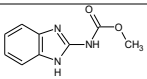
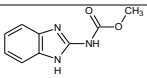
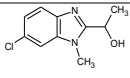
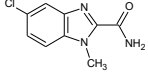

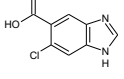
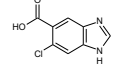
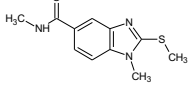
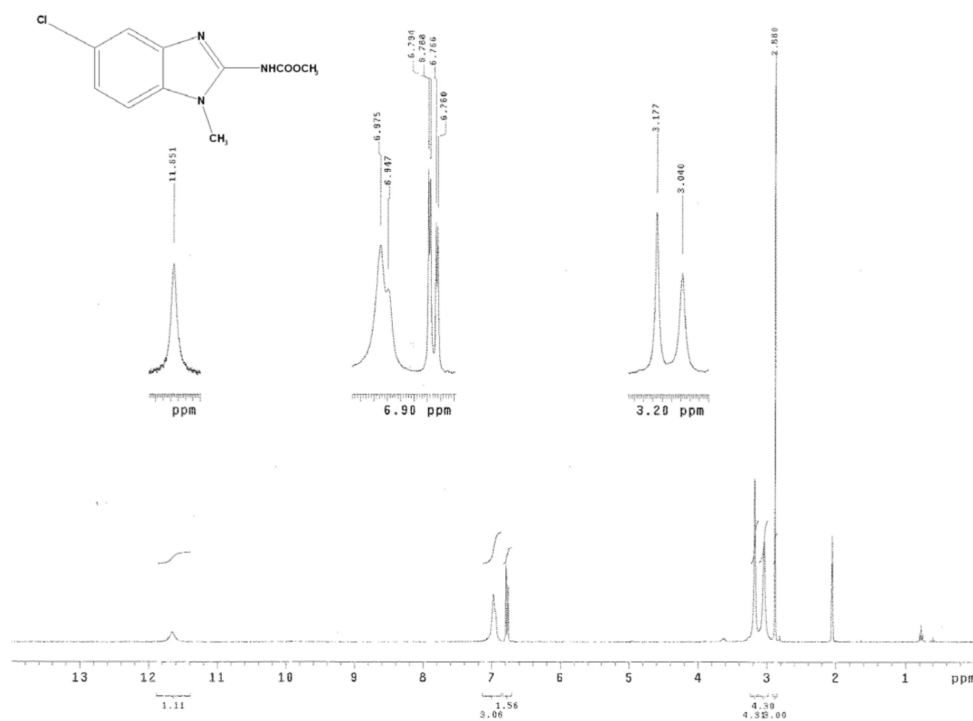


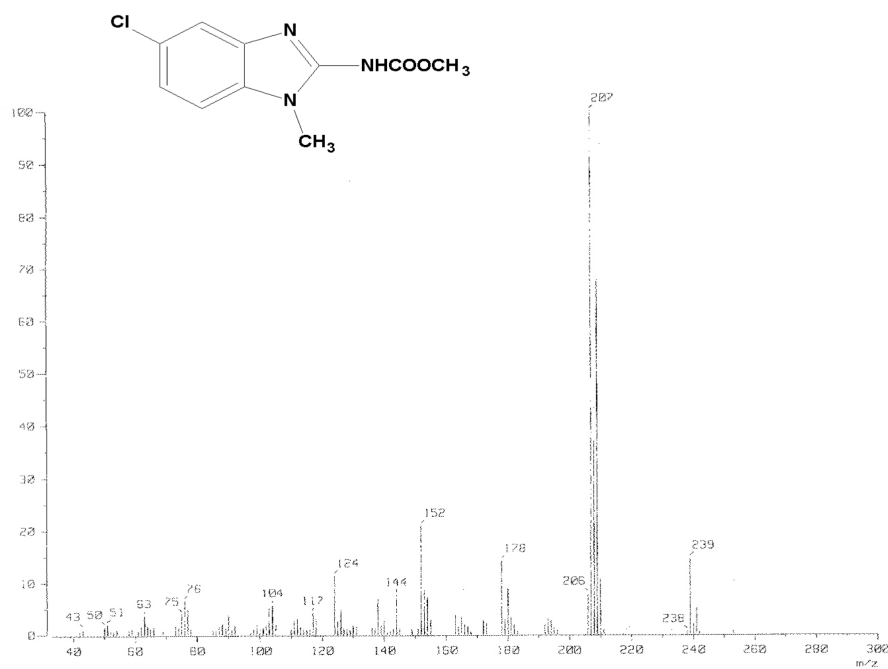
**Table S1.** Inhibition of recombinant LmARG by benzimidazole derivatives.

