

### 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)

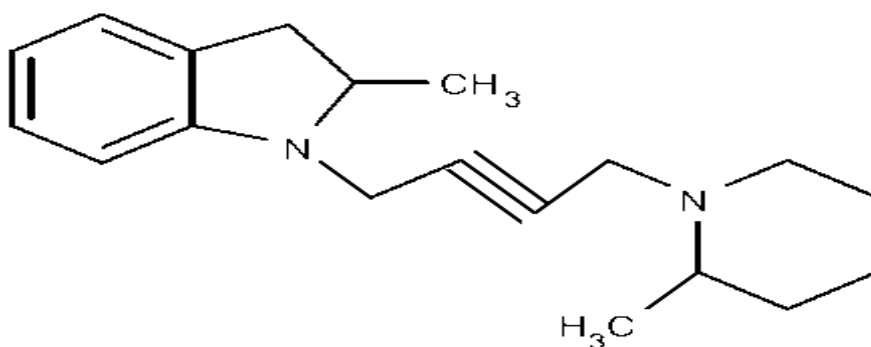


Figure 25: 2-methyl-1-[4-(2-methylpiperidin-1-yl)but-2-yn-1-yl]-2,3-dihydro-1H-indole.

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,  $\text{Cm}^{-1}$ ):** 3048, 2963, 2929 (ArH, stretch), 1607, 1481, 1460 (Ar, C=C, stretch), 1374, 1234, 1065 (Ar, C=C, bending), 849, 749 (ArH, bending).  **$^1\text{H-NMR}$  (DMSO- $d_6$ ):**  $\delta$  1.22 (d, 3H, CH-CH<sub>3</sub>), 1.26 (d, 3H,  $J = 4.4$  Hz, N-C-CH<sub>3</sub>), 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, CH<sub>2</sub>-CH-N), 3.07, 3.47 (d, 2H,  $J = 2.4$  Hz, CH<sub>2</sub>-N) due to long range coupling, 3.48, 3.87 (d, 2H,  $J = 2.4$  Hz, CH<sub>2</sub>-C) due to long range coupling, 3.66 (d, 1H, CH<sub>2</sub>-CH-N), 3.82 (m, 1H,  $J = 6.15$  Hz, N-CH-CH<sub>3</sub>), 6.81-7.28 (m, 4H, ArH). **DSC:** melting point = 98 °C.  **$^{13}\text{C-NMR}$  (DMSO- $d_6$ ):**  $\delta$ , 19 (C<sup>28, 39</sup>), 20 (C<sup>31</sup>), 24 (C<sup>17</sup>), 26 (C<sup>21</sup>), 34 (C<sup>7</sup>), 43 (C<sup>26, 27, 42</sup>), 53 (C<sup>30</sup>), 59 (C<sup>14</sup>), 78 (C<sup>24</sup>), 80 (C<sup>25</sup>), 109 (C<sup>3</sup>), 117 (C<sup>4</sup>), 124 (C<sup>1, 5</sup>), 127 (C<sup>6</sup>), 151 (C<sup>2</sup>). **Anal. Calcd: (C<sub>19</sub>H<sub>26</sub>N<sub>2</sub>):** C (80.8%); H (9.28%); N (9.92%). **Found** C (81.2%); H (9.22%); N (9.52%).