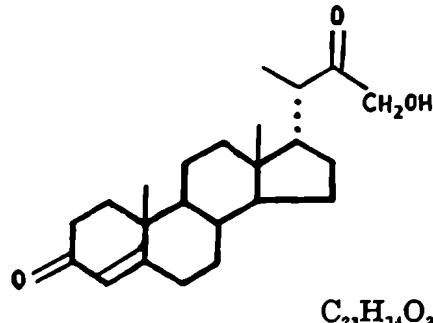
REFERENCES:

I. 83014

17(α)-[1(β)-METHYL-2-KETOPROPYL]-Δ⁴-ANDROSTENE-3-ONE**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)**M.P.:** 213-5°:(2)**PHARMACOLOGY:** Luteoid: **86A**: 30 mg. inact.-Rb. (1,2).**REMARKS:****DERIVATIVES:****REFERENCES:**

1. A54236
2. 83027

**17(α)-[1(β)-METHYL-2-KETO-3-HYDROXYPROPYL]- Δ^4 -ANDROSTENE-3-ONE
 (Δ^4 -23-hydroxy-nor-cholene-3,22-dione)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY: Corticoid: 53A?: 2 mg./day of ac. inact.-R (1,2).

REMARKS:

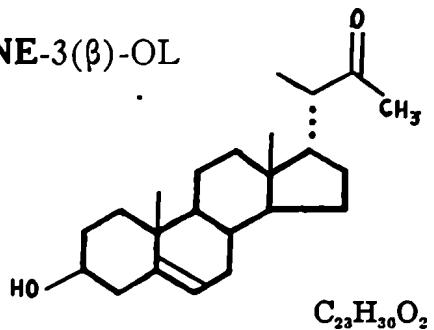
DERIVATIVES:

Ac. 167-8°; (1)

REFERENCES:

1. A54236
2. 83027

**17(α)-[1(β)-METHYL-2-KETOPROPYL]- Δ^5 -ANDROSTENE-3(β)-OL
 $(\Delta^5\text{-nor-cholene-3-}\beta\text{-ol-22-one})$**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 179-81°: (1)

PHARMACOLOGY:

REMARKS:

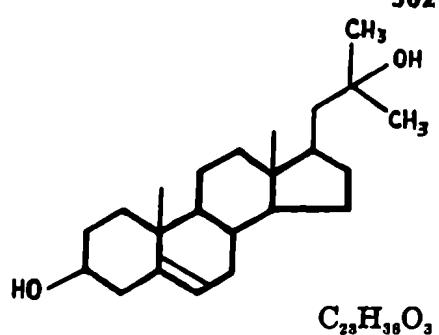
DERIVATIVES:

Ac. 177-8°: (1)

REFERENCES:

- 1. 83027

**17(β)-[2(α)-METHYL-2(β)-HYDROXYPROPYL]- Δ^4 -
ANDROSTENE-3(β).17(α)-DIOL**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 268-74°: (1)

PHARMACOLOGY:

REMARKS:

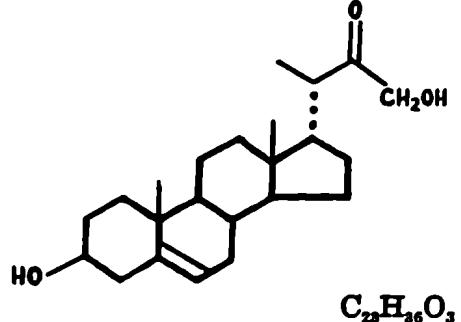
DERIVATIVES:

3-ac. 170-4°: (1)
Triac. (impure) 92-6°: (1)

REFERENCES:

1. 75157

**17(α)-[1(β)-METHYL-2-KETO-3-HYDROXYPROPYL]- Δ^5 -ANDROSTENE-3(β)-OL
(Δ^5 -3-t-23-dihydroxy-nor-cholene-22-one)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS:

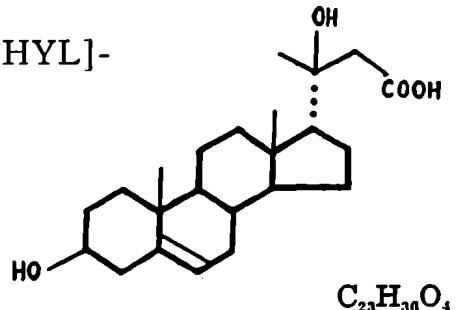
DERIVATIVES:

- | | | |
|------------------------------|------------------|-----|
| 17 ^a -ac. | 152-3°: | (1) |
| 17 ^a -diazo-3-ac. | 260-5°: | (1) |
| 3,17 ^a -diac. | 164-5° + 171-2°: | (1) |

REFERENCES:

1. 83027

**17(α)-[1(β)-METHYL-1(α)-HYDROXY-2-CARBOXYETHYL]-
 Δ^5 -ANDROSTENE-3(β)-OL
 $(\Delta^5\text{-}3(\beta)\text{-}, 20\text{-dihydroxy-nor-cholenic acid})$**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 204-6°: (1)

$[\alpha]_D^{17} = -47^\circ \pm 2^\circ$ (alc.): (1)

PHARMACOLOGY:

REMARKS:

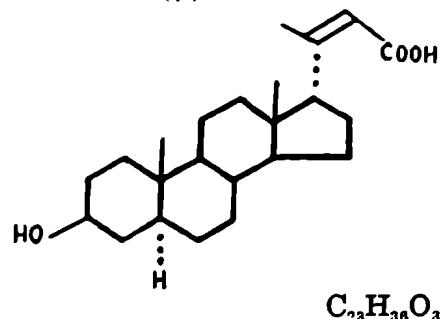
DERIVATIVES:

Mc. ester $131\text{-}3^\circ; [\alpha]_D^{17} = -55.8^\circ \pm 1^\circ$ (CHCl_3): (1)
 3-ac.-me. ester $146\text{-}7^\circ; [\alpha]_D^{17} = -55.8^\circ \pm 1^\circ$ (CHCl_3): (1)

REFERENCES:

1. 83014

**17(α)-[1()-METHYL-2-CARBOXYETHENYL]-ANDROSTANE-3(β)-OL
 $(\Delta^{20,22}-3(\beta)\text{-hydroxy-nor-allo-cholenic acid})$**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 237-9°: (1)

$[\alpha]_D^{18} = +0.5^\circ \pm 1^\circ$ (alc.): (1)

PHARMACOLOGY:

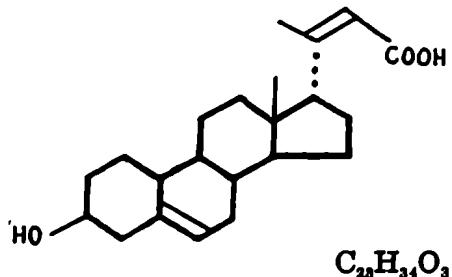
REMARKS:

