

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

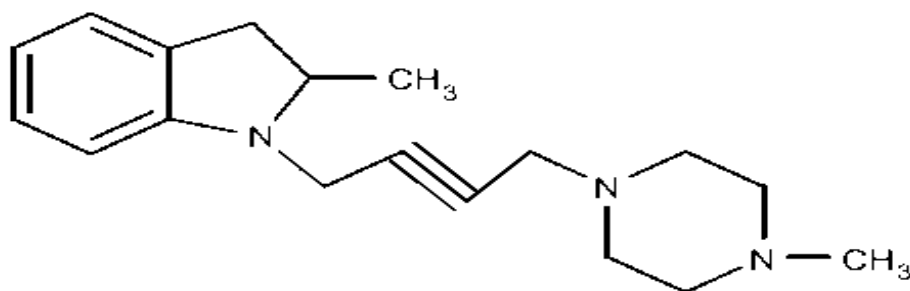


Figure 24: 2-methyl-1-[4-(4-methylpiperidin-1-yl)but-2-yn-1-yl]-2,3-dihydro-1H-indole.

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 2.3 gm 81.2 %. **IR (NaCl,  $\text{Cm}^{-1}$ ):** 3048, 2935, 2795 (ArH, stretch), 1607, 1482, 1456 (Ar, C=C, stretch), 1235, 1165, 1010 (Ar,C=C, bending), 817, 749 (ArH, bending).  **$^1\text{H-NMR}$  ( $\text{DMSO-d}_6$ ):**  $\delta$  1.22 (d, 3H, C- $\text{CH}_3$ ), 2.14, 2.51, 2.82, 3.20 (m, various protons of cyclicamine), 2.24 (s, 3H,  $J = 4.4$  Hz N- $\text{CH}_3$ ), 3.73 (t, 1H,  $J = 2.4$  Hz, C- $\text{CH}_2$ -N), 4.13 (t, 1H,  $J = 2.4$  Hz C- $\text{CH}_2$ -N) due to long range coupling, 3.46 (t, 1H,  $\text{CH}_2$ -C) due to long range coupling, 3.77 (m,  $J = 6.15$  Hz, 1H, N- $\text{CH}_2$ - $\text{CH}_3$ ), 4.13 (t, 2H,  $J = 2.4$  Hz,  $\text{CH}_2$ -C) due to long range coupling, 6.81-7.28 (m,4H, ArH).