**2.5.4 Preparation of 2-methyl-1-[4-(piperidin-1-yl)but-2-yn-1-yl]-2,3-dihydro-1H-indole (AZ-5)**

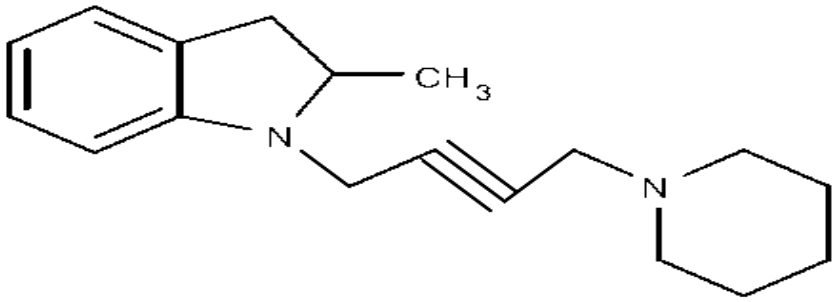


Figure 26: 2-methyl-1-[4-(piperidin-1-yl)but-2-yn-1-yl]-2,3-dihydro-1H-indole.

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 1.4 g 52.2 %. **IR (NaCl, $Cm^{-1}$):** 3048, 2932, 2849 (ArH, stretch), 1607, 1481, 1460 (Ar, C=C, stretch), 1234, 1186, 1110 (Ar, C=C, bending), 852, 750, 718 (ArH, bending). **$^1$H-NMR (DMSO-$d_6$):** δ 1.22 (d, 3H, C-$CH_3$), 1.85, 1.96, 2.06, 2.28, 3.49 (m, various protons of cyclicamine), 3.06 (d, 1H, C$\underline{H}_2$-C-N), 3.50, 3.89 (t, 2H, *J* = 2.4 Hz, $CH_2$-C) due to long range coupling, 3.66 (d, 1H, C$\underline{H}_2$-C-N), 3.81 (m, 1H, *J* = 6.15 Hz, N-C$\underline{H}$-$CH_3$), 3.73, 4.12 (t, 2H, *J* = 2.4 Hz, C-$CH_2$-N) due to long range coupling, 6.81-7.28 (m, 4H, ArH). DSC: melting point= 99 Cº.