

## Benign Approaches for the Microwave-assisted Synthesis of Quinoxalines

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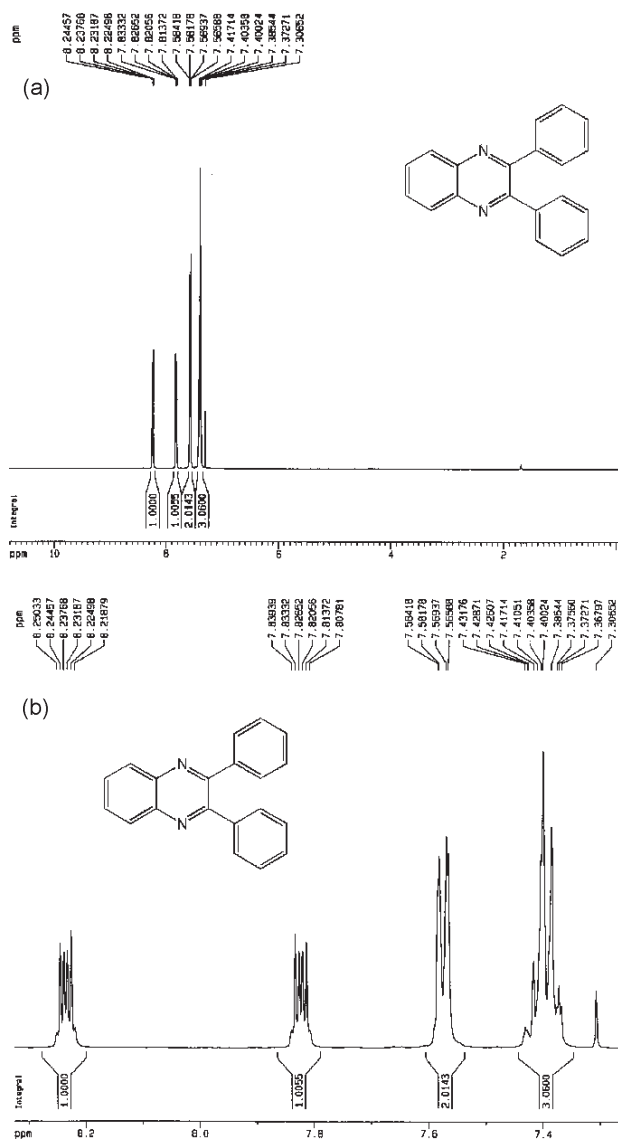


Figure S1. (a)  $^1\text{H}$  NMR of **1a** (500 MHz,  $\text{CDCl}_3$ ); (b)  $^1\text{H}$  NMR of **1a** (500 MHz,  $\text{CDCl}_3$ ).

