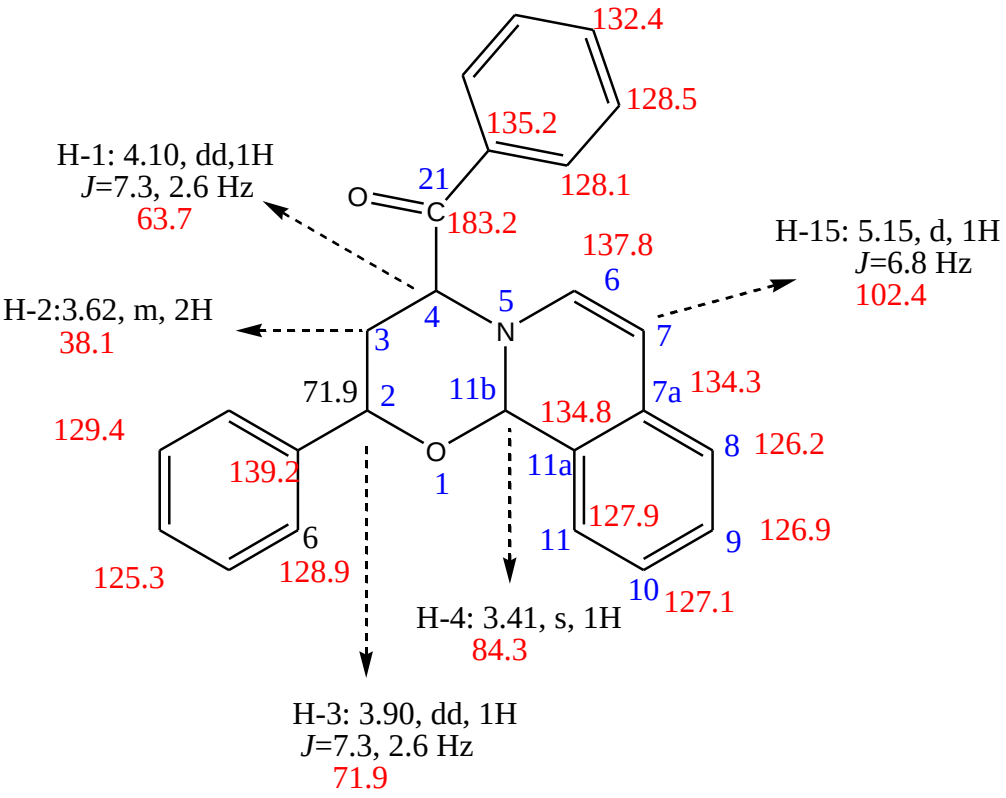
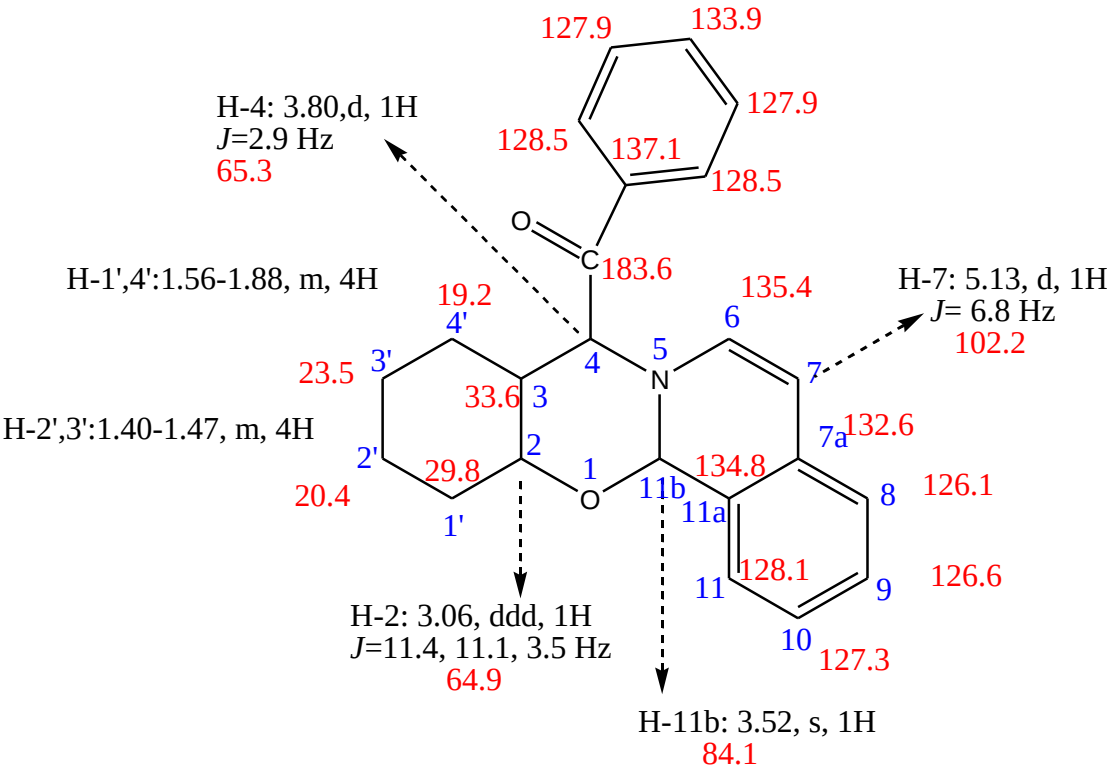


