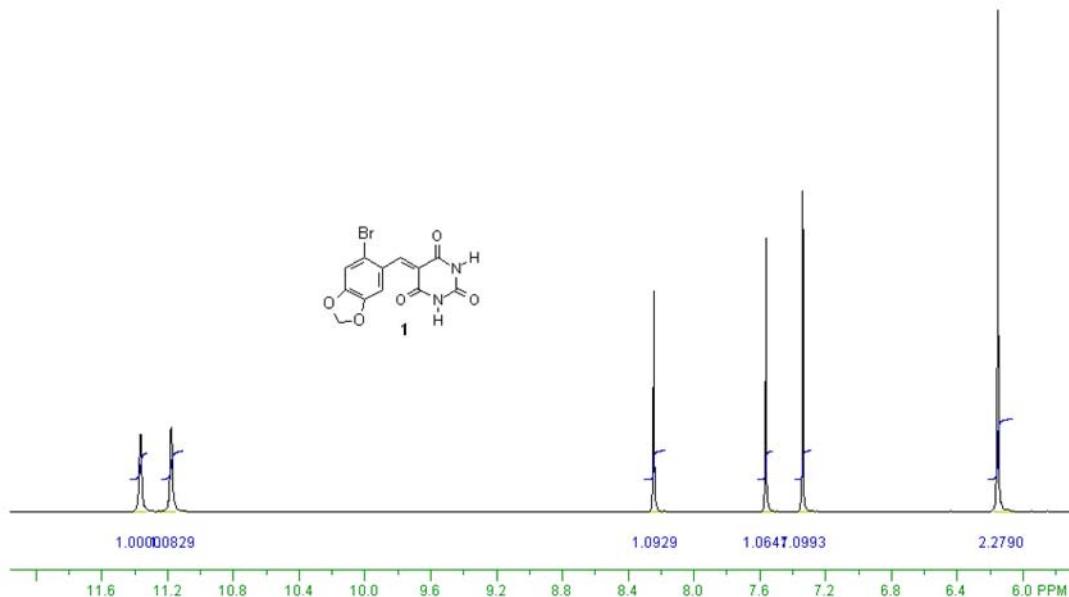


# Supplementary Information

## Synthesis and Mechanism of Formation of Oxadeazaflavines by Microwave Thermal Cyclization of *ortho*-Halobenzylidene Barbiturates

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**Figure S1.** <sup>1</sup>H NMR spectrum (DMSO-*d*<sub>6</sub>, 300 MHz) of 6-bromopiperonylidene barbiturate (**1**).

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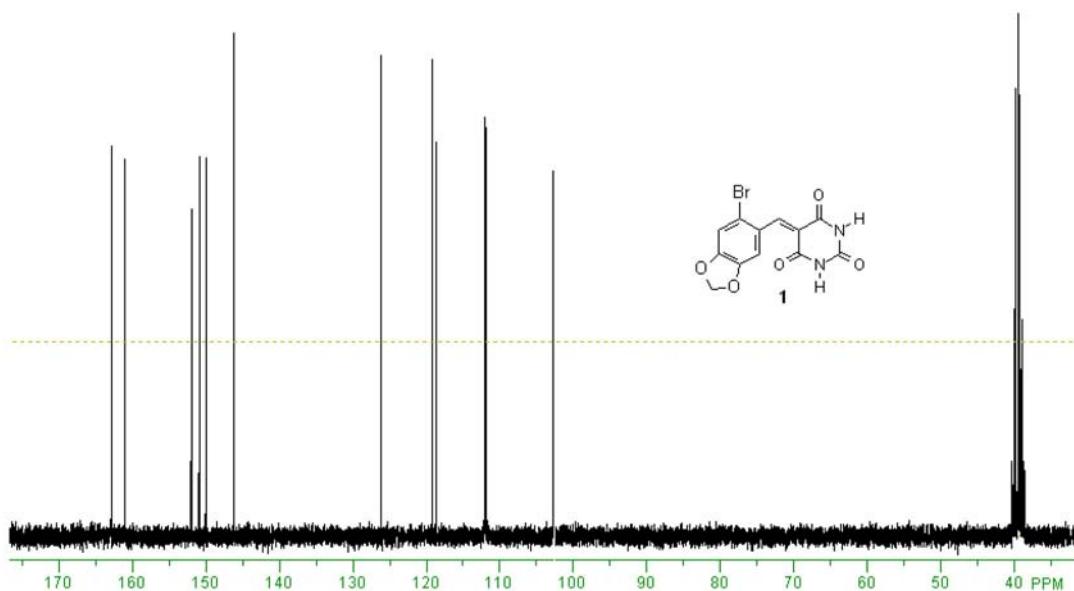


Figure S2. <sup>13</sup>C NMR spectrum (DMSO-*d*<sub>6</sub>, 75 MHz) of 6-bromopiperonylidene barbiturate (**1**).