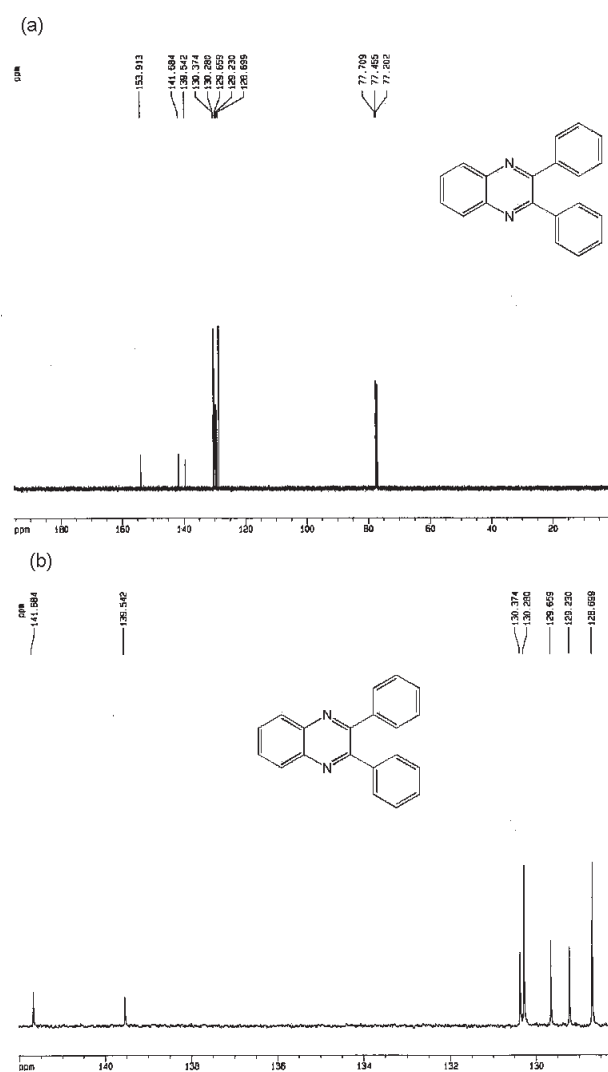
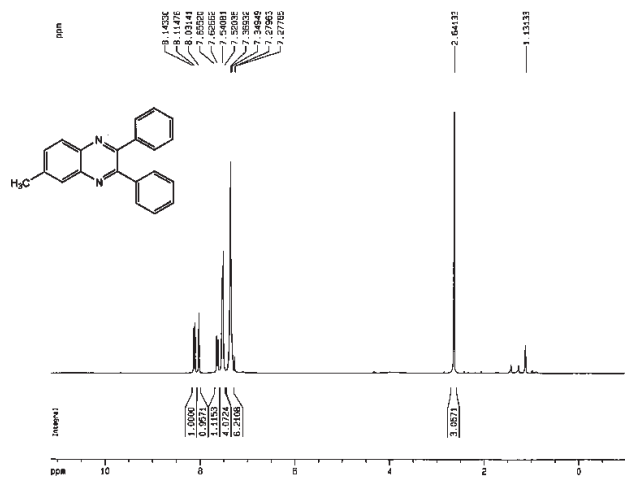
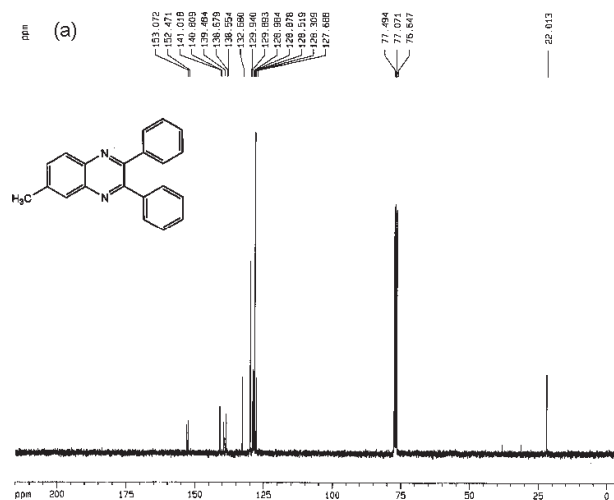
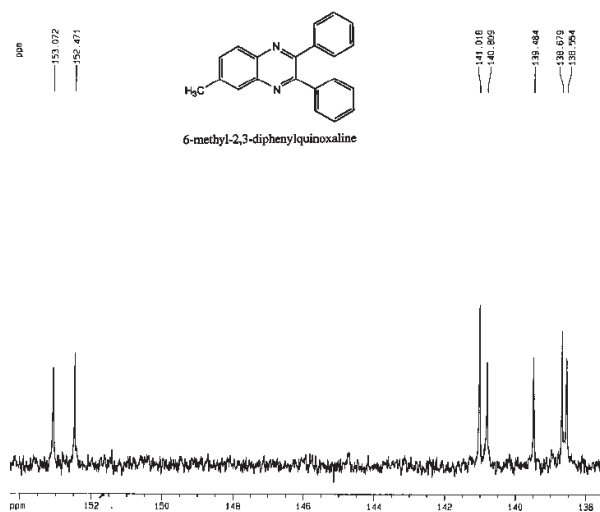


Figure S2. (a)  $^{13}\text{C}$  NMR of **1a** (125 MHz,  $\text{CDCl}_3$ ); (b)  $^{13}\text{C}$  NMR of **1a** (125 MHz,  $\text{CDCl}_3$ ).

