2.5.3 Preparation of 2-methyl-1-[4-(2-methylpiperidin-1-yl)but-2-yn-1-yl]-2,3-dihydro-1H-indole (AZ-4)

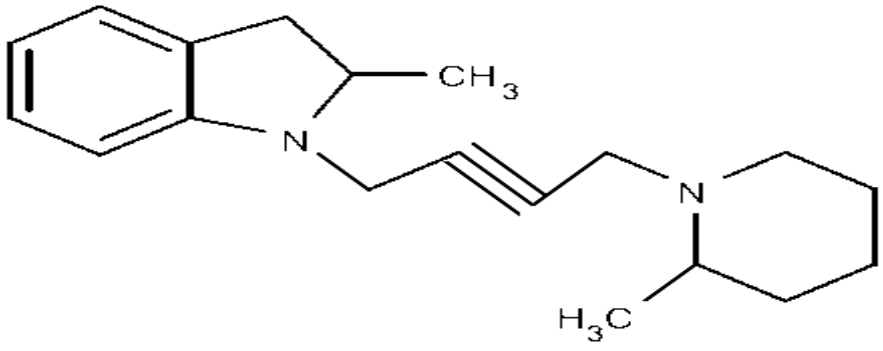

Figure 25: 2-methyl-1-[4-(2-methylpiperidin-1-yl)but-2-yn-1-yl]-2,3-dihydro-1H-indole.

The titled compound was prepared following the general procedure for synthesis of 2-methyl-1-[4-(amino-1-yl)but-2-yn-1-yl]-2,3-dihydro-1H-indole, AZ2-AZ7, yielded 2.7 gm 95.6 %. **IR (NaCl, Cm^{-1}):** 3048, 2963, 2929 (ArH, stretch), 1607, 1481, 1460 (Ar, C=C, stretch), 1374, 1234, 1065 (Ar, C=C, bending), 849, 749 (ArH, bending). **^{1}H-NMR (DMSO-d_6):** δ 1.22 (d,3H, CH-CH_3), 1.26 (d, 3H, *J* = 4.4 Hz, N-C-$C\underline{H}_3$), 1.16, 1.33, 1.50, 1.51, 1.62, 1.72, 2.37, 2.95 (m, various protons of cyclicamine), 3.06 (d, 1H, $C\underline{H}_2$-CH-N), 3.07, 3.47 (d, 2H, *J* = 2.4 Hz, CH_2-N) due to long range coupling, 3.48, 3.87 (d, 2H, *J* = 2.4 Hz, CH_2-C) due to long range coupling, 3.66 (d, 1H, $C\underline{H}_2$-CH-N), 3.82 (m, 1H, *J* = 6.15 Hz, N-C$\underline{H}$-CH_3), 6.81-7.28 (m, 4H, ArH). DSC: melting point = 98 C°. **^{13}C-NMR (DMSO-d_6):** δ**,** 19 ($C^{28, 39}$), 20 (C^{31}), 24 (C^{17}), 26 (C^{21}), 34 (C^{7}), 43 ($C^{26, 27, 42}$), 53 (C^{30}), 59 (C^{14}), 78 (C^{24}), 80 (C^{25}), 109 (C^{3}), 117 (C^{4}), 124 ($C^{1, 5}$), 127 (C^{6}), 151 (C^{2}). **Anal. Calcd: ($C_{19}H_{26}N_2$):** C (80.8%); H (9.28%); N (9.92%). Found C (81.2%); H (9.22%); N (9.52%).