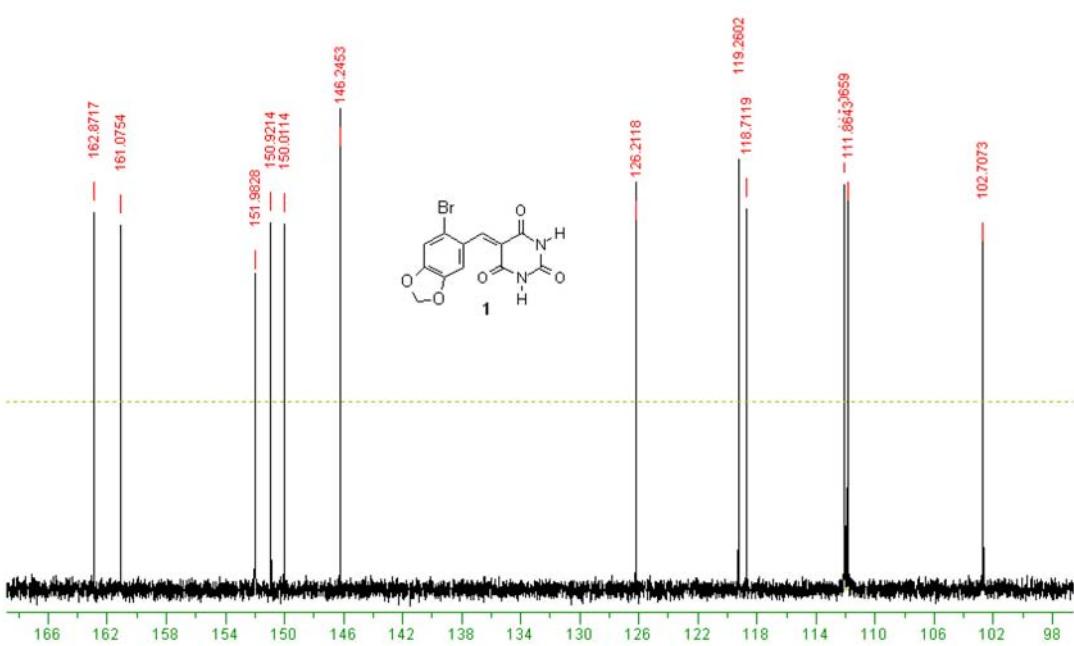
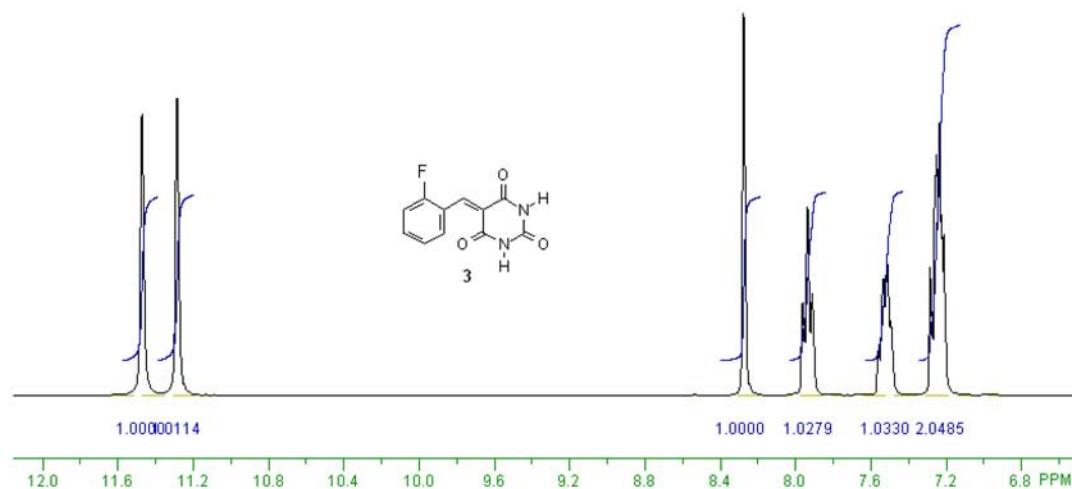
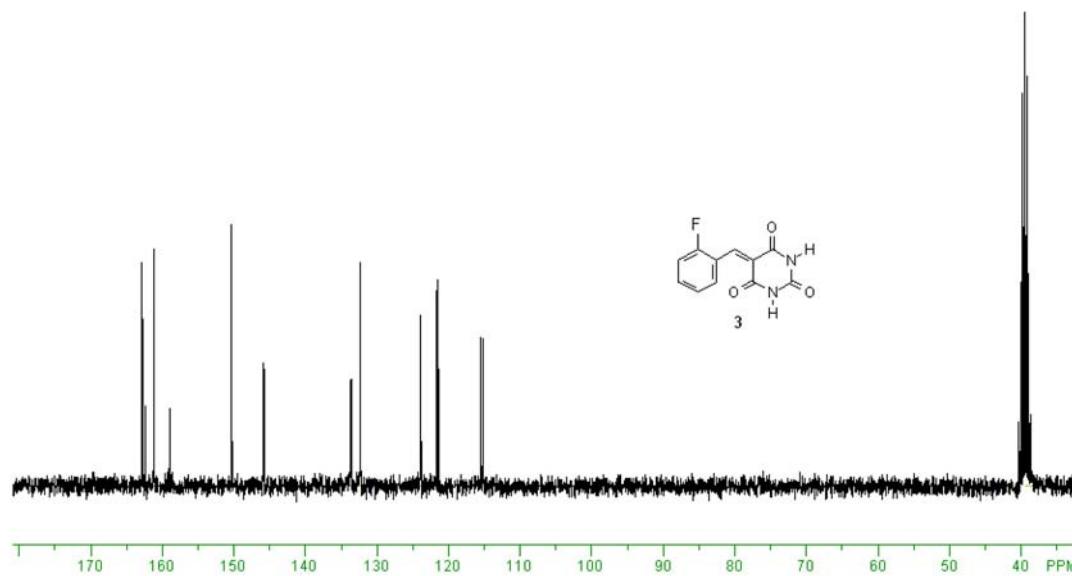


