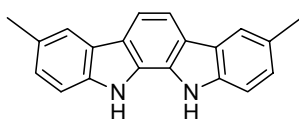


1; indolo[2,3-a]carbazole:

$^1\text{H-NMR}$ (DMSO- d_6 ; ppm): 7.22 (t, $J = 7.5$ Hz, 2H), 7.40 (t, $J = 7.5$ Hz, 2H), 7.71 (d, $J = 7.8$ Hz, 2H), 7.92 (s, 2H), 8.17 (d, $J = 7.8$ Hz, 2H), 11.08 (s, 2H).

$^{13}\text{C-NMR}$ (DMSO- d_6 ; ppm): 111.60 (2xCH), 118.91, 119.72, 120.08, 123.76, 124.52, 125.62, 138.97.

EI-MS: 256 (M^+)

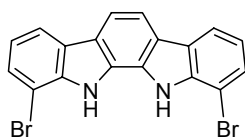


2; 3,8-dimethylindolo[2,3-a]carbazole:

$^1\text{H-NMR}$ (DMSO- d_6 ; ppm): 2.54 (s, 6H), 7.24 (d, $J = 7.8$ Hz, 2H), 7.60 (d, $J = 7.8$ Hz, 2H), 7.87 (s, 2H), 7.97 (s, 2H), 10.93 (s, 2H).

$^{13}\text{C-NMR}$ (DMSO- d_6 ; ppm): 21.23, 111.26, 111.33, 119.45, 119.75, 123.98, 125.81, 125.94, 127.48, 137.23.

EI-MS: 284 (M^+)

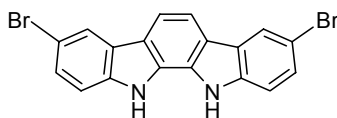


3; 1,10-dibromoindolo[2,3-a]carbazole:

$^1\text{H-NMR}$ (DMSO- d_6 ; ppm): 7.19 (t, $J = 7.5$ Hz, 2H), 7.61 (d, $J = 7.5$ Hz, 2H), 7.99 (s, 2H), 8.18 (d, $J = 7.5$ Hz, 2H), 10.78 (s, 2H).

$^{13}\text{C-NMR}$ (DMSO- d_6 ; ppm): 104.78, 113.74, 120.05 (CH+Cq) 121.51, 122.45, 126.52, 127.97, 138.58.

EI-MS: 416 ($M^+ + 4$), 414 ($M^+ + 2$), 412 (M^+)



4; 3,8-dibromoindolo[2,3-a]carbazole:

$^1\text{H-NMR}$ (DMSO- d_6 ; ppm): 7.53 (d, $J = 8.7$ Hz, 2H), 7.71 (d, $J = 8.7$ Hz, 2H), 7.99 (s, 2H), 8.43 (s, 2H), 11.33 (s, 2H).

$^{13}\text{C-NMR}$ (DMSO- d_6 ; ppm): 111.20, 112.38, 113.70, 119.66, 122.35, 125.62, 126.06, 127.04, 137.73.

EI-MS: 416 ($M^+ + 4$), 414 ($M^+ + 2$), 412 (M^+)