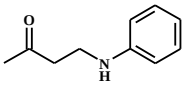
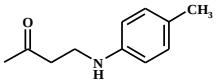
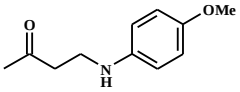
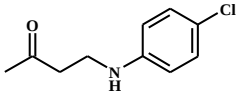
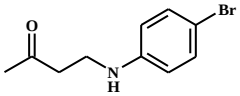
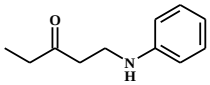
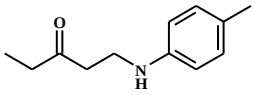
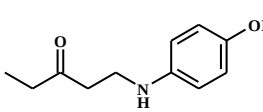
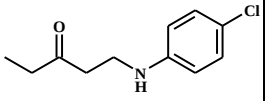
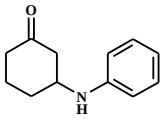
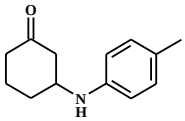
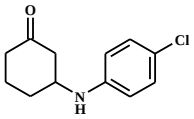
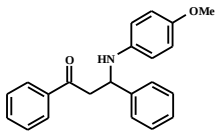
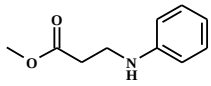
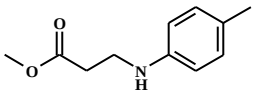
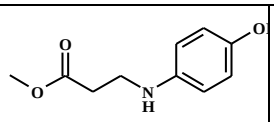
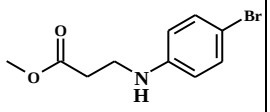
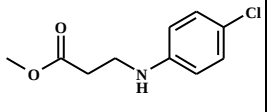
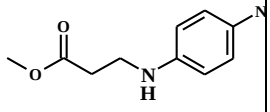
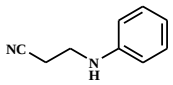
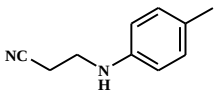
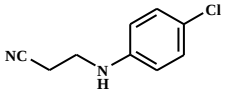
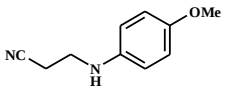
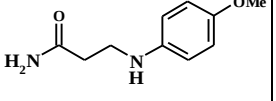
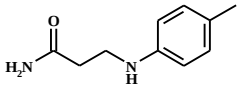
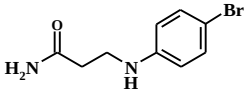
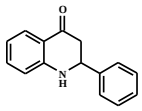
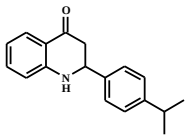
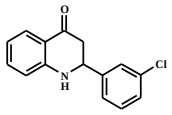
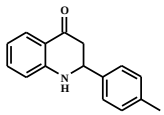
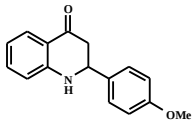
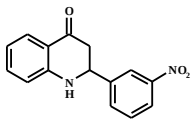
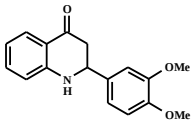
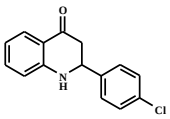
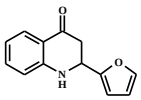
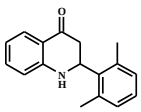
Supplementary data:

Product	Structure	Spectral data
2aa		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.16 (s, 3H, CH_3), 2.73 (t, 2H, *J* = 6.3 Hz, CH_2), 3.41 (t, 2H, *J* = 6.3 Hz, CH_2), 6.60-6.70 (m, 3H, ArH), 7.18 (t, 2H, *J* = 8.4 Hz, ArH); **^{13}C NMR (75 MHz, $CDCl_3$):** δ 30.27, 38.39, 42.60, 113.06, 117.64, 129.31, 147.72, 208.22 ppm.