Remaining all 13 H fall in armmatic reason between 6.92 -7.50 m

NMR (400 MHz, $CDCl_3$) δ_H (ppm) 3.41 (s, 1H, 11b-H), 3.62-3.66 (m, 2H, 3-Ha & 3-Hb), 3.90 (dd, 1H, $J_{3Ha,2H}$ =7.3 Hz, $J_{3Hb,2H}$= 2.6 Hz, 2-H), 4.10 (dd, 1H, $J_{3Ha,4H}$ = 7.3 Hz, $J_{3Hb,4H}$= 2.4 Hz, 4-H), 5.15 (d , 1H, $J_{7H,4H}$ =6.8, 7-H), 6.92-7.50 (m , 13H, 6-H, 8-H, 11-H & Ar-H), 8.04 (d, 2H, *J*=6.2, Ar-H). ^{13}C NMR (100 MHz, $CDCl_3$) δ_c (ppm) 38.1 (3-C), 63.7 (4-C), 71.9 (2-C), 84.3 (11b-C), 102.4 (7-C), 125.3 (arom-C), 126.2 (8-C), 126.9 (9-C), 127.1(10-C), 127.9 (11-C), 128.1(arom-C), 128.5 (arom-C), 128.9 (arom-C), 129.4 (arom-C), 132.4 (arom-C), 134.3 (7a-C), 134.8 (11a-C), 135.2 (arom-C), 137.8 (6-C), 139.2 (arom-C), 183.2 (CO). EIMS (m/z): 367$(M)^+$. Anal.Calc for $C_{25}H_{21}NO_2$; C, 81.72; H, 5.76; N, 3.81. Found: C, 81.68; H, 6.79; N, 3.83.



Remaining all 8 H fall in aromatic reason between 6.90 - 7.20 m

4e

. ^{1}H NMR (400 MHz, $CDCl_3$) δ_H (ppm) 1.40 -1.47 (m, 4H, 2'-H&3'-H), 1.56-1.88 (m, 4H, 1'-H&4'-H), 3.06 (ddd, 1H, $J_{H1'a}$=11.4,J_{H3}= 11.1, $J_{H1'b}$= 3.5 Hz, 2-H), 3.52 (s, 1H, 11b-H), 3.80 (d, 1H, J_{H3}= 2.9 Hz, 4-H), 4.18-4.23 (m, 1H, 3-H), 5.13 (d, 1H, J_{H6}=6.8 Hz, 7-H), 6.90-7.20 (m, 8H, Ar-H), 8.03 (d, 2H, J=6.2 Hz, Ar-H). ^{13}C NMR (100 MHz, $CDCl_3$) δ_c (ppm) 19.2 (4'-C), 23.5 (3'-C), 20.4 (2'-C), 29.8 (1'-C), 33.6 (3-C), 65.3 (4-C), 69.4 (2-C), 84.1(11b-C), 102.2 (7-C), 126.1 (8-C), 126.6 (9-C), 127.3 (10-C), 127.9(arom-c), 128.1(11-C), 128.5(arom-c), 132.6 (7a-C), 133.9 (arom-c),134.3 (11a-C),135.4(6-C),137.1(arom-c), 183.6 (CO). EIMS (m/z): 345$(M)^+$. Anal.Calc. for $C_{23}H_{23}NO_2$; C, 79.97; H, 6.71; N, 4.05. Found: C, 79.94; H, 6.69; N, 4.07.