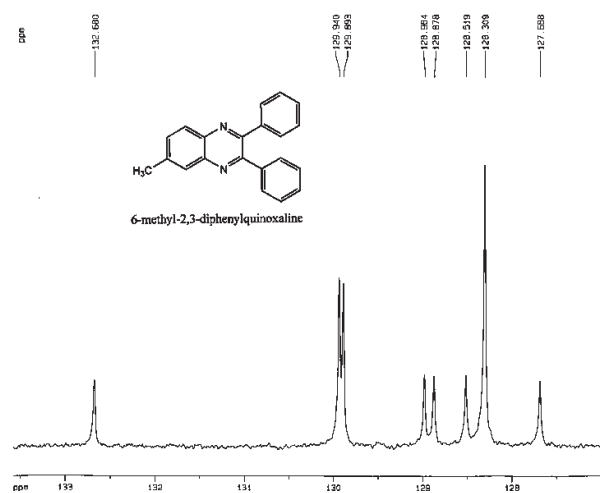
\*e-mail: darabi@ccerci.ac.ir; r\_darabi@yahoo.com

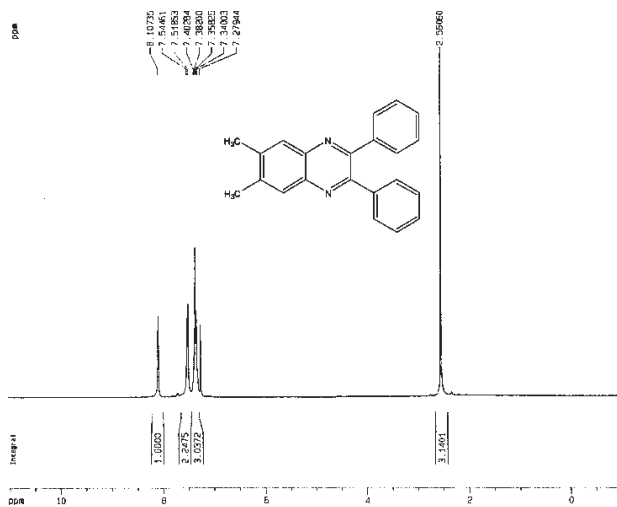
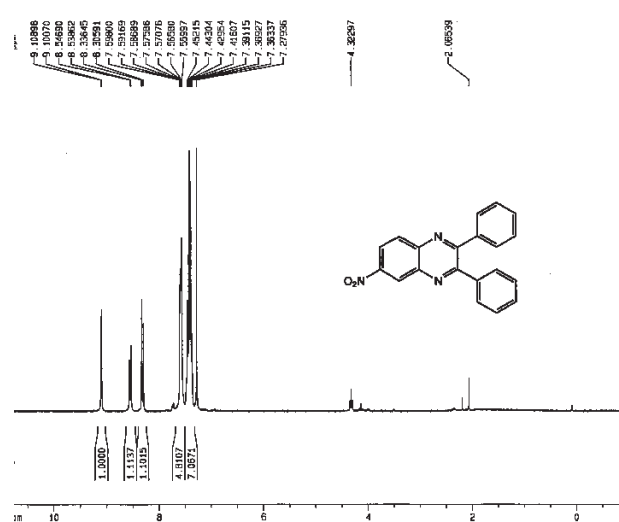
Figure S3.  $^1\text{H}$  NMR of **1b** (500 MHz,  $\text{CDCl}_3$ ).