2ab		**^{1}H NMR (300 MHz, $CDCl_3$,):** δ 2.16 (3H, s, CH_3), 2.25 (3H, s, CH_3), 2.73 (2H, t, *J* = 6.0 Hz, CH_2), 3.39 (2H, t, *J* = 6.3 Hz, CH_2), 3.40-3.50 (1H, brs, NH), 6.55 (2H, d, *J* = 8.1 Hz, ArH), 7.0 (2H, d, *J* = 8.4 Hz, ArH), **^{13}C NMR (75 MHz, $CDCl_3$,):** δ 20.38, 30.26, 38.81, 42.62, 113.34, 126.91, 129.80, 145.42, 208.32 ppm.
2ac		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.13 (3H, s, CH_3), 2.70 (2H, t, *J* = 6.0 Hz, CH_2), 3.33 (2H, t, *J* = 6.0 Hz, CH_2), 3.72 (3H, s, OCH_3), 6.44-6.82 (4H, m, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 30.24, 39.53, 42.62, 55.74, 114.60, 114.90, 141.90, 152.33, 208.34 ppm.
2ad		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.14 (3H, s, CH_3), 2.69 (2H, t, *J* = 6.0 Hz, CH_2), 3.35 (2H, t, *J* = 6.0 Hz, CH_2), 6.46 (2H, d, *J* = 8.7 Hz, ArH), 7.06 (2H, d, *J* = 8.7 Hz, ArH). **^{13}C NMR (75 MHz, $CDCl_3$):** δ 30.3, 38.5, 42.4, 114.1, 122.1, 129.1, 146.3, 208.0 ppm.
2ae		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.17 (3H, s, CH3), 2.73 (2H, t, *J* = 6.0 Hz, CH_2), 3.37 (2H, t, *J* = 6.0 Hz, CH_2), 6.47 (2H, d, *J* = 8.7 Hz, ArH), 7.24 (2H, d, *J* = 8.7 Hz, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 30.29, 38.34, 42.31, 108.56, 114.56, 131.98, 146.68, 207.91 ppm.
2ba		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 1.05 (3H, t, *J* = 7.2 Hz, CH3), 2.44 (2H, q, *J* = 7.2 Hz, CH_2), 2.72 (2H, t, *J* = 6 Hz, CH_2), 3.42 (2H, t, *J* = 6 Hz, CH_2), 4.01 (1H, brs, NH), 6.60-6.62 (2H, m, ArH), 6.69-6.72 (1H, m, ArH), 7.15-7.25 (2H, m, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 7.6, 36.2, 38.3, 41.1, 112.9, 117.5, 129.2, 147.6, 210.9 ppm
2bb		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 1.04 (3H, t, J = 7.2 Hz, CH_3), 2.23 (3H, s, CH_3), 2.43 (2H, q, *J* = 7.2 Hz, CH_2), 2.70 (2H, t, *J* = 6 Hz, CH_2), 3.39 (2H, t, *J* = 6 Hz, CH_2), 3.88 (1H, brs, NH), 6.53 (2H, d, *J* = 8.0 Hz, ArH), 6.78 (2H, d, *J* = 8.0 Hz, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 7.6, 20.3, 36.2, 38.8, 41.2, 113.2, 126.8, 129.7, 145.3, 211.0 ppm.
2bc		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 1.05 (3H, t, *J* = 7.2 Hz, CH_3), 2.44 (2H, q, *J* = 7.2 Hz, CH_2), 2.71 (2H, t, *J* = 6 Hz, CH_2), 3.36 (2H, t, *J* = 6 Hz, CH_2), 3.28 (3H, s, OCH_3), 4.05 (1H, brs, NH), 6.66 (2H, d, *J* = 7.2 Hz, ArH), 6.78 (2H, d, *J* = 7.2 Hz, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 7.6, 36.2, 39.5, 41.2, 55.6, 114.5, 114.7, 141.8, 152.1, 211.1 ppm.

