

**Synthesis and photochromism of 1,3-diazabicyclo[3.1.0]hex-3-ene phenol rings**

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*3-{6-(4-Nitrophenyl)-4-phenyl-1,3-diazabicyclo[3.1.0]hex-3-en-2-yl}-phenol* **2**: yield 65%, mp 170–171 °C, colourless solid, after irradiation with UV light converted to greenish blue. IR (KBr,  $\nu/\text{cm}^{-1}$ ): 3400, 3010, 1600, 1510, 1335.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ )  $\delta$ : 2.49 (s, 1H), 3.48 (s, 1H), 6.41 (s, 1H), 6.48 (dd, 1H,  $J$  2.0 and 8.0 Hz), 6.68 (d, 1H,  $J$  7.6 Hz), 6.73 (s, 1H), 6.86 (t, 1H,  $J$  7.8 Hz), 7.15 (d, 2H,  $J$  8.7 Hz), 7.20 (t, 2H,  $J$  7.7 Hz), 7.25 (t, 1H,  $J$  7.3 Hz), 7.67 (d, 2H,  $J$  7.2 Hz), 7.86 (d, 2H,  $J$  8.7 Hz), 8.56 (s, 1H). UV-Vis (EtOH,  $\lambda_{\text{max}}/\text{nm}$ ): 205, 250, 256, 276 before irradiation and 205, 250, 260, 410 after irradiation.

*3-{6-(3-Nitrophenyl)-4-phenyl-1,3-diazabicyclo[3.1.0]hex-3-en-2-yl}-phenol* **5**: yield 60%, mp 137–138 °C, colourless solid, after irradiation with UV light converted to pale yellow. IR (KBr,  $\nu/\text{cm}^{-1}$ ): 3400, 3005, 1600, 1515, 1340.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ,  $[\text{DMSO}-d_6]$ )  $\delta$ : 2.44 (s, 1H), 3.47 (s, 1H), 6.40 (s, 1H), 6.48 (dd, 1H,  $J$  1.8 and 8.0 Hz), 6.67 (d, 1H,  $J$  7.6 Hz), 6.73 (s, 1H), 6.85 (t, 1H,  $J$  7.8 Hz), 7.19 (m, 3H), 7.25 (t, 1H,  $J$  7.2 Hz), 7.20 (t, 1H,  $J$  7.6 Hz), 7.68 (d, 2H,  $J$  7.2 Hz), 7.80 (d, 2H,  $J$  9.0 Hz), 8.56 (s, 1H). UV-Vis (EtOH,  $\lambda_{\text{max}}/\text{nm}$ ): 215, 256, 268 before irradiation and 215, 256, 395 after irradiation.