(b)

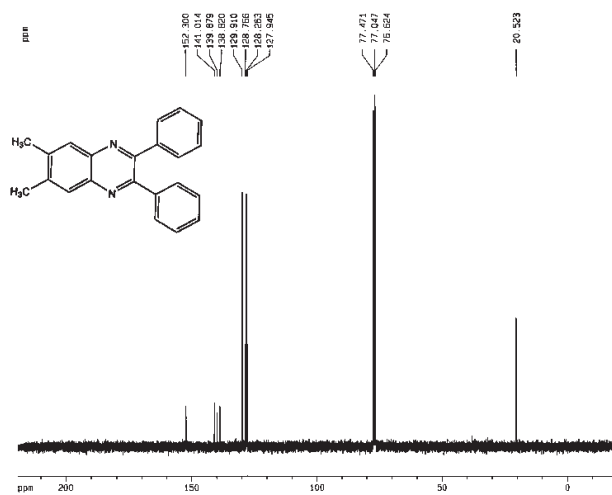


(c)

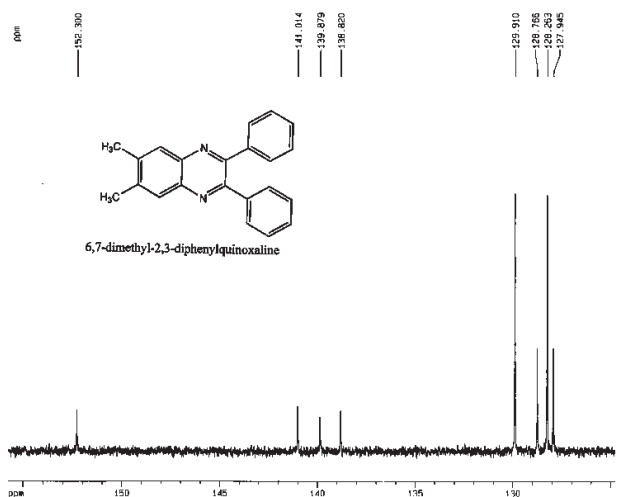
Figure S4. (a)  $^{13}\text{C}$  NMR of **1b** (125 MHz,  $\text{CDCl}_3$ ); (b)  $^{13}\text{C}$  NMR of **1b** (125 MHz,  $\text{CDCl}_3$ ); (c)  $^{13}\text{C}$  NMR of **1b** (125 MHz,  $\text{CDCl}_3$ ).

