

2.5.1 Preparation of 1-[4-(2,6-dimethylpiperidin-1-yl)but-2-yn-1-yl]-2-methyl-2,3-dihydro-1H-indole (AZ-2)

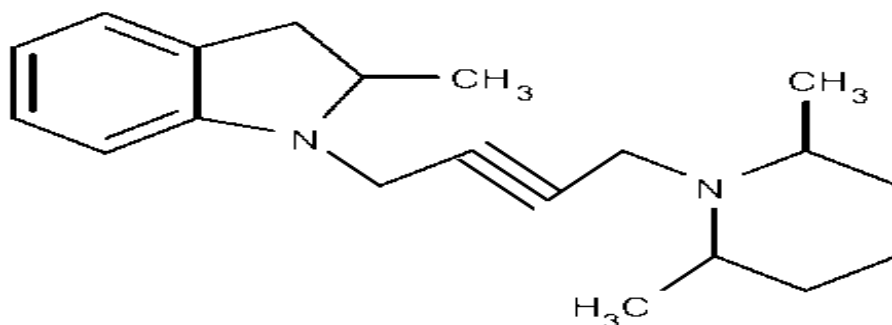


Figure 23: 1-[4-(2,6-dimethylpiperidin-1-yl)but-2-yn-1-yl]-2-methyl-2,3-dihydro-1H-indole.

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 2.72 gm 91.7 %. **IR (NaCl, Cm^{-1}):** 3048, 2964, 2926 (ArH, stretch), 1672, 1607, 1481, 1460 (Ar, C=C, stretch), 1091, 1057 (Ar,C=C, bending), 849, 749 (ArH, bending). **$^1\text{H-NMR}$ (DMSO- d_6):** δ , 1.16, 1.22, 1.34, 1.50, 1.66 (m, various protons of cyclicamine), 1.22 (d,3H, CH-CH_3), 1.23-1.27 (q, 6H, $J = 4.4$ Hz, N-C- CH_3) H splitting each one into doublet, 3.05 (m, 2H, N- CH_2 , CH_3), 3.06 (d, 1H, CH-CH-N), 3.11, 3.51 (t, 2H, $J = 2.4$ Hz, C- $\text{CH}_2\text{-N}$) due to long range coupling, 3.46, 3.85 (t, 2H, $J = 2.4$ Hz, $\text{CH}_2\text{-C}$) due to long range coupling, 3.83 (m, 1H, $J = 6.15$ Hz), 6.81-7.28 (m, 4H, ArH). **$^{13}\text{C-NMR}$ (DMSO- d_6):** δ , 19 ($\text{C}^{28, 39}$), 21 ($\text{C}^{17, 31}$), 24 (C^{21}), 35 (C^7), 37 ($\text{C}^{26, 27, 39}$), 41 ($\text{C}^{29,30}$), 53 (C^{14}), 77 (C^{24}), 80 (C^{25}), 109 (C^3), 118 (C^4), 124 ($\text{C}^{1, 5}$), 127 (C^6), 151 (C^2). DSC: melting point = 109 $^\circ\text{C}$.