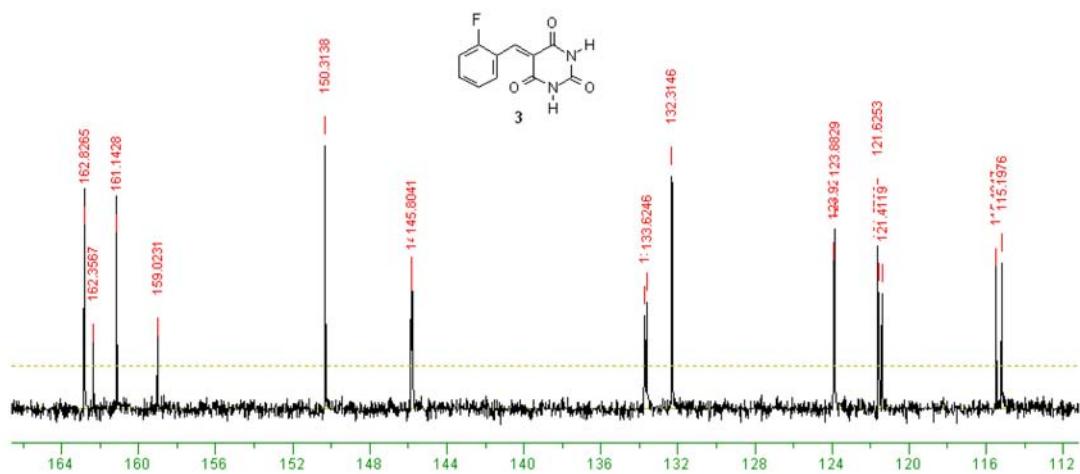
Figure S3. Expanded <sup>13</sup>C NMR spectrum of 6-bromopiperonylidene barbiturate (**1**).



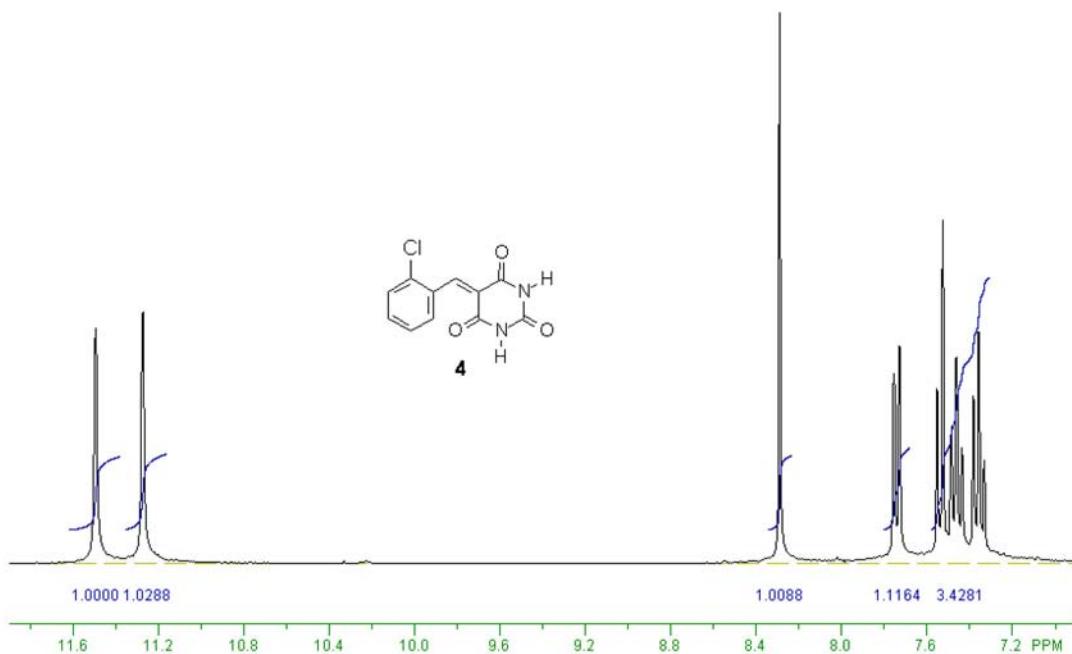
**Figure S4.** <sup>1</sup>H NMR spectrum (DMSO-*d*<sub>6</sub>, 300 MHz) of *ortho*-fluorobenzylidene barbiturate (**3**).



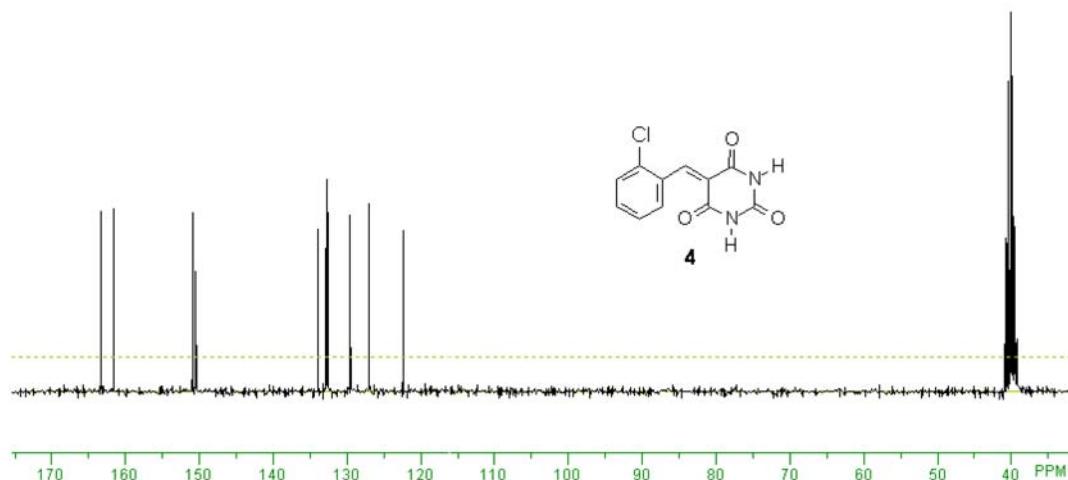
**Figure S5.** <sup>13</sup>C NMR spectrum (DMSO-*d*<sub>6</sub>, 300 MHz) of *ortho*-fluorobenzylidene barbiturate (**3**).