2bd		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 1.06 (3H, t, *J* = 7.2 Hz, CH_3), 2.45 (2H, q, *J* = 7.2 Hz, CH_2), 2.72 (2H, t, *J* = 6 Hz, CH_2), 3.39 (2H, t, *J* = 6 Hz, CH_2), 4.07 (1H, brs, NH), 6.53 (2H, d, *J* = 8.8 Hz, ArH), 7.12 (2H, d, *J* = 8.8 Hz, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 7.6, 36.3, 38.4, 40.9, 114.0, 121.9, 129.0, 146.2, 210.8 ppm
3aa		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 1.64-1.79 (2H, m, CH_2), 1.99-2.09 (2H, m, CH_2), 2.15-2.43 (4H, m, 2 x CH_2), 2.83 (1H, m, CH), 3.78 (1H, brs, NH), 6.69-6.77 (2H, m, ArH), 7.13-7.19 (3H, m, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 21.8, 30.7, 40.8, 48.2, 52.0, 113.0, 117.6, 129.1, 146, 209.4 ppm.
3ab		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 1.67-1.72 (2H, m, CH_2), 2.03-2.16 (2H, m, CH_2), 2.24-2.43 (4H, m, 2 x CH2), 2.78-2.82 (1H, m, CH), 3.73 (1H, brs, NH), 6.51 (2H, d, *J* = 8 Hz, ArH), 6.98 (2H, d, *J* = 8 Hz, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 20.6, 22.4, 31.3, 41.4, 48.9, 52.9, 113.8, 127.4, 130.1, 144.2, 210.1 ppm.
3ad		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 1.62-1.77 (2H, m, CH_2), 2.00-2.20 (2H, m, CH_2), 2.23-2.43 (4H, m, 2 x CH_2), 2.81-2.83 (1H, m, CH), 3.74 (1H, brs, NH), 6.50 (2H, d, *J* = 8 Hz, ArH), 7.11 (2H, d, *J* = 8 Hz, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 22.3, 31.1, 41.3, 48.5, 52.6, 114.6, 122.6, 129.5, 145.1, 209.6 ppm.
4ac		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 3.36-3.54 (2H, m, CH_2), 3.68 (3H, s, CH_3), 4.23 (1H, m, CH), 4.92 (1H, brs, NH), 6.52 (2H, d, *J* = 8.4 Hz, ArH), 6.67 (2H, d, *J* = 8.4 Hz, ArH), 7.22 (1H, t, *J* = 7.2 Hz, ArH), 7.31 (1H, t, *J* = 7.2 Hz, ArH), 7.42-7.43 (4H, m, ArH), 7.55 (1H, t, *J* = 7.2 Hz, ArH), 7.90 (2H, d, *J* = 7.6 Hz, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 39.9, 46.4, 55.6, 114.7, 115.3, 126.4, 127.3, 128.2, 128.7, 128.8, 133.4, 136.7, 141.2, 143.2, 152.3, 198.3 ppm.
5aa		**IR (Neat):** 1731, 3410 cm^{-1} **^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.64 (2H, t, *J* = 6.3 Hz, CH_2), 3.47 (2H, t, *J* = 6.3 Hz, CH_2), 3.72 (3H, s, OCH_3), 6.65 (2H, d, *J* = 8.4 Hz, ArH), 6.75 (1H, t, *J* = 7.5 Hz, ArH), 7.21 (2H, t, *J* = 8.4 Hz, Ar-H), **^{13}C NMR (75 MHz, $CDCl_3$,):** δ 33.73, 39.42, 51.76, 113.06, 115.11, 117.75, 129.29, 147.59, 172.86 ppm.