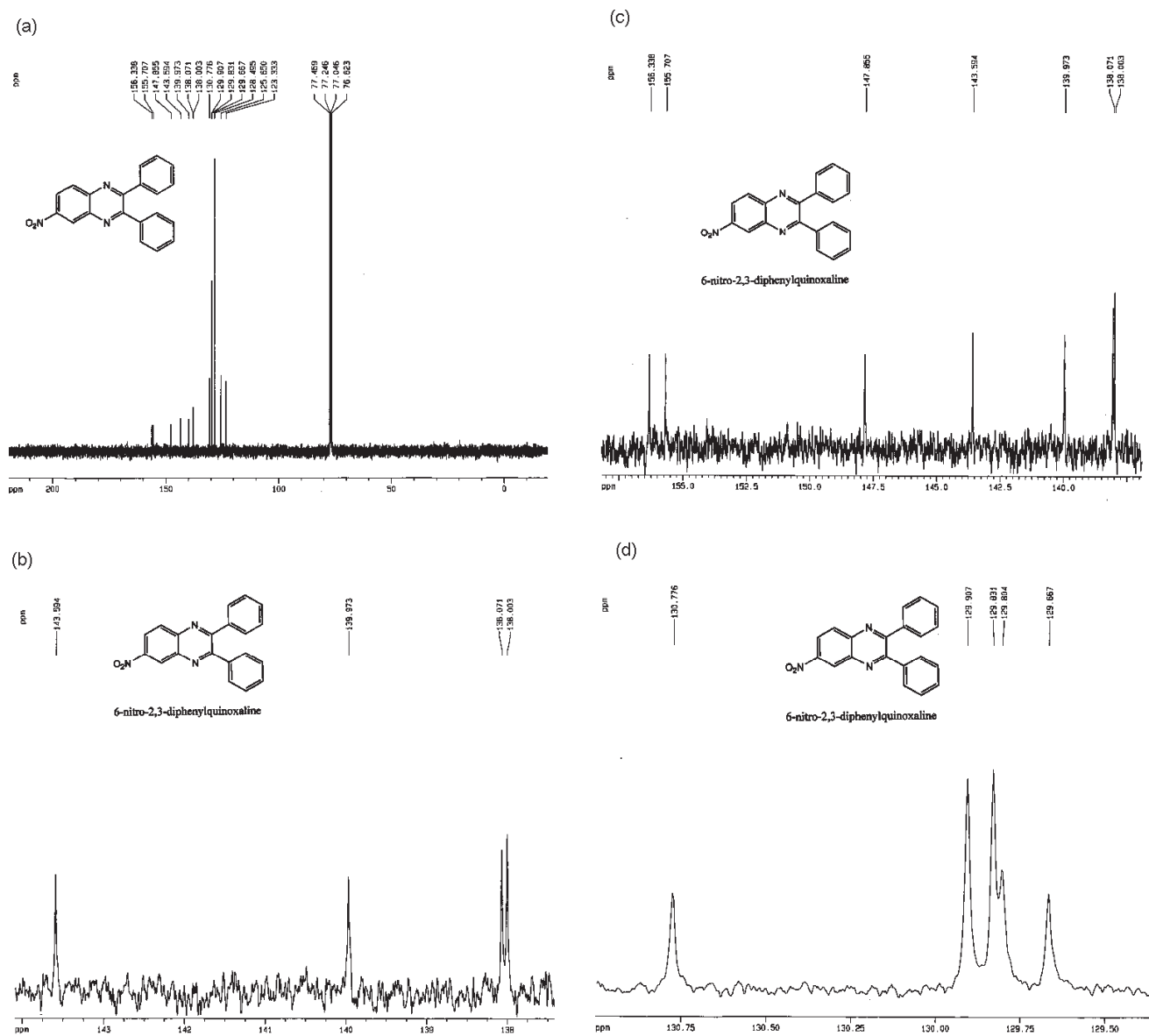
Figure S5.  $^1\text{H}$  NMR of **1c** (500 MHz,  $\text{CDCl}_3$ ).Figure S7.  $^1\text{H}$  NMR of **1d** (500 MHz,  $\text{CDCl}_3$ ).

(a)



(b)

Figure S6. (a)  $^{13}\text{C}$  NMR of **1c** (125 MHz,  $\text{CDCl}_3$ ); (b)  $^{13}\text{C}$  NMR of **1c** (125 MHz,  $\text{CDCl}_3$ ).



**Figure S8.** (a)  $^{13}\text{C}$  NMR of **1d** (125 MHz,  $\text{CDCl}_3$ ); (b)  $^{13}\text{C}$  NMR of **1d** (125 MHz,  $\text{CDCl}_3$ ); (c)  $^{13}\text{C}$  NMR of **1d** (125 MHz,  $\text{CDCl}_3$ ); (d)  $^{13}\text{C}$  NMR of **1d** (125 MHz,  $\text{CDCl}_3$ ).