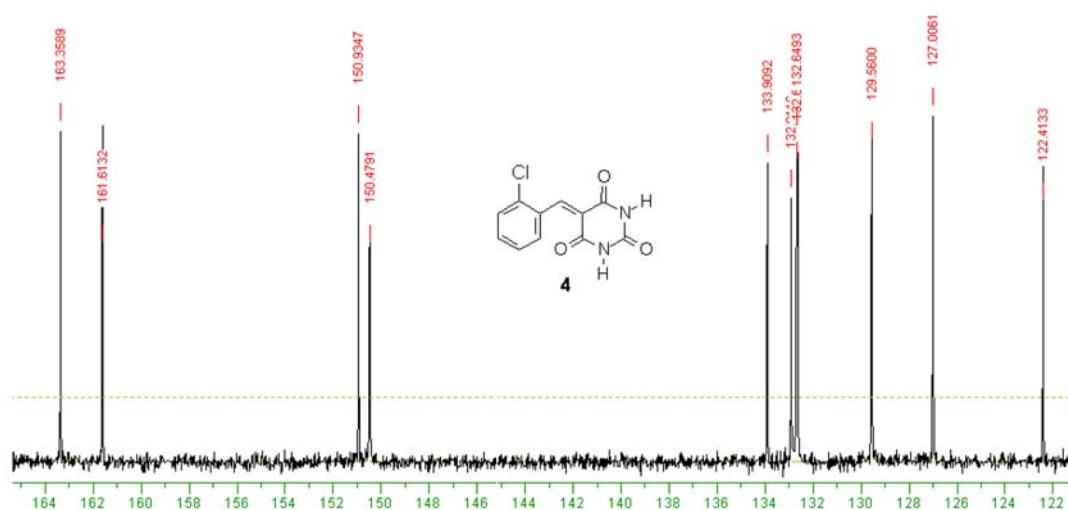
**Figure S6.** Expanded <sup>13</sup>C NMR spectrum of *ortho*-fluorobenzylidene barbiturate (**3**).



**Figure S7.** <sup>1</sup>H NMR spectrum (DMSO-*d*<sub>6</sub>, 300 MHz) of *ortho*-chlorobenzylidene barbiturate (**4**).



**Figure S8.** <sup>13</sup>C NMR spectrum (DMSO-*d*<sub>6</sub>, 300 MHz) of *ortho*-chlorobenzylidene barbiturate (**4**).



**Figure S9.** Expanded <sup>13</sup>C NMR spectrum of *ortho*-chlorobenzylidene barbiturate (**4**).

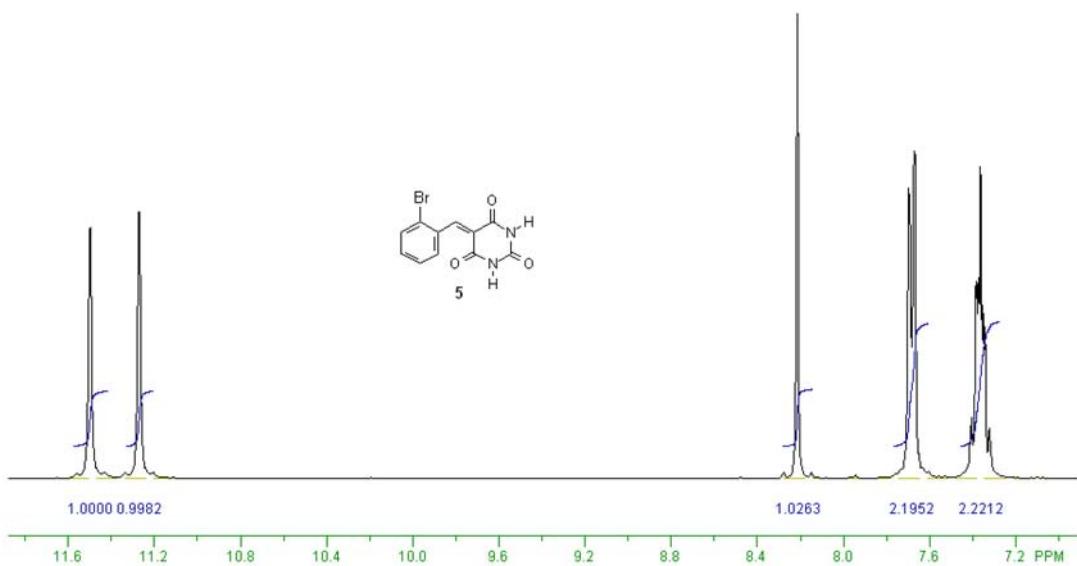


Figure S10. <sup>1</sup>H NMR spectrum (DMSO-*d*<sub>6</sub>, 300 MHz) of *ortho*-fluorobenzylidene barbiturate (**5**).