DERIVATIVES:

Me. ester 148-50°; $[\alpha]_D^{17} = +10.9^\circ \pm 1^\circ$ (CHCl_3): (1) 1. 83014
 Ac.-me. ester 161-3°; $[\alpha]_D^{18} = +6.3^\circ \pm 0.5^\circ$ (CHCl_3): (1)

REFERENCES:

**17(α)-[1()-METHYL-2-CARBOXYETHENYL]- Δ^5 -ANDROSTENE-3(β)-OL
 $(\Delta^{5:6:20:22}-3\beta\text{-hydroxy-nor-choladienic acid})$**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 262-5°: (1)

$[\alpha]_D^{14} = -49.8^\circ \pm 2^\circ$ (dioxane): (1)

PHARMACOLOGY:

REMARKS:

DERIVATIVES:

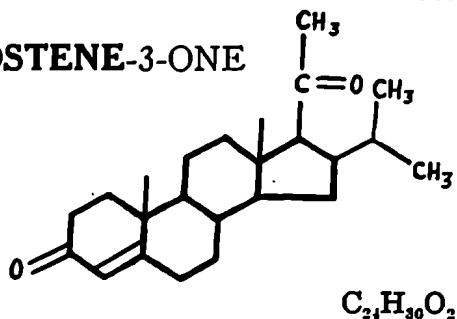
Me. ester-3-ac. 147-9°; $[\alpha]_D^{17} = -54.4^\circ \pm 1^\circ$ (CHCl_3): (1)

Me. ester 139-42°; $[\alpha]_D^{14.8} = -50.2^\circ \pm 1^\circ$ (CHCl_3): (1)

REFERENCES:

1. 83014

**16()-ISOPROPYL-17()-[1-KETOETHYL]- Δ^4 -ANDROSTENE-3-ONE
(16-isopropyl-progesterone)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 106.5-8°: (1)

PHARMACOLOGY:

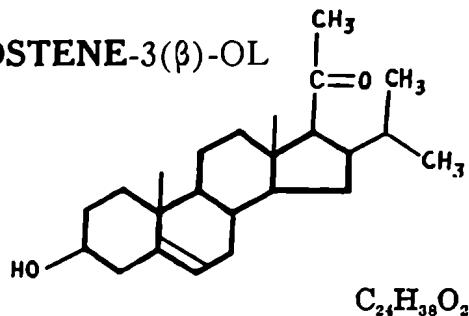
REMARKS:

DERIVATIVES:

REFERENCES:

- 1. 83174

**16()-ISOPROPYL-17()-[1-KETOETHYL]- Δ^6 ANDROSTENE-3(β)-OL
 (16-isopropyl-5-pregnene-3(β)-ol-20-one)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 157-8°: (1)

REMARKS:

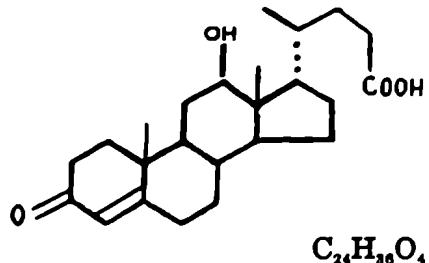
DERIVATIVES:

Ac. 131-2°: (1)

REFERENCES:

1. 83174

**17(α)-[1(β)-METHYL-3-CARBOXYPROPYL]-Δ⁴-ANDROSTENE-3-ONE-12(β)-OL
(3-keto-12(β)-hydroxy-cholene-(4)-acid)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 230-5°: (1)

PHARMACOLOGY:

REMARKS:

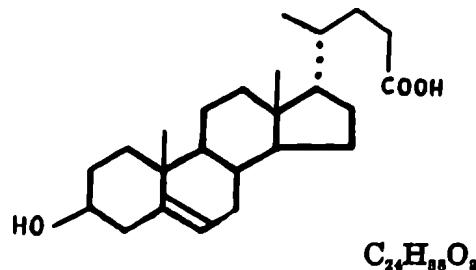
DERIVATIVES:

Me. ester 150-2°; $[\alpha]_D^{17} = +80.9^\circ \pm 4^\circ$ (acetone): (1)
Me. ester-12-ac. 132-4°; $[\alpha]_D^{17} = +114.2^\circ \pm 2^\circ$ (acetone): (1)

REFERENCES:

1. 83508

**17(α)-[1(β)-METHYL-3-CARBOXYPROPYL]- Δ^5 -ANDROSTENE-3(β)-OL
(Δ^5 -3(β)-hydroxy-cholenic acid)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2,4)

M.P.: 224°: (4)
236°: (2)
241-2°: (1)

PHARMACOLOGY: Testoid: 132: at 10 mg. dose level inact. on s.ves., pta. and prep.gl.-R (3).
Anesthetic: 11: toxic at 20 mg.-R (3); 127: 7 mg. inact.-Fish (3).

REMARKS:

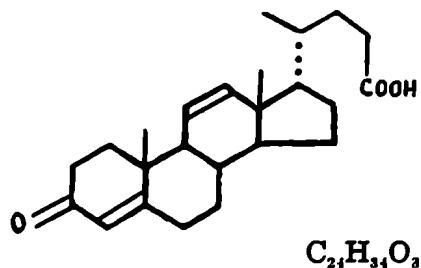
DERIVATIVES:

Ac.	181°: (4); 186-7°:	(1)
3-ac.-amide	210-2°:	(6)
Ac.-me. ester.	156-7°; $[\alpha]_D^{20} = -18.7^\circ$ (CHCl_3):	(2)
Me. ester	144°:	(2)
Me. ester-tosylate	120-20.6°:	(5)
Benzyl ester-benzyl ether	87-8° + 108.5-9.5°:	(5)
Benzyl ether	166-8°:	(5)
Benzyl ether-me. ester	99-100.5°:	(5)
Benzyl ester	81.5-2.5°:	(5)
Triphenyl-me. ether-me. ester	147.5-9°:	(5)

REFERENCES:

1. 56271
2. 32748
3. 100000
4. 55957
5. A58750
6. A58751

**17(α)-[1()-METHYL-3-CARBOXYPROPYL]- $\Delta^{4,11}$ -ANDROSTADIENE-3-ONE
(3-keto-choladiene-(4,11)-acid)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 202-4°: (1)

PHARMACOLOGY:

REMARKS:

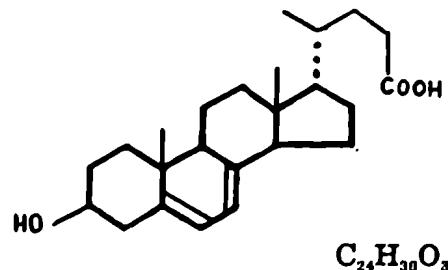
DERIVATIVES:

Me. ester $114\text{-}5^\circ; [\alpha]_D^{17} = +99.7^\circ \pm 4^\circ$ (acetone) : (1)
11:12-oxide-me. ester $152\text{-}5^\circ; [\alpha]_D^{10} = +91.7^\circ \pm 4^\circ$ (acetone) : (1)

REFERENCES:

1. 83508

**17(α)-[1()-METHYL-3-CARBOXYPROPYL]- $\Delta^{5,7}$ -ANDROSTADIENE-3(β)-OL
($\Delta^{5,7}$ -3(β)-hydroxy-choladienic acid)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 214-6°: (1)

$[\alpha]_D^{10} = -69^\circ$ (alc.): (1)

PHARMACOLOGY:

REMARKS: On ultraviolet irradiation acquires vitamin D act. of < 25 I.U./mg. (2).