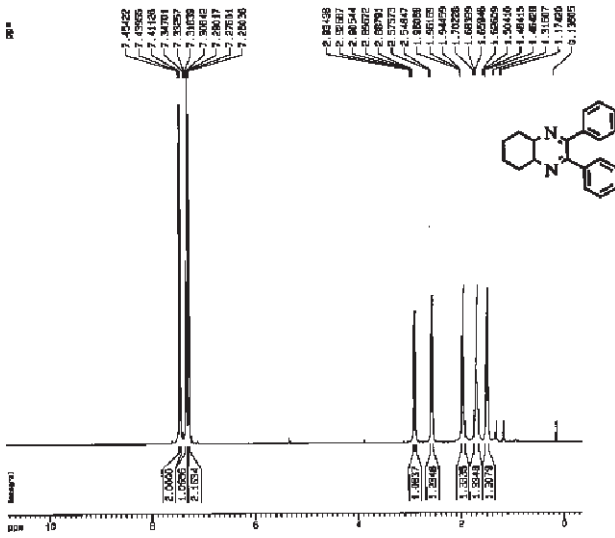


Figure S9. <sup>1</sup>H NMR of **1e** (500 MHz, CDCl<sub>3</sub>).

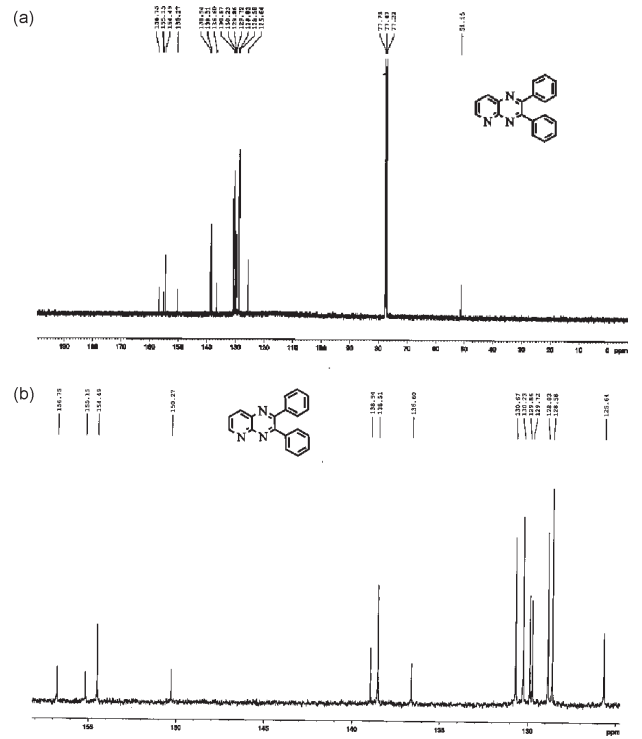


Figure S12. (a) <sup>13</sup>C NMR of **1f** (125 MHz, CDCl<sub>3</sub>); (b) <sup>13</sup>C NMR of **1f** (125 MHz, CDCl<sub>3</sub>).

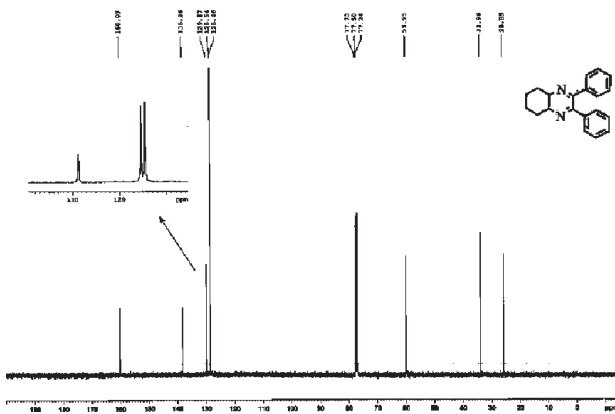


Figure S10. <sup>13</sup>C NMR of **1e** (125 MHz, CDCl<sub>3</sub>).