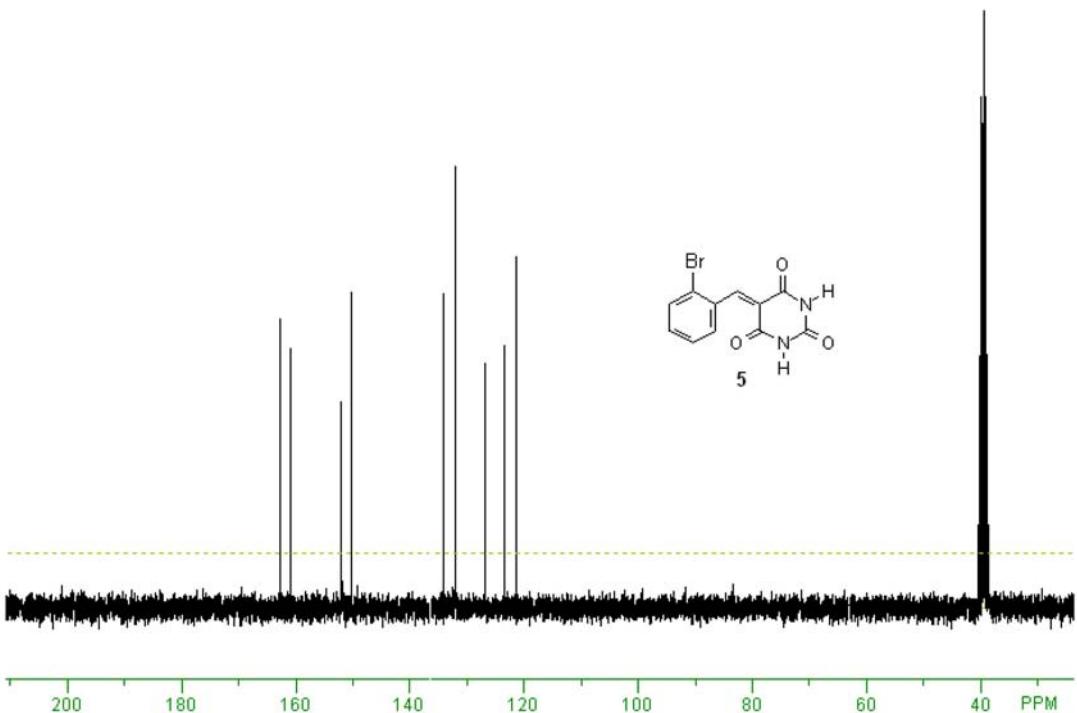
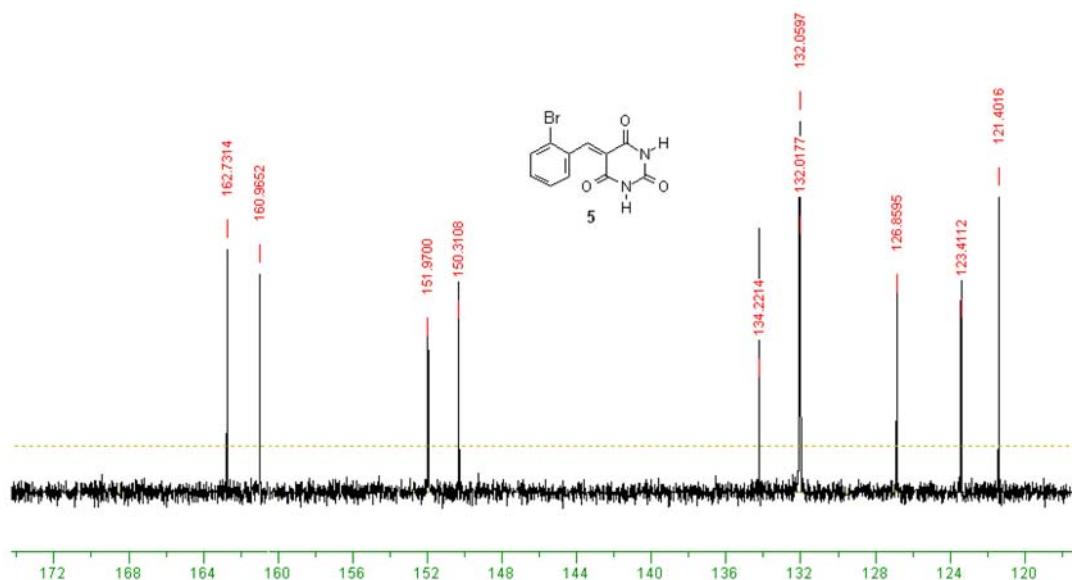
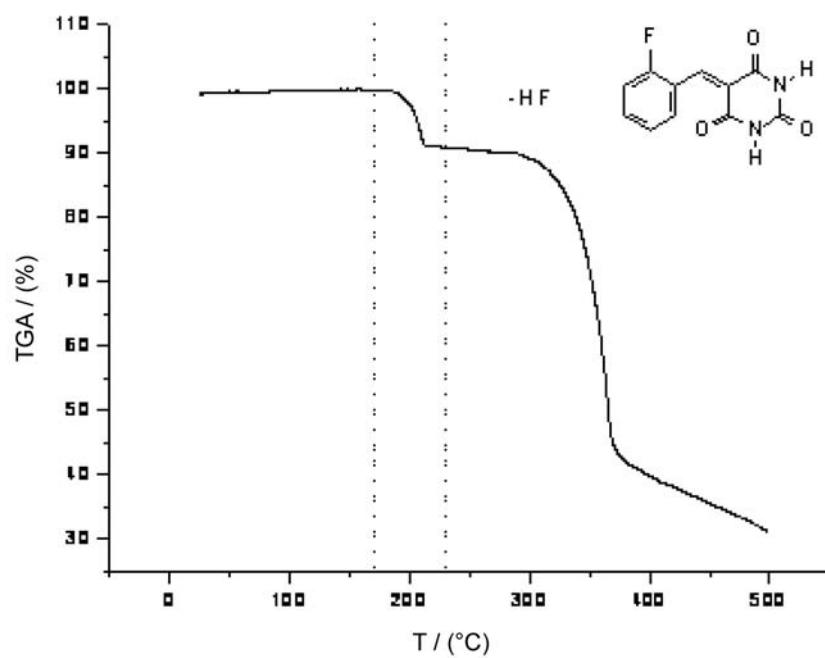