Compound	Chemical structure	% Inhibition LmARG [200 $\mu$ M]
11		33 %
12		30%
13		27%
14		26 %
15		25 %
16		25%
17		20%
18		20%
19		19 %
20		13 %
21		11%
22		11 %
23		10 %
24		10 %
25		10 %

26		10 %
27		10 %
28		10 %
29		10 %
30		10 %
31		10 %
32		10 %
33		8 %



**Figure S1.** <sup>1</sup>H NMR (Acetone-*d*<sub>6</sub>; 300 MHz). Methyl (5-chloro-1-methyl-1*H*-benzimidazol-2-yl)carbamate (**1**).



**Figure S2.** MS (EI<sup>+</sup>) *m/z*: 239 [M]<sup>+</sup>. Methyl (5-chloro-1-methyl-1*H*-benzimidazol-2-yl)carbamate (**1**).

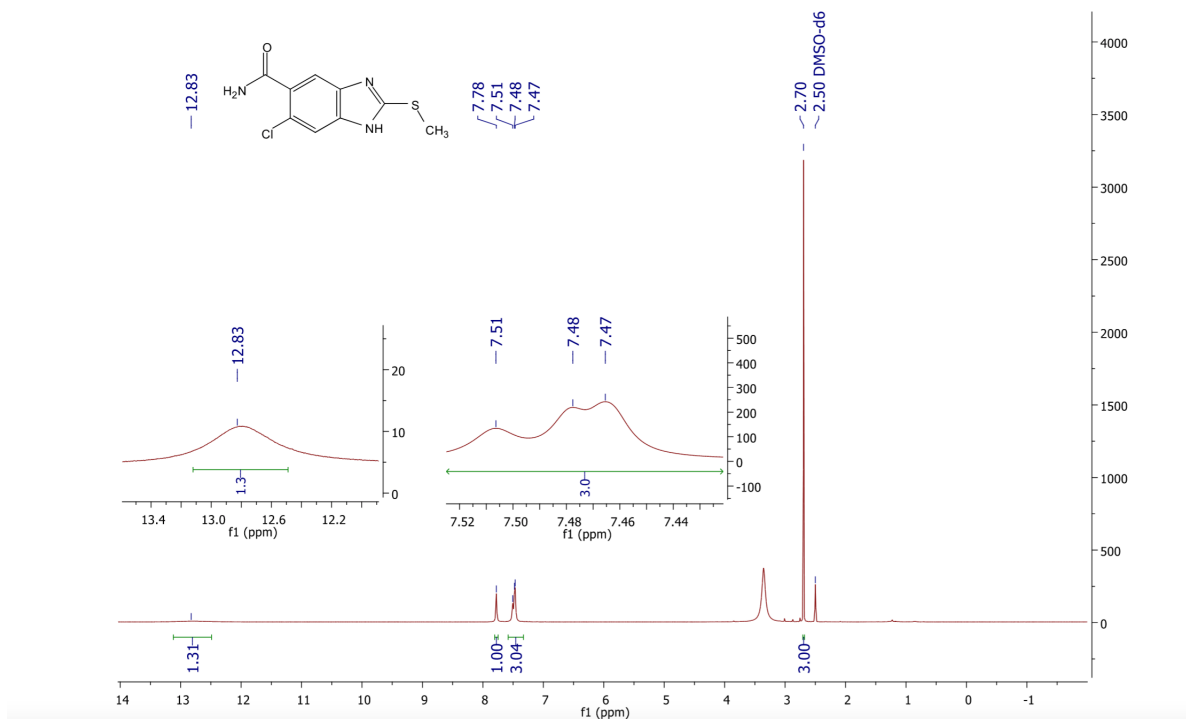


Figure S3. <sup>1</sup>H NMR (DMSO-*d*<sub>6</sub>; 400 MHz). 6-Chloro-2-(methylthio)-1*H*-benzimidazole-5-carboxamide (2).