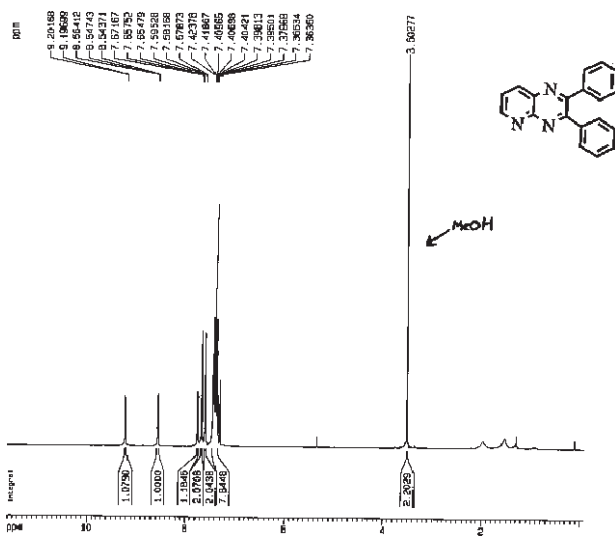


Figure S11. <sup>1</sup>H NMR of **1f** (500 MHz, CDCl<sub>3</sub>).

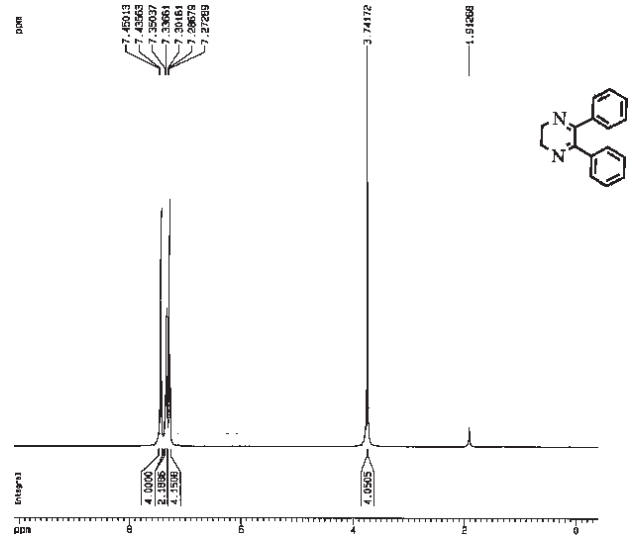
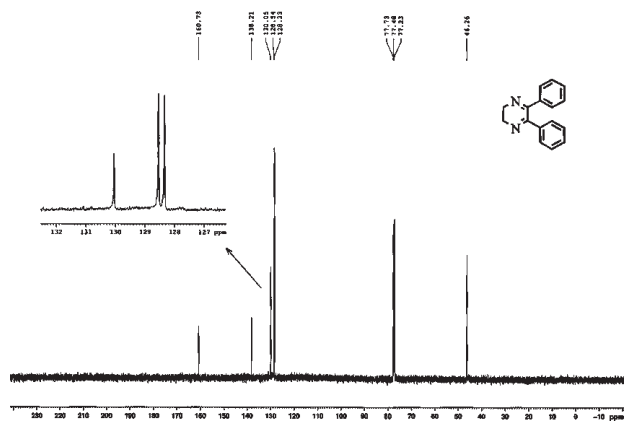
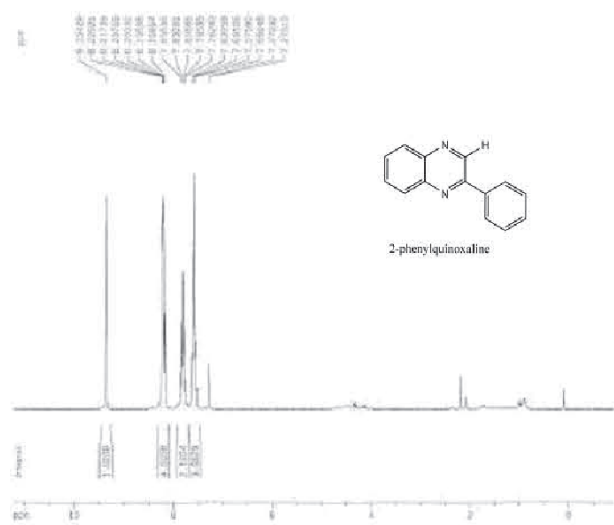