5ab		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.26 (3H, s, CH_3), 2.61-2.65 (2H, t, *J* = 6.2 Hz, CH_2), 3.43-3.46 (2H, t, *J* = 6.4 Hz, CH_2), 3.71 (3H, s, OCH_3), 3.30-4.12 (1H, brs, NH), 6.56-6.58 (2H, d, *J* = 7.6 Hz, ArH), 7.0-7.02 (2H, d, *J* = 8.0 Hz, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 20.28, 33.63, 39.74, 51.61, 113.23, 126.96, 129.72, 145.14, 172.79 ppm.

5ac		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.52 (2H, t, *J* = 7.2 Hz, CH_2), 3.52 (2H, t, *J* = 7.5 Hz, CH_2), 3.64 (3H, s, OCH_3), 3.73 (3H, s, OCH_3), 6.57 - 6.83 (4H, m, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 32.35, 48.09, 51.63, 55.62, 114.60, 114.87, 116.39, 141.34, 152.67, 172.64 ppm.
5ae		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.61 (2H, t, *J* = 6.3 Hz, CH_2), 3.41 (2H, t, *J* = 6.3 Hz, CH_2), 3.70 (3H, s, OCH_3), 6.57 (2H, d, *J* = 9 Hz, ArH), 7.36 (2H, d, *J* = 9 Hz, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 33.9, 39.6, 52.3, 115, 116.9, 132.4, 146.7, 173 ppm.
5ad		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.60-2.63 (2H, t, *J* = 6 Hz, CH_2), 3.41-3.44 (2H, t, *J* = 6.2 Hz, CH_2), 3.71 (3H, s, OCH_3), 4.05 (1H, brs, NH), 6.53-6.56 (2H, d, *J* = 8.8 Hz, ArH), 7.11-7.14 (2H, d, *J* = 8.8 Hz, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 33.42, 39.42, 51.71, 114.02, 122.25, 129.03, 146.01, 172.59 ppm.
5af		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.67 (2H, t, *J* = 6.3 Hz, CH_2), 3.56 (2H, t, *J* = 6.3 Hz, CH_2), 3.72 (3H, s, OCH_3), 6.55 (2H, d, *J* = 9 Hz, ArH), 8.07 (2H, d, *J* = 9 Hz, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 33.6, 39, 52.3, 111.21, 113.40, 126.38, 126.49, 172.59 ppm.
7aa		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.62 (2H, t, *J* = 6.6 Hz, CH_2), 3.51 (2H, t, *J* = 6.3 Hz, CH_2), 3.59 (1H, s, NH), 6.64 (2H, d, *J* = 7.5, ArH), 6.79 (1H, t, *J* = 7.5 Hz, Ar-H), 7.24 (2H, t, *J* = 7.8 Hz), **^{13}C NMR (75 MHz, $CDCl_3$):** δ 18.08, 39.76, 113.08, 118.57, 129.56, 146.26 ppm.
7ab		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.29 (3H, s, CH_3), 2.61-2.64 (2H, t, *J* = 6.4 Hz, CH2), 3.49-3.52 (2H, t, *J* = 6.4 Hz, CH_2), 3.60 (1H, brs, NH), 6.57-6.59 (2H, d, *J* = 8.4 Hz, ArH), 7.05-7.07 (2H, d, *J* = 8.0 Hz, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 18.02, 20.31, 40.10, 113.28, 118.30, 127.86, 129.96, 143.81 ppm.
7ad		**^{1}H NMR (300 MHz, $CDCl_3$):** 2.62-2.66 (2H, t, *J* = 6.6 Hz, CH_2), 3.48-3.52 (2H, t, *J* = 6.4 Hz, CH_2), 3.99 (1H, brs, NH), 6.55-6.57 (2H, d, *J* = 8.8 Hz, ArH), 7.16-7.18 (2H, d, *J* = 9.2 Hz, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 18.0, 39.78, 114.11, 117.93, 123.22, 129.31, 144.70 ppm.