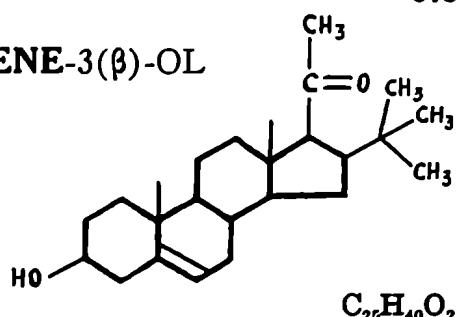
DERIVATIVES:

Ac.-me. ester 125-7°: (1)

REFERENCES:

1. A58708
2. A58742

**16()-t-BUTYL-17()-[1-KETOETHYL]- Δ^5 -ANDROSTENE-3(β)-OL
 (16-t-butyl-5-pregnene-3(β)-ol-20-one)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 189-92°: (1)

PHARMACOLOGY:

REMARKS:

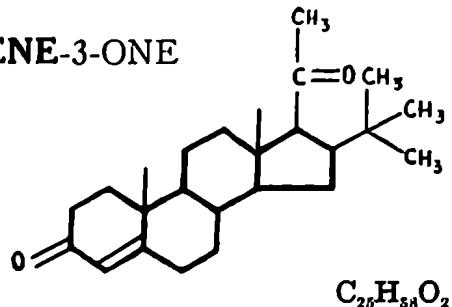
DERIVATIVES:

Ac. 156-8°: (1)

REFERENCES:

- 1. 83174

**16()-t-BUTYL-17()-[1-KETOETHYL]- Δ^4 -ANDROSTENE-3-ONE
 (16-t-butyl-progesterone)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 154-5°: (1)

PHARMACOLOGY:

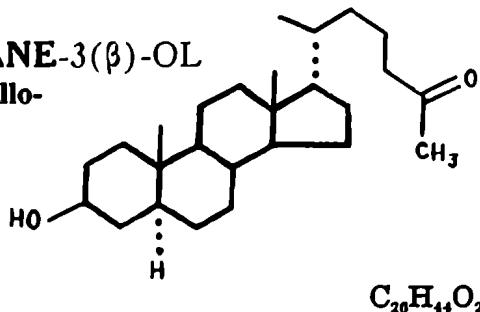
REMARKS:

DERIVATIVES:

REFERENCES:

1. 83174

**17(α)-[1(β)-METHYL-5-KETOHEXYL]-ANDROSTANE-3(β)-OL
 (epi-nor-cholestane-3-ol-25-one; methyl-3-epi-hydroxy-homo-allo-cholanyl-ketone)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 181-2.5°: (1)

PHARMACOLOGY: **Testoid:** **29:** I.U. = 3 mg.-C (1).
Folliculoid: **1?**: dose? inact.-R (1).
Luteoid: **48?**: dose? inact.-Rb. (1).

REMARKS:

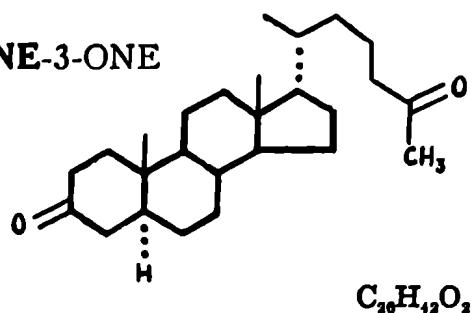
DERIVATIVES:

Ac. 111°: (1)
 Semicarb. 221-3°: (1)

REFERENCES:

1. 69947

17(α)-[1()-METHYL-5-KETOHEXYL]-ANDROSTANE-3-ONE
(nor-cholestane-3,25-dione)



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 139.5-40°: (1)

PHARMACOLOGY: Testoid: **29**: dose? inact.-C (1,2); **45**: inact.-R (1).
 Luteoid: **48?**: dose? inact.-Rb. (1,2).
 Folliculoid: **1?**: dose? inact.-R (2).

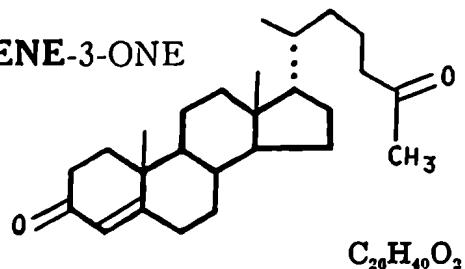
REMARKS:

DERIVATIVES:

REFERENCES:

1. 69948
2. 69947

**17(α)-[1(β)-METHYL-5-KETOHEXYL]- Δ^4 -ANDROSTENE-3-ONE
(Δ^4 -nor-cholestene-3,25-dione)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 128-9°: (1)
129°: (3)

PHARMACOLOGY: **Folliculoid:** 55: 40 mg. inact.-R (2); **128C:** 10 mg./day inact.-R (5).
Luteoid: 46: 50 mg. inact.-Rb. (4).
Testoid: 132: inact. at 10 mg.-R (6).
Anesthetic: 11: 40 mg. inact.-R (2); **127:** 7 mg. inact.-Fish (3).

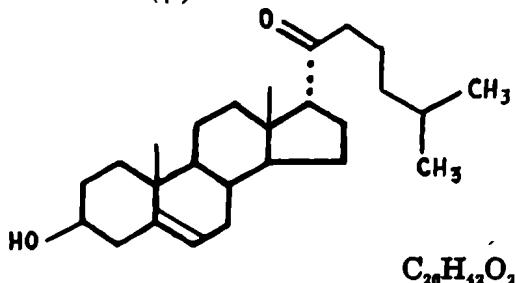
REMARKS:

DERIVATIVES:

REFERENCES:

1. 60948
2. A36744
3. A38070
4. A56335
5. A37486
6. A37071

**17(α)-[1-KETO-5(β)-METHYLHEXYL]- Δ^5 -ANDROSTENE-3(β)-OL
 (Δ^5 -20-nor-cholestene-3(β)-ol-20-one)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 136-8°: (1)

PHARMACOLOGY:

REMARKS:

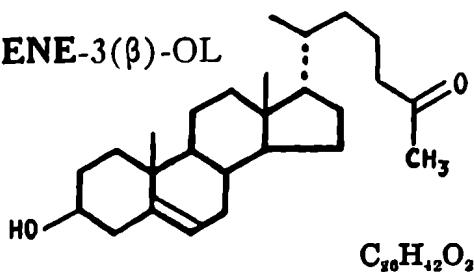
DERIVATIVES:

Ac. 142-3°: (1)

REFERENCES:

- 1. 79624

**17(α)-[1(β)-METHYL-5-KETOHEXYL]- Δ^5 -ANDROSTENE-3(β)-OL
(Δ^5 -nor-cholestene-3 trans-ol-25-one)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 125-7°: (1)

PHARMACOLOGY:

Testoid: **29**: dose? inact.-C (1); **45**: dose? inact.-R (1); **132**: inact. at 10 mg.-R (4).