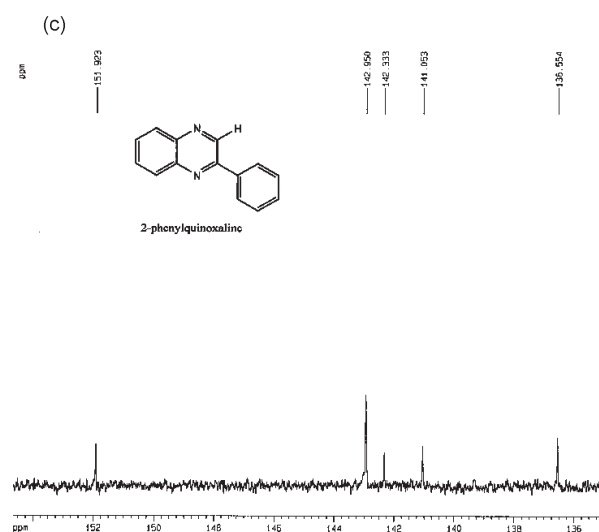
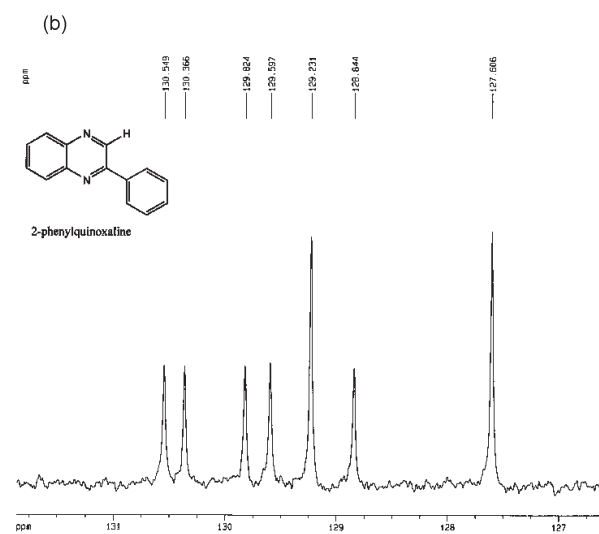
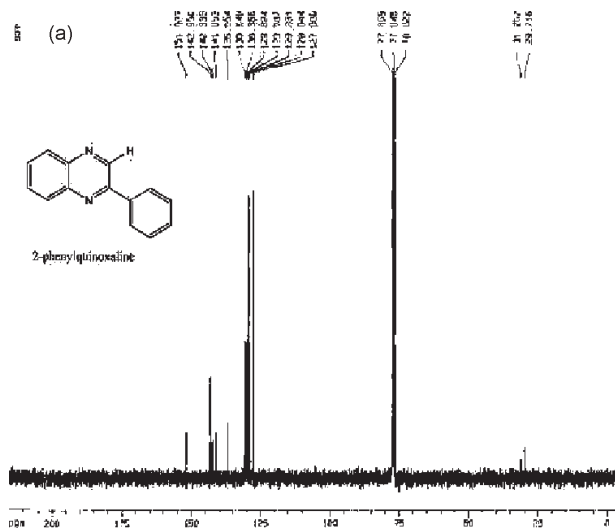
Figure S13. <sup>1</sup>H NMR of **1g** (500 MHz, CDCl<sub>3</sub>).



**Figure S14.**  $^{13}\text{C}$  NMR of **1g** (125 MHz,  $\text{CDCl}_3$ ).



**Figure S15.**  $^1\text{H}$  NMR of **1h** (500 MHz,  $\text{CDCl}_3$ ).



**Figure S16.** (a)  $^{13}\text{C}$  NMR of **1h** (125 MHz,  $\text{CDCl}_3$ ); (b)  $^{13}\text{C}$  NMR of **1h** (125 MHz,  $\text{CDCl}_3$ ); (c)  $^{13}\text{C}$  NMR of **1h** (125 MHz,  $\text{CDCl}_3$ ).