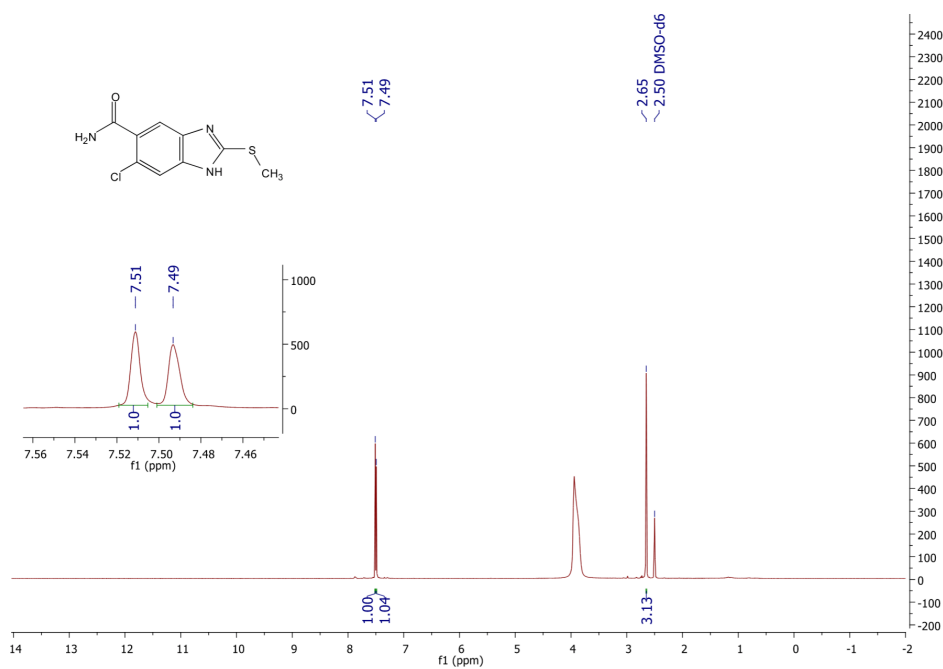
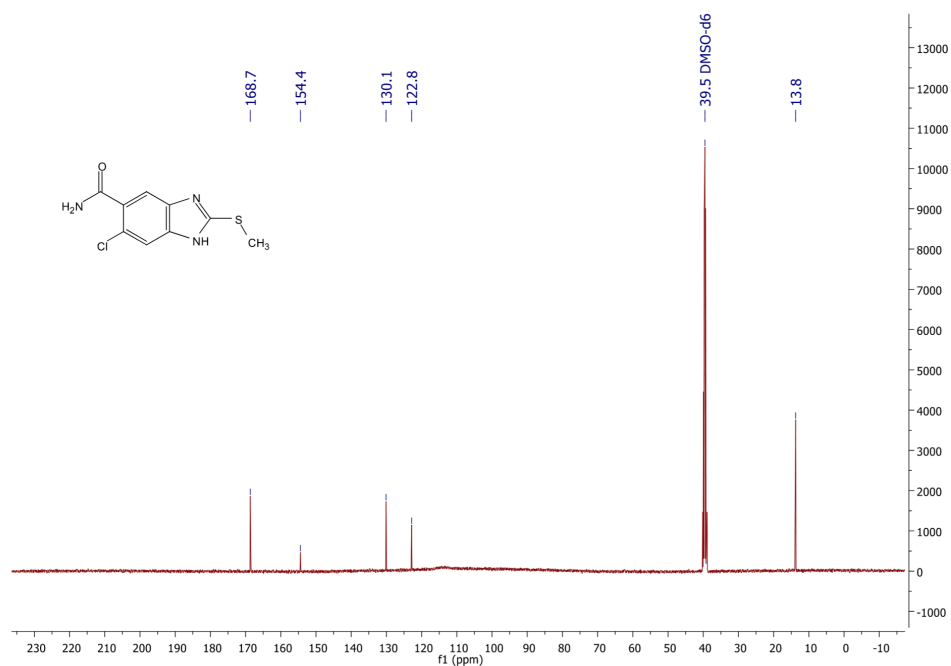