Luteoid: **48**? inact.-Rb. (1); **46**: 50 mg. inact.-Rb. (2).

Anesthetic: **11**: 20 mg. inact.-R (3); **127**: 7 mg. inact.-Fish (3).

REMARKS:

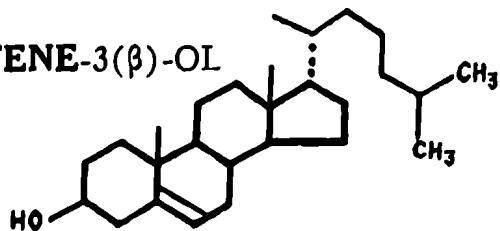
DERIVATIVES:

Bz.	144-5°: (1)
Ac.	141.5-2°: (1)
Ac.-semicarb.	237-8°: (1)

REFERENCES:

1. 69948
2. A56335
3. A38070
4. A38071

**17(α)-[1(β),5(β)-DIMETHYLHEXYL]- Δ^{α} -ANDROSTENE-3(β)-OL
(Cholesterol)**



ISOLATION: Various animal tissues: (8)

Hyp. (ox):	(13)
Adr. (horse):	(9)
Ur. (δ human):	(15)
Ur. (φ /c human):	(14)
Ur. (preg. cow):	(10)
Ur. (preg. mare):	(11)
Feces (silkworm):	(16)
Ova (ant):	(12)

STRUCTURE AND SYNTHESIS: (8)

M.P.: 148°: (8)

PHARMACOLOGY: Testoid: **132**: inact.-R (4); **133A**: inact.-R (6).

Luteoid: **48**: up to 50 mg. inact.-Rb. (1).

Folliculoid: **55,123C**: inact.-R (2,3); **133B**: no *anti-Leydig cell* act.-R (6).

Corticoid: **53B**: inact.-R (2).

Gonadotropic: **21**: inact.-X (5).

Anti-Folliculoid: **129**: inact.-R (7).

Anesthetic: **11**: 40 mg. inact.-R (2); **127**: 7 mg. inact.-Fish (17).

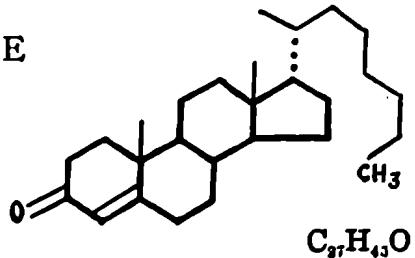
REMARKS:

DERIVATIVES: For numerous derivatives see: (8).

REFERENCES:

1. A56335
2. A36744
3. A37486
4. A38071
5. 75731
6. A38086
7. A37637
8. A34437
9. A9776
10. 72929
11. 76880
12. 79009
13. 81141
14. 80929
15. A36219
16. A58752
17. A38070

**17(α)-[1(β)-METHYLHEPTYL]- Δ^4 -ANDROSTENE-3-ONE
(Cholestenone; Coprostanone)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 80.5°: (1)
81-2°: (1)

PHARMACOLOGY: Anesthetic: 11: 40 mg. inact.-R (1); 127: 7 mg. inact.-Fish (1).
Anti-folliculoid: 129: 10 mg. inact.-R (3).

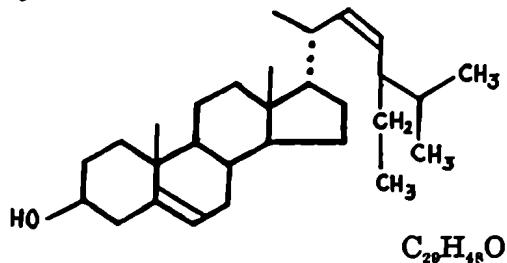
REMARKS:

DERIVATIVES: For numerous derivatives see (2).

REFERENCES:

1. A38070
2. A34437
3. A37637

**17(α)-[1(β),5-DIMETHYL-4(β)-ETHYL-2-HEXENYL]- Δ^5 -ANDROSTENE-3(β)-OL
(Stigmasterol)**



ISOLATION: Various plants: (3)

STRUCTURE AND SYNTHESIS: (3)

M.P.: 170° : (3)

PHARMACOLOGY: Folliculoid: 55: 40 mg. inact.-R (1).

Anti-folliculoid: 129: 10 mg. inact.-R (2).

Anesthetic: 11: 40 mg. inact.-R (1); 127: 7 mg. inact.-Fish (4).

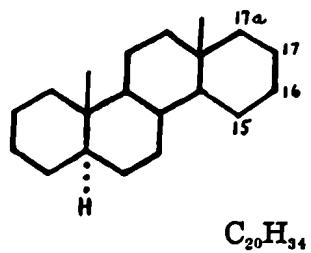
REMARKS:

DERIVATIVES: For numerous derivatives see (3).

REFERENCES:

1. A36744
2. A37637
3. A34437
4. A38070

D-HOMOANDROSTANE
 (17a-nor-neo-pregnane; dimethyl-perhydro-chrysene; homo-androstane)



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,3)

M.P.:

PHARMACOLOGY:

REMARKS: Theoretical parent hydrocarbon (1,2,3). The term "chrysopregnane" is somewhat ambiguously used both for this cpd. and for its 17a-methyl substitution product (4).