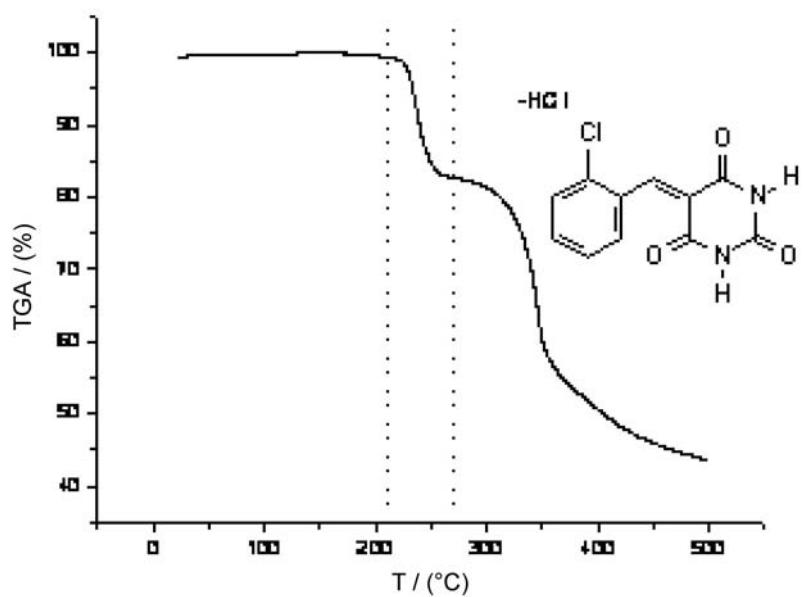
Figure S11. <sup>13</sup>C NMR spectrum (DMSO-*d*<sub>6</sub>, 300 MHz) of *ortho*-fluorobenzylidene barbiturate (**5**).



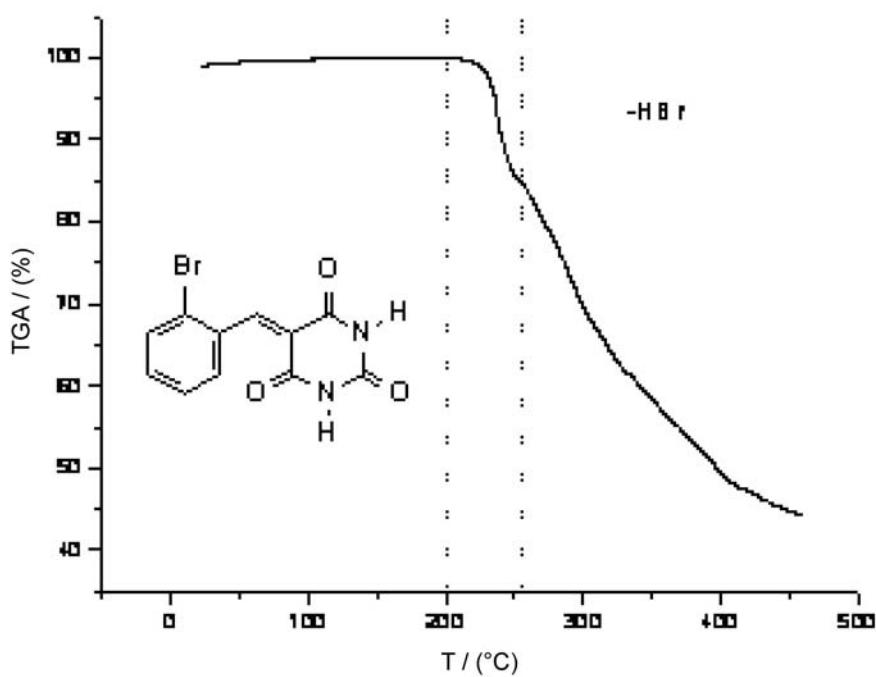
**Figure S12.** Expanded  $^{13}\text{C}$  NMR spectrum of *ortho*-fluorobenzylidene barbiturate (**5**).



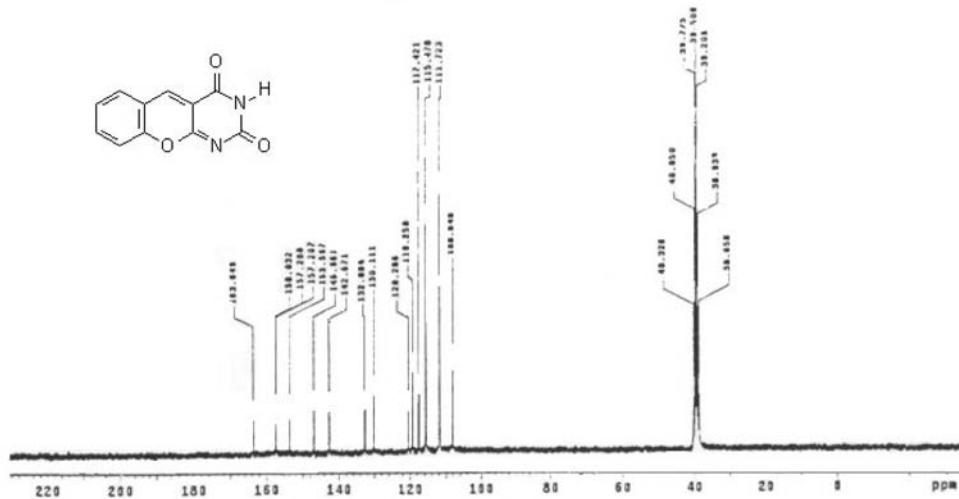
**Figure S13.** Thermogravimetric analysis (TGA) graphic of *ortho*-fluorobenzylidene barbiturate (**3**).



