

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

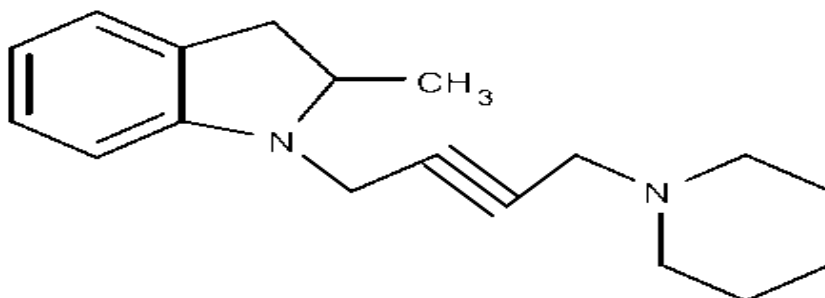


Figure 26: 2-methyl-1-[4-(piperidin-1-yl)but-2-yn-1-yl]-2,3-dihydro-1H-indole.

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,  $\text{Cm}^{-1}$ ):** 3048, 2932, 2849 (ArH, stretch), 1607, 1481, 1460 (Ar, C=C, stretch), 1234, 1186, 1110 (Ar, C=C, bending), 852, 750, 718 (ArH, bending).  **$^1\text{H-NMR}$  ( $\text{DMSO-d}_6$ ):**  $\delta$  1.22 (d, 3H, C- $\text{CH}_3$ ), 1.85, 1.96, 2.06, 2.28, 3.49 (m, various protons of cyclicamine), 3.06 (d, 1H,  $\text{CH}_2\text{-C-N}$ ), 3.50, 3.89 (t, 2H,  $J = 2.4$  Hz,  $\text{CH}_2\text{-C}$ ) due to long range coupling, 3.66 (d, 1H,  $\text{CH}_2\text{-C-N}$ ), 3.81 (m, 1H,  $J = 6.15$  Hz, N- $\text{CH-CH}_3$ ), 3.73, 4.12 (t, 2H,  $J = 2.4$  Hz, C- $\text{CH}_2\text{-N}$ ) due to long range coupling, 6.81-7.28 (m, 4H, ArH). DSC: melting point= 99  $^\circ\text{C}$ .