DERIVATIVES:

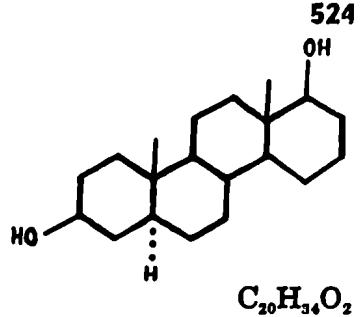
REFERENCES:

1. 80939
2. 80940
3. 80948
4. 78994

D-HOMOANDROSTANE-3(β),17a(α)-DIOL

524

ISOLATION:



STRUCTURE AND SYNTHESIS: (1)

M.P.:

PHARMACOLOGY:

REMARKS:

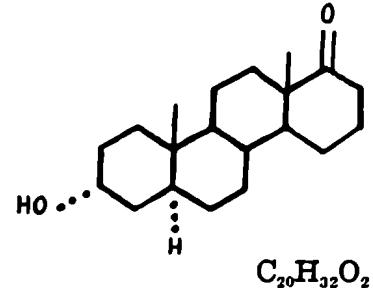
DERIVATIVES:

3-ac. (mixture of 17a isomers) 160-7°: (1)
3-ac.-17a-bz. 201-2°: (1)
17a-bz. 230-3°: (1)

REFERENCES:

1. 80941

**D-HOMOANDROSTANE-3(α)-OL-17 α -ONE
(D-homo-cis-androsterone)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 203-5°: (2)

$[\alpha]_D^{20} = -35.5^\circ \pm 1.5^\circ$ (me. alc.): (2)

PHARMACOLOGY: Testoid: 29: "less act. than 3 β isomer"-C (1).

REMARKS:

DERIVATIVES:

Semicarb. 233-5°:

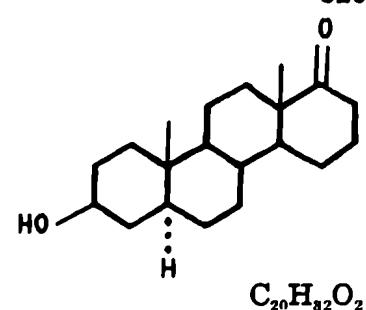
Ac. 150-1°; $[\alpha]_D^{20} = -21.7^\circ \pm 1^\circ$ (me. alc.): (2)

REFERENCES:

(2) 1. 80941

2. 80939

D-HOMOANDROSTANE-3(β)-OL-17a-ONE
(D-homo-trans-androsterone)



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 193-5°: (2)

$[\alpha]_D^{20} = -66.5^\circ \pm 1^\circ$ (me. alc.): (2)

PHARMACOLOGY: Testoid: 29: I.U. = 90-100γ-C (1); 45: only slightly act.-R (1).

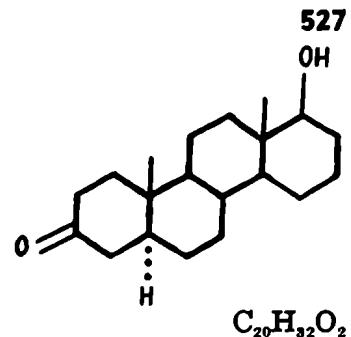
REMARKS:

DERIVATIVES:

Semicarb.	252-4°:	(2)	1. 80941
Ac.	$124.5^\circ; [\alpha]_D^{20} = -45^\circ \pm 2^\circ$ (me. alc.): (2)		2. 80939

REFERENCES:

D-HOMOANDROSTANE-3-ONE-17a()-OL
(D-homo-dihydro-testosterone)



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 187-9°: (1)

PHARMACOLOGY: Testoid: **29**: I.U. = ca. 25γ , -as act. as Dihydro-testosterone-C (1); **45**: 100 γ /day act.-more act. than Dihydro-testosterone and Testosterone-R (1).

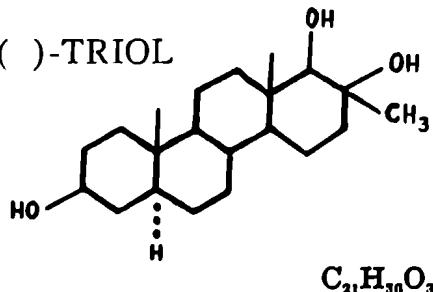
REMARKS:

DERIVATIVES:

17a-bz. 194-5°: (1)

REFERENCES:

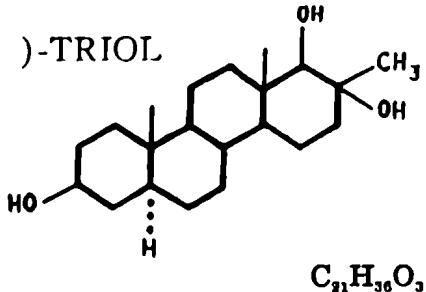
1. 80941

17()-METHYL-D-HOMOANDROSTANE-3(β),17(),17a()-TRIOL**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)**M.P.:** 303-5°: (1)**PHARMACOLOGY:****REMARKS:** Position of me. side chain uncertain in cpds. of this series. May be at C_{17a}**DERIVATIVES:**

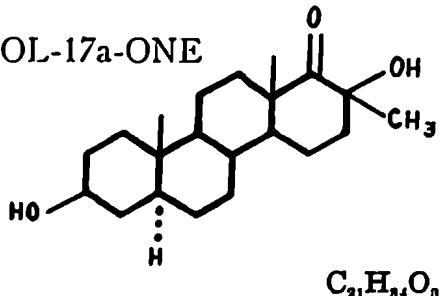
3.17a-diac. 263.5-64°: (1)

REFERENCES

1. 75155

17()-METHYL-D-HOMOANDROSTANE-3(),17(),17a()-TRIOL**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)**M.P.:** 298-300°: (1)**PHARMACOLOGY:****REMARKS:****DERIVATIVES:****Triac.** 204-5°: (1)**REFERENCES:**

1. 75155

17()-METHYL-D-HOMOANDROSTANE-3(),17()-DIOL-17a-ONE**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1,2,3)

M.P.: 305-6°: (1)
274-5° and 305°: (2)

$[\alpha]_D = -30^\circ \pm 10^\circ$ (dioxane): (2)

PHARMACOLOGY:

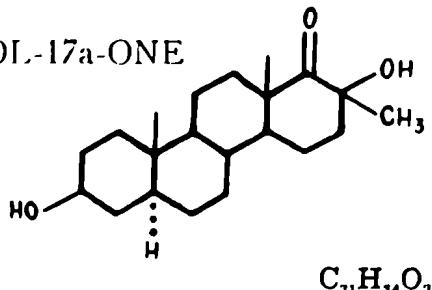
REMARKS: Diac. (m.p. 227-9°) and 17-ac. (m.p. 202-4°) had previously been considered to be esters of this cpd. (2) but are now regarded as derivatives of cpd. **304.1** (3). The free cpd. more probably possesses the structure of cpd. **541.2** (3).