7ac		**^{1}H NMR (300 MHz, $CDCl_3$,):** δ 2.62 (2H, t, *J* = 6.3 Hz, CH_2), 3.48 (2H, t, *J* = 6.3 Hz, CH_2), 3.76 (3H, s, OCH_3), 6.66 (2H, d, *J* = 9.0 Hz, ArH), 6.81 (2H, d, *J* = 9.0 Hz, Ar-H), **^{13}C NMR (75 MHz, $CDCl_3$):** δ 18.15, 40.86, 55.75, 114.80, 115.09, 118.31, 140.07, 152.97 ppm..
8ac		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 1.80 (2H, brs, NH_2) 2.52 (2H, t, *J* = 6 Hz, CH_2), 3.42 (2H, t, *J* = 6.3 Hz, CH_2), 3.75 (3H, s, OCH_3), 6.64 (2H, d, *J* = 8.7 Hz, ArH), 6.81 (2H, d, *J* = 9 Hz, ArH), **^{13}C NMR (75 MHz, $CDCl_3$,):** δ 34.95, 41.05, 55.76, 114.91, 115.02, 141.60, 152.67, 173.99 ppm.

8ab		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.23 (3H, s, CH_3), 2.49 (2H, t, *J* = 5.9 Hz, CH_2), 3.40 (2H, t, *J* = 5.9 Hz, CH_2), 6.56 (2H, d, *J* = 8.07 Hz, ArH), 7.0 (2H, d, *J* = 8.07 Hz, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 20.2, 34.8, 40.2, 113.5, 127.3, 129.7, 145.0, 174.7 ppm.
8ae		, **^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.50 (2H, t, *J* = 6.0 Hz, CH_2), 3.42 (2H, t, *J* = 6.3 Hz, CH_2), 3.32 (2H, s, NH_2) 6.57 (2H, d, *J* = 9.0 Hz, 2 x ArH), 7.23 (2H, d, *J* = 9.0 Hz, 2 x ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 34.45, 39.94, 116.79, 127.82, 132.02, 146.26, 167.62 ppm..
a		**^{1}H NMR (300 MHz, $CDCl_3$,):** δ 2.73-2.94 (2H, m, CH_2), 4.60 (1H, brs, NH), 4.74 (1H, dd, *J* = 13.2 & 3.3 Hz, CH), 6.70–7.50 (8H, m, Ar-H), 7.86 (1H, dd, *J* = 15 & 9 Hz ArH) **^{13}C NMR (75 MHz, $CDCl_3$,):** δ 46.5, 58.5, 116.0, 118.5, 119.0, 126.7, 127.6, 128.5, 129.0, 135.5, 141.1, 151.7, 193.4 ppm.
d		**^{1}H NMR (300 MHz, $CDCl_3$,):** δ 1.27 (6H, d, *J* = 6.9 Hz, 2 x CH3) 2.73-298 (2H, m, CH_2), 4.52 (1H, brs, NH), 4.73 (1H, dd, *J* = 13.8 & 3.9 Hz, CH), 6.68–7.40 (8 H, m, ArH), 7.88 (1H, dd, ArH) **^{13}C NMR (75 MHz, $CDCl_3$,):** δ 23.97, 33.86, 46.40, 58.22, 115.87, 118.34, 118.99, 126.64, 127.01, 127.61, 135.37, 138.33, 149.30, 151.61, 193.52 ppm.
e		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.89 (2H, m, CH_2), 4.64 (1H, brs, NH), 5.24 (1H, dd, *J* = 12.6 & 4.0 Hz, CH), 6.69–7.68 (7H, m, ArH), 7.85 (1H, dd, ArH). **^{13}C NMR (75 MHz, $CDCl_3$):** δ 44.1, 54.2, 116.2, 118.6, 119.0, 127.5, 127.64, 129.4, 130.0, 132.8, 135.5, 138.4, 151.7, 193.0 ppm.
