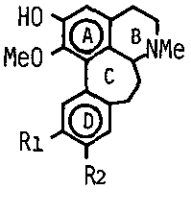
A SYNTHESIS OF (±)-2-HYDROXYHOMOAPORPHINES BEARING A HYDROXYL GROUP ON THE D-RING

Osamu Hoshino, Hideto Ogose, Masaaki Inoue, and Bunsuke Umezawa
Faculty of Pharm. Sciences, Science Univ. of Tokyo, Shinjuku-ku, Tokyo, 162, Japan

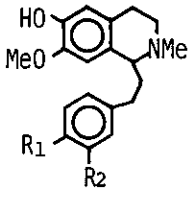
Previously we have found that $Pb(OAc)_4$ (LTA) oxidation of 1-phenethyl-6-tetrahydroisoquinolinols in CH_2Cl_2 gives o-quinol acetates(o-QAs), treatment of which with Ac_2O-c.H_2SO_4 leads to 2-acetoxyhomoaporphines[1] together with biphenyl compounds. Now we wish to report a synthesis of (±)-2-hydroxyhomoaporphines(1) bearing a hydroxyl group on the D-ring by use of the method.

o-QA(3a) prepared by LTA oxidation of 2a was treated with Ac_2O-c.H_2SO_4 in CH_3CN to give 2,10-diacetoxyhomoaporphine(4a)(oil, 61.5%)[NMR δ:6.84(1H, s, 3-H), 6.92 (1H, s, 9-H), 7.10 (1H, s, 12-H); MS: m/z 425(M^+)] accompanied with a biphenyl product (5a)(oil, 6 %)[MS: m/z 485(M^+)]. Hydrolysis of 4a with 10% HCl in boiling MeOH gave (±)-2,10-dihydroxyhomoaporphine (1a)(mp 189.5-193°, 77.3 %)[NMR δ:6.58(1H, s, 3-H),6.66(1H, s, 9-H), 6.90(1H, s, 12-H)]. Similarly, 3b gave 1b (mp 134.5-137°)[NMR δ:6.40(1H, s, 3-H), 6.55(1H, s, 9-H), 7.13(1H, s, 12-H)] via 4b (oil) [NMR δ:6.80(1H, s, 9-H), 6.84(1H, s, 3-H), 7.20(1H, s, 12-H); MS m/z 425(M^+)] in 54 % overall yield. Synthesis of the related compounds will be also discussed.

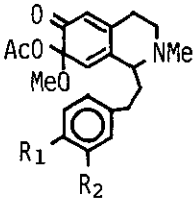


1

	R1	R2
1a	OMe	OH
b	OH	OMe

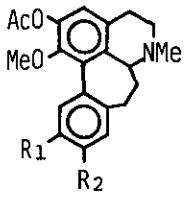


2



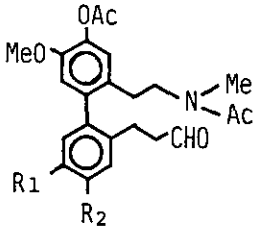
3

	R1	R2
2,3a	OMe	OCH_2Ph
b	OCH_2Ph	OMe



4

	R1	R2
4,5a	OMe	OAc
b	OAc	OMe



5

REFERENCE

1) O.Hoshino, H.Ogose, and B.Umezawa, 4th Internationl Conference on Organic Synthesis, Tokyo, Aug. 22-27, 1982.