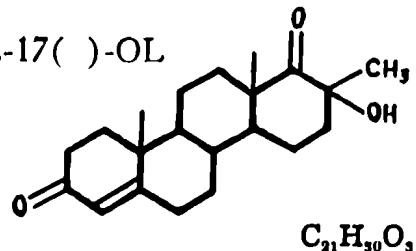
DERIVATIVES:

3-ac. 244-4.5°; $[\alpha]_D^{21} = -31^\circ \pm 2^\circ$ (acetone): (1,2)
Oxime 248-9°: (1,2)

REFERENCES:

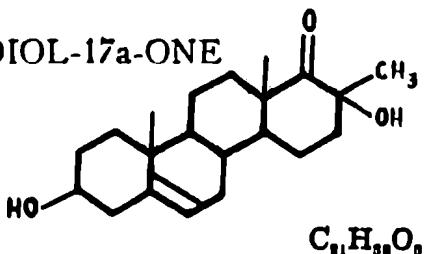
1. 75155
2. 75679
3. 84189

17()-METHYL-D-HOMOANDROSTANE-3(),17()-DIOL-17a-ONE**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)**M.P.:** 205-6°: (1)**PHARMACOLOGY:****REMARKS:****DERIVATIVES:**Diac. 161-2°; $[\alpha]_D^{21} = -35^\circ \pm 2^\circ$ (acetone): (1) 1. 75155**REFERENCES:**

17()-METHYL- Δ^4 -D-HOMOANDROSTENE-3,17a-DIONE-17()-OL**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)**M.P.: ca. 280°:** (1) $[\alpha]_D = +47^\circ \pm 2^\circ$ (dioxane) : (1)**PHARMACOLOGY:**

REMARKS: Position of me. group at C₁₇, uncertain. Cpd. may be identical with 17a()-methyl- Δ^4 -D-homoandrostene-3,17-dione-17a()-ol.

DERIVATIVES:Ac. 198-200°; $[\alpha]_D = +65^\circ \pm 1^\circ$ (dioxane) : (1) 1. 75679**REFERENCES:**

17()-METHYL- Δ^5 -D-HOMOANDROSTENE-3(β).17()-DIOL-17a-ONE**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)**M.P.:** 275-7°: (1) $[\alpha]_D = -113^\circ \pm 3^\circ$ (dioxane): (1)**PHARMACOLOGY:**

REMARKS: Me. side chain may be at C_{17a}. (2). The 17-ac. (m.p. 221-2°) and the diac. (m.p. 190-2°) previously believed to be esters of this cpd. (1) have been shown to be derivatives of cpd. 393.

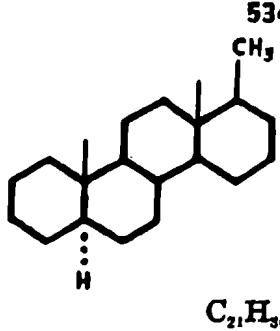
DERIVATIVES:

Oxime 239°; (1)

REFERENCES:

1. 75879
2. 84189

17a()-METHYL-D-HOMOANDROSTANE
(Neo-pregnane; 17a-methyl-chrysopregnane; chrysopregnane)



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2,3,4)

M.P.: 108-9°: (1,2,3,4)

$[\alpha]_D^{19} = -3^\circ \pm 1^\circ$ (dioxane) : (1)
 $[\alpha]_D^{20} = -2^\circ \pm 2^\circ$ (dioxane) : (3)

PHARMACOLOGY:

REMARKS:

DERIVATIVES:

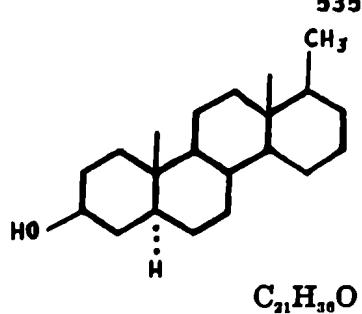
REFERENCES:

1. 80939
2. 80948
3. 80946
4. 84189

17a()-METHYL-D-HOMOANDROSTANE-3(β)-OL

535

ISOLATION:



STRUCTURE AND SYNTHESIS: (1)

M.P.: 161-3°: (1)

PHARMACOLOGY:

REMARKS:

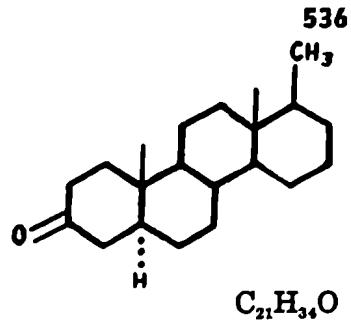
DERIVATIVES:

Ac. 128-9°; (1)

REFERENCES:

1. 80946

17a()-METHYL-D-HOMOANDROSTANE-3-ONE



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 181-2°: (1,2)

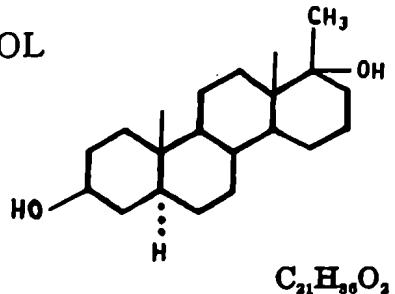
PHARMACOLOGY:

REMARKS:

DERIVATIVES:

REFERENCES:

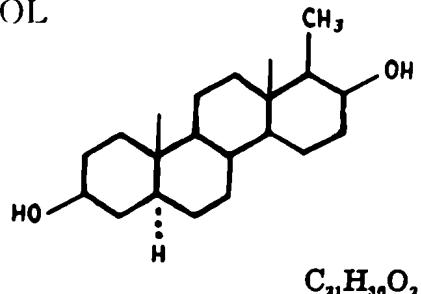
1. 80946
2. 84189

17a()-METHYL-D-HOMOANDROSTANE-3(β),17a()-DIOL**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1,2)**M.P.:****PHARMACOLOGY:****REMARKS:****DERIVATIVES**

17-amine 263-6°: (2)

REFERENCES:

1. 80939
2. 82662

17a()-METHYL-D-HOMOANDROSTANE-3(β),17()-DIOL**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)

M.P.: 180-200°: (1)

PHARMACOLOGY:

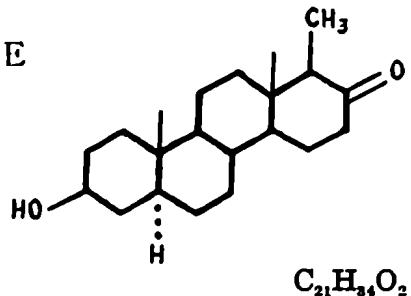
REMARKS: Probably mixture of isomerids (1).

DERIVATIVES:

Diac. 186-7°: (1)

REFERENCES:

1. 80948

17a()-METHYL-D-HOMOANDROSTANE-3(β)-OL-17-ONE**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)**M.P.:** 222-4°: (1)**PHARMACOLOGY:****REMARKS:****DERIVATIVES:**

Ac. 174-5°:

3-ac.-17-“anil” 232-3°; $[\alpha]_D^{23} = -103.3^\circ \pm 6^\circ$ (dioxane): (2)

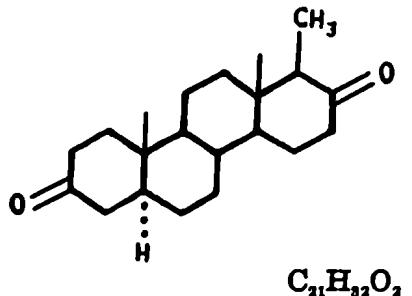
Nitroso derivative-3-ac.-17-“anil” 194°:

REFERENCES:

(1) 1. 80948

2. 84189

(2)

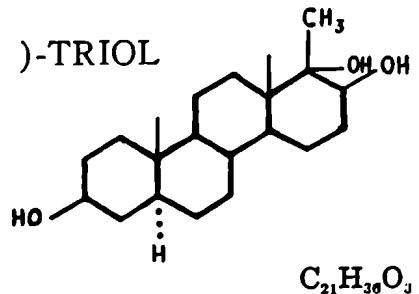
17a()-METHYL-D-HOMOANDROSTANE-3,17-DIONE**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1)**M.P.:** 200-2°: (1)**PHARMACOLOGY:****REMARKS:****DERIVATIVES:**

Dihydrazone > 320°: (1)

REFERENCES:

1. 80948

**17a()-METHYL-D-HOMOANDROSTANE-3(β),17(),17a()-TRIOL
 (3,17,17a-trihydroxy-17a-methyl-D-homo-androstan)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.: 294-5°: (1)

PHARMACOLOGY:

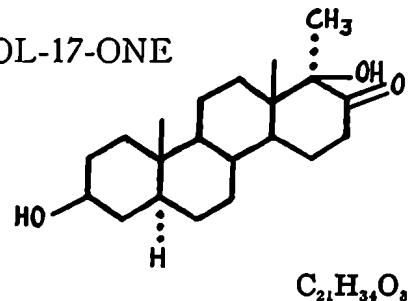
REMARKS:

DERIVATIVES:

3,17-diac. 259-9.5°: (1)
 Ac. 190°: (2)
 Triac. 247-50°: (2)

REFERENCES:

1. 82862
2. A54239

17a(α)-METHYL-D-HOMOANDROSTANE-3(β),17a(β)-DIOL-17-ONE**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1,2,3)

M.P.: 180-90° (needles) and 200° (prisms) : (2)
203-5°: (3)

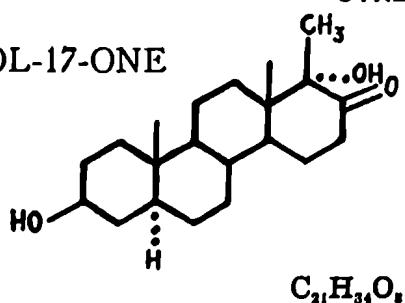
PHARMACOLOGY:

REMARKS: This cpd. designated by (3) as "Dioxyketon Xa" and its diac. as "Diacetate IXa".

DERIVATIVES:

- | | | | |
|-------|--|-----|----------|
| 3-ac. | 158-9°:(1), 159-60°; $[\alpha]_D^{18} = -34.8^\circ \pm 4^\circ$ (dioxane) : | (2) | 1. 84180 |
| Diac. | { 221-2°; $[\alpha]_D^{18} = -6.1^\circ \pm 3^\circ$ (acetone) : | (2) | 2. 84188 |
| | { 222-4°: | (3) | 3. 75155 |

REFERENCES:

17a(β)-METHYL-D-HOMOANDROSTANE-3(β),17a(α)-DIOL-17-ONE**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1,2,3,4)

M.P.: 305-6°: (1)
 274-5° and 305°: (1)
 295-300°: (2)

$[\alpha]_D = -30^\circ \pm 10^\circ$ (dioxane): (2)

PHARMACOLOGY:

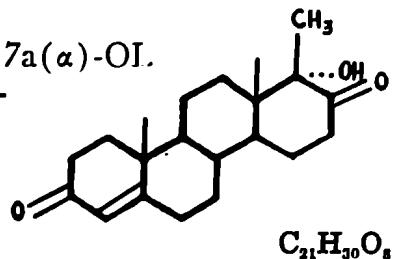
REMARKS: Had tentatively been assigned structure **530** (1,2), but above configuration more probable (2). 3-ac. designated by (1) "Monoacetat XIb".

DERIVATIVES:**REFERENCES:**

- | | | |
|-------|--|----------------------|
| 3-ac. | $\begin{cases} 244-4.5^\circ; [\alpha]_D^{21} = -31^\circ \pm 2^\circ & (\text{acetone}): (1,3) \\ 243-4^\circ; & (2) \end{cases}$ | 1. 75155
2. 84189 |
| Diac. | $232-5^\circ; [\alpha]_D^{15} = 0^\circ \pm 4^\circ$ (acetone): (4) | 3. 75679
4. 84188 |

17 α (β)-METHYL- Δ^4 -D-HOMOANDROSTENE-3,17-DIONE-17 α (α)-OL.

(Δ^4 -chrysopregnene-3,17-dione-17 α -ol; Δ^4 -17 α -methyl-chrysopregnene-3,17-dione-17 α -ol)

**ISOLATION:****STRUCTURE AND SYNTHESIS:** (12,5,6)

M.P.: 288-9°: (1)
284-8°: (4)
288-91°: (2)

$[\alpha]_D^{13} = +60^\circ \pm 16^\circ$ (dioxane): (1)
 $[\alpha]_D^{18} = +54^\circ$ (dioxane): (4)
 $[\alpha]_D^{14} = +66.1^\circ \pm 4^\circ$ (CHCl_3): (2)

PHARMACOLOGY:

Corticoid: **82?**: 1 mg. act., ca. 1/8 the act. of D.C.A.-D (6); **47A**: 10 mg. inact.-R (3); **47B,47C**: up to 2 mg./day inact.-R (3).

Luteoid: **86A**: 20 mg. inact.-Rb. (6).

REMARKS: The cpd. had originally been assigned the structure of $17(\alpha)$ -hydroxyprogesterone cpd. **353** and is described under that name in early publications.—position of me. side chain may be at C_{17} . Regarding structure of ac. of cpd. **353** see (7).

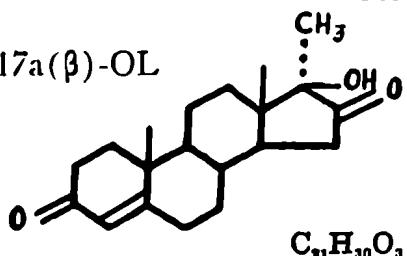
DERIVATIVES:

Oxime 268-70°: (4)

REFERENCES:

1. 81790
2. 81793
3. A37373
4. 73580
5. A54239
6. 75678
7. 84189

**17a(α)-METHYL-Δ⁴-D-HOMOANDROSTENE-3,17-DIONE-17a(β)-OL
 (Δ⁴-17a-methyl-chrysopregnene-3,17-dione-17a-ol)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2,3)

M.P.: 162-4°; (1)

182-4°: (1,2)

178-80°: (3)

$[\alpha]_D^{17} = + 60.8^\circ \pm 3^\circ$ (CHCl_3): (3)

PHARMACOLOGY:

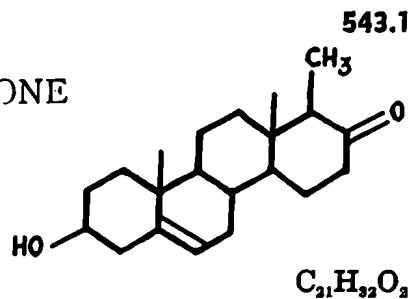
REMARKS: Several isomerids?