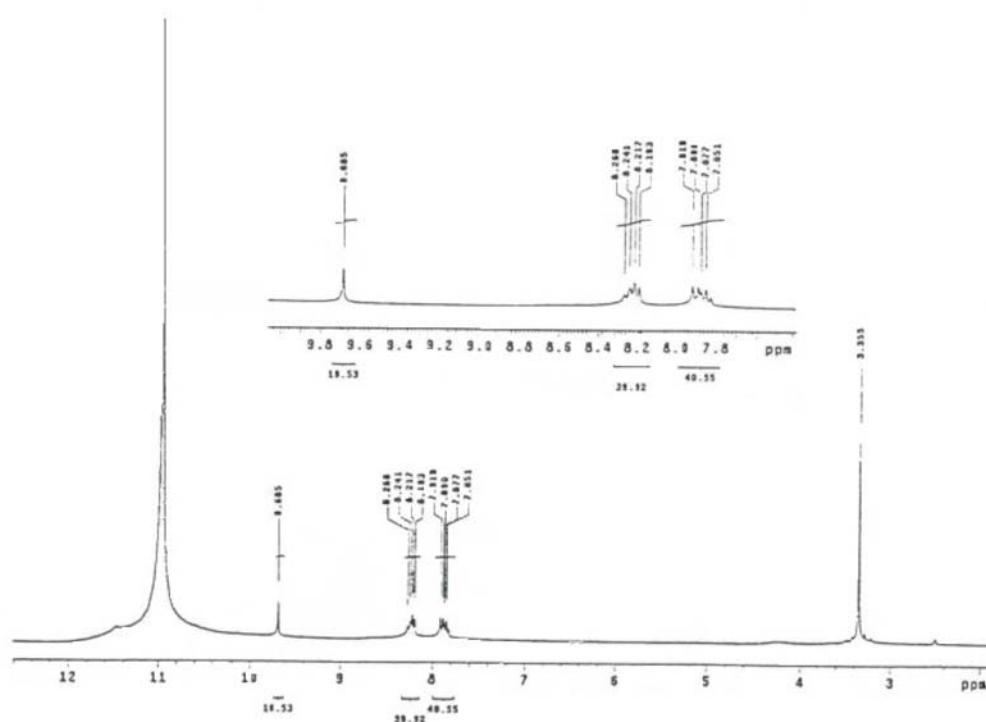
**Figure S14.** Thermogravimetric analysis (TGA) graphic of *ortho*-chlorobenzylidene barbiturate (**4**).



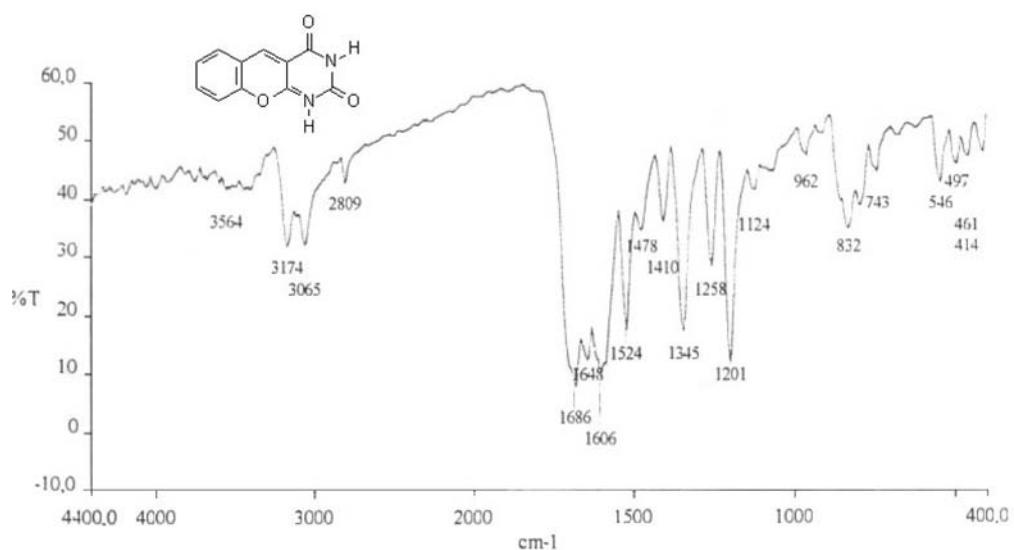
**Figure S15.** Thermogravimetric analysis (TGA) graphic of *ortho*-bromobenzylidene barbiturate (**5**).



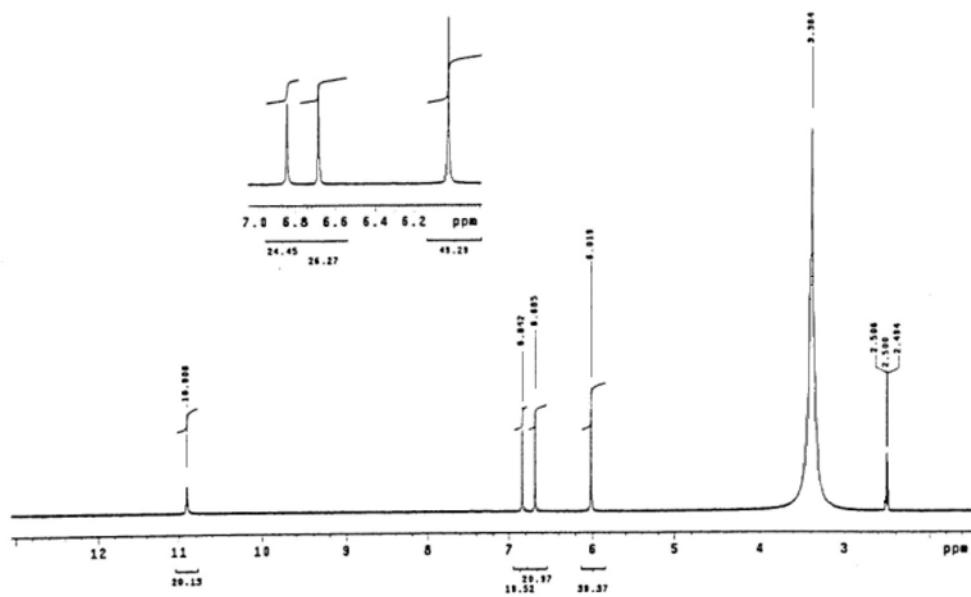
**Figure S16.**  $^{13}\text{C}$  NMR spectrum (DMSO- $d_6$ , 75 MHz) of 2H-chromeno[2,3-d]pyrimidine-2,4(3H)-dione (oxadeazaflavine).