c		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.36 (3H, s, CH_3), 2.84 (2H, m, CH_2), 4.67 (1H, brs, NH), 4.70 (1H, dd, *J* = 11.9 & 3.8 Hz, CH), 6.69–7.48 (7H, m, ArH), 7.84 (1H, dd, ArH). **^{13}C NMR (75 MHz, $CDCl_3$):** δ 21.4, 46.5, 58.2, 116.0, 118.4, 119.0, 126.6, 127.6, 129.7, 135.4, 138.1, 138.3, 151.7, 193.6 ppm.
b		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.85 (2H, m, CH_2), 3.81 (3H, s, OCH_3), 4.50 (1H, brs, NH), 4.70 (1H, dd, J = 13.7 & 3.4 Hz, CH), 6.68–7.37 (7H, m, ArH), 7.86 (1H, dd, ArH). **^{13}C NMR (75 MHz, $CDCl_3$):** δ 46.4, 55.4, 58.0, 114.3, 116.0, 118.4, 119.0, 127.6, 127.9, 133.1, 135.4, 151.7, 159.7, 193.7 ppm.
g		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.87 (2H, m, CH_2), 4.68 (1H, brs, NH), 4.89 (1H, dd, *J* = 12.6 & 4.6 Hz, CH), 6.70–7.58 (7H, m, ArH), 7.86 (1H, dd, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 46.2, 57.8, 116.2, 119.1, 121.7, 123.5, 127.6, 129.5, 130.2, 132.4, 132.9, 135.8, 143.3, 148.6, 151.1, 192.28 ppm.

f		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.87 (2H, m, CH_2), 3.86 (6H, s, 2 x OCH_3), 4.48 (1H, brs, NH), 4.78 (1H, dd, *J* = 13.2 & 4.0 Hz, CH), 6.70–7.33 (6H, m, ArH), 7.85 (1H, dd, ArH). **^{13}C NMR (75 MHz, $CDCl_3$):** δ 46.7, 56.02, 58.4, 56.06, 109.5, 111.3, 116.0, 118.5, 119.02, 119.0, 127.6, 133.6, 149.1, 149.3, 151.7, 135.5, 193.5 ppm.
e		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.90 (2H, m, CH_2), 4.54 (1H, brs, NH), 4.81 (1H, dd, *J* = 13.7 & 4.0 Hz, CH), 6.72–7.39 (7H, m, ArH), 7.84 (1H, dd, ArH). **^{13}C NMR (75 MHz, $CDCl_3$):** δ 46.4, 57.9, 116.1, 118.7, 119.0, 127.6, 128.1, 129.2, 134.2, 135.6, 139.6, 151.0, 193.0 ppm.
		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.92 (1H, dd, *J* = 16.1 & 5.4 Hz, CH_2), 3.00 (1H, dd, J = 16.3 & 9.8 Hz, CH_2), 4.79-4.84 (2H, m, CH & NH), 6.25 (1H, d, *J* = 3.2 Hz, ArH), 6.32 (1H, m, ArH), 7.37 (1H, s, ArH), 7.84 (1H, dd, *J* = 7.9 & 1.2 Hz, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 41.9, 50.7, 106.8, 110.3, 116.0, 118.5, 119.1, 127.3, 135.4, 142.4, 150.4, 153.3, 192.6 ppm.
h		**^{1}H NMR (300 MHz, $CDCl_3$):** δ 2.5 -2.62 (7H, m, 2 x CH_3 & 1H from CH_2), 3.19-3.30 (1H, m, 1H from CH_2) 4.52 (1H, brs, NH), 4.73 (1H, dd, *J* = 15.6 & 3.6 Hz, CH), 6.70–7.37 (6H, m, ArH), 7.92 (1H, dd, ArH) **^{13}C NMR (75 MHz, $CDCl_3$):** δ 20.50, 21.42, 54.16, 115.95, 118.02, 118.65, 127.88,127.98, 129.72, 129.91, 135.28, 135.36, 137.02, 151.93, 193.84 ppm.