DERIVATIVES:

REFERENCES:

1. 81793
2. A54239
3. 84188

17a()-METHYL- Δ^8 -D-HOMOANDROSTENE-3(β)-OL-17-ONE



ISOLATION:

STRUCTURE AND SYNTHESIS: (1)

M.P.:

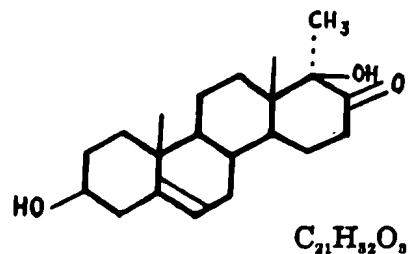
PHARMACOLOGY:

REMARKS: Anilido cpd. had previously been thought to be 17¹ "anil" of cpd. **380** (2,3).

DERIVATIVES:

17a-anilido cpd.	150°; $[\alpha]_D^{25} = -186.6^\circ \pm 7^\circ$ (CHCl_3): (1,2,3)	1. 84188
Ac.-17a-anilido cpd.	236-8°:	(1) 2. 78994
Nitroso-derivative of 17a-anilido cpd.	140° + 170-4°:	(1) 3. 77143

REFERENCES:

17a(α)-METHYL-4^β-D-HOMOANDROSTENE-3(β),17a(β)-DIOL-17-ONE**ISOLATION:****STRUCTURE AND SYNTHESIS:** (1,2,5)

M.P.: 180-2°: (1,2)
176-8°: (5)

$[\alpha]_D = -104^\circ$ (CHCl_3): (1)
 $[\alpha]_D^{18} = -105.6^\circ \pm 3^\circ$ (CHCl_3): (5)

PHARMACOLOGY:

Folliculoid: 128C: 1 mg./day produces vag. stratification-R (2); 55: 5 mg. act.?R (3).

Luteoid: 46: 10 mg. inact.-Rb. (4).

Anesthetic: 11: U. = 5.0 mg.-R (3).

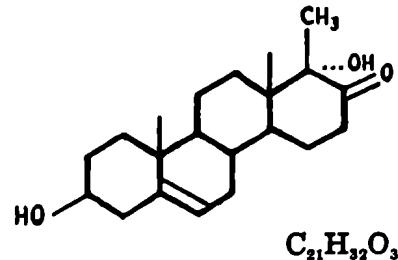
REMARKS:**DERIVATIVES:**

Ac. $\left\{ \begin{array}{l} 174-6^\circ: \\ 152^\circ + 168-70^\circ: \\ 177-8^\circ; [\alpha]_D^{18} = -79^\circ \pm 2^\circ (\text{CHCl}_3): \end{array} \right. \quad \begin{array}{l} (1) \\ (6) \\ (5) \end{array}$
Diac. 238-40°; $[\alpha]_D^{22} = -68.4^\circ \pm 3^\circ$ (dioxane): (5)

REFERENCES:

1. A54239
2. A37486
3. A36744
4. A56335
5. 84188
6. 84182

**17 α (β)-METHYL- Δ^5 -D-HOMOANDROSTENE-3(β),17 α (α)-DIOL-17-ONE
(Δ^5 -17 α -methyl-chrysopregnenediol-3,17 α -one-17)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2,3,4,5,6,12)

M.P.: 275-7°: (1,2)
276-8°: (3,8)
260° + 290° + 302-5°: (13)

$[\alpha]_D = -106^\circ$ (dioxane): (3)
 $[\alpha]_D = -110^\circ$ (dioxane): (2)
 $[\alpha]_D = +113^\circ \pm 3^\circ$ (dioxane): (1)

PHARMACOLOGY:

Folliculoid: **128C:** 1 mg./day produces vag. stratification and cornification-R (9); **55:** 5 mg. act.-R (10).

Luteoid: **46:** 5 mg. inact.-Rb. (11).

Anesthetic: **11:** U. = 5 mg.-R (10).

REMARKS: Originally (2,3) believed it to be $17(\beta)$ -[1-ketoethyl]- Δ^5 -androstene - $3(\beta),17(\alpha)$ -diol, but (4,5,6) showed Ring D to be cyclohexane.

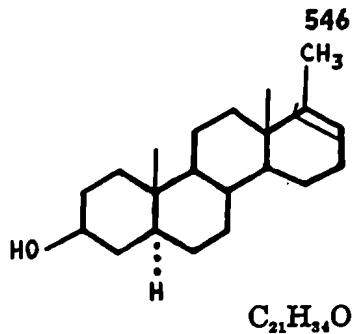
DERIVATIVES:

Oxime $\left\{ \begin{array}{l} 263-5^\circ: \\ 243-4^\circ \text{ (impure)}: \end{array} \right.$
3-ac.-17-bz. 217°:
3-ac. $\left\{ \begin{array}{l} 270-2^\circ: \\ 278-80^\circ: \\ 277-9^\circ; [\alpha]_D^{10} = -100.9^\circ \pm 4^\circ \text{ (dioxane)}: \\ \{ 191-2^\circ; [\alpha]_D^{18} = -54^\circ \text{ (dioxane)}: \end{array} \right.$
Diac. $\left\{ \begin{array}{l} 240^\circ \text{ (platelets) and } 248^\circ \text{ (rhombic)}; [\alpha]_D^{18} = -32.8^\circ \pm 4^\circ \text{ (CHCl}_3\text{)}: \end{array} \right.$

REFERENCES:

- (8) 1. 75679
- (2,3) 2. 73580
- (2) 3. A34071
- (2) 4. 75155
- (14) 5. 80948
- (13) 6. 80939
- (2,7) 7. 80946
8. 82662
9. A37486
10. A36744
11. A56335
12. A56239
13. 84188
14. 84182

**17a-METHYL- Δ^{17} -D-HOMOANDROSTENE-3(β)-OL
(3-hydroxy-17a-methyl- Δ^{17} -D-homo-androstene)**



ISOLATION:

STRUCTURE AND SYNTHESIS: (1,2)

M.P.: 159-60°: (2)

PHARMACOLOGY:

REMARKS:

DERIVATIVES:

Ac.-17:17a-oxide 158-60°: (1)
17:17a-oxide 163-5° (1)

REFERENCES:

1. 82662
2. 84189