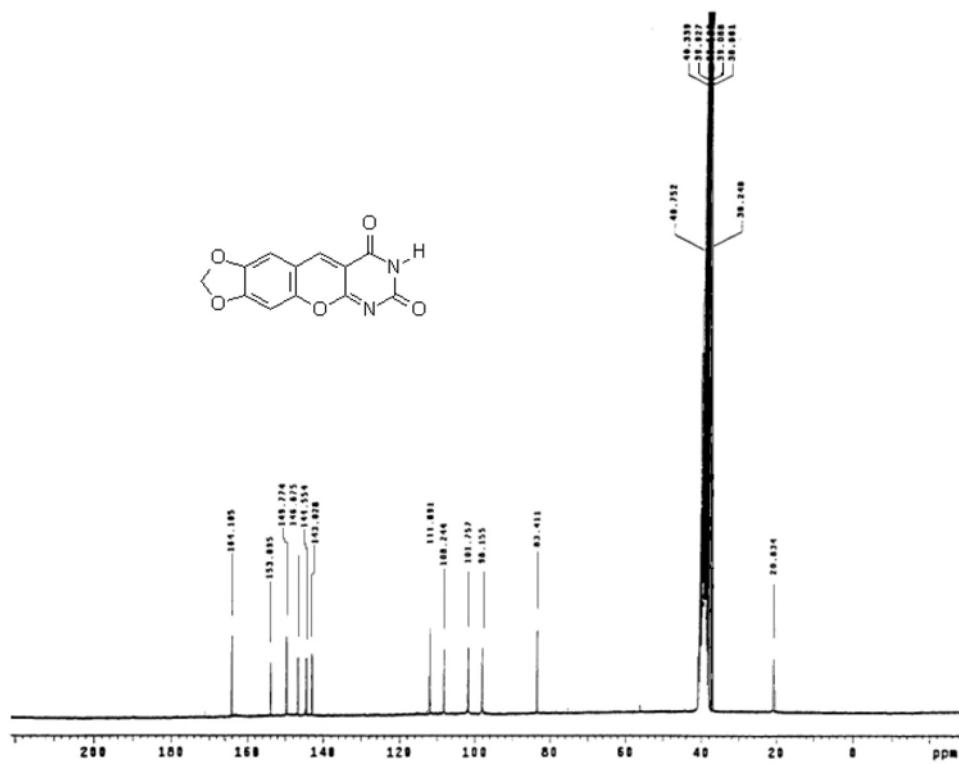
**Figure S17.**<sup>1</sup>H NMR spectrum (DMSO-*d*<sub>6</sub>, 300 MHz) of 2H-chromeno[2,3-d]pyrimidine-2,4(3H)-dione (oxadeazaflavine).



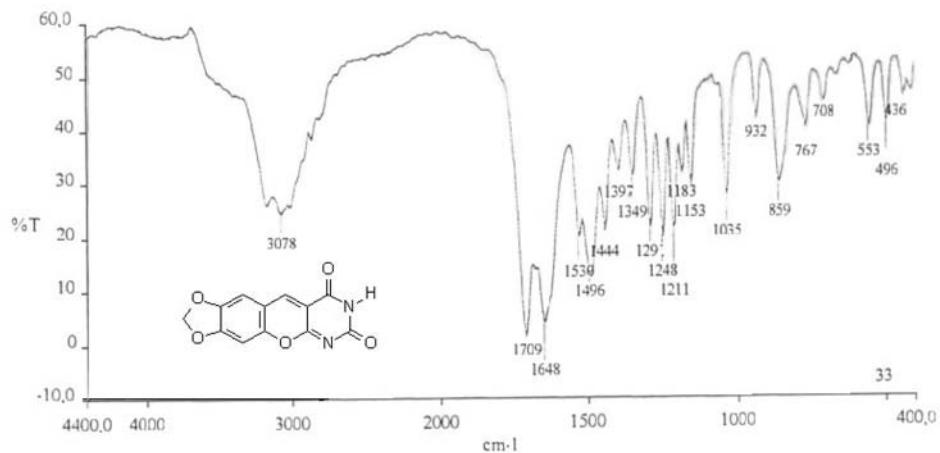
**Figure S18.** IR spectrum of 2H-chromeno[2,3-d]pyrimidine-2,4(3H)-dione (oxadeazaflavine).



**Figure S19.** <sup>1</sup>H NMR spectrum (DMSO-*d*<sub>6</sub>, 300 MHz) of 2H-[1,3]dioxolo[4',5':6,7]chromeno[2,3-d]pyrimidine-2,4(3H)-dione (**2**).



**Figure S20.**  $^1\text{H}$  NMR spectrum (DMSO- $d_6$ , 300 MHz) of 2H-[1,3]dioxolo[4',5':6,7]chromeno[2,3-d]pyrimidine-2,4(3H)-dione (**2**).



**Figure S21.** IR spectrum of 2H-[1,3]dioxolo[4',5':6,7]chromeno[2,3-d]pyrimidine-2,4(3H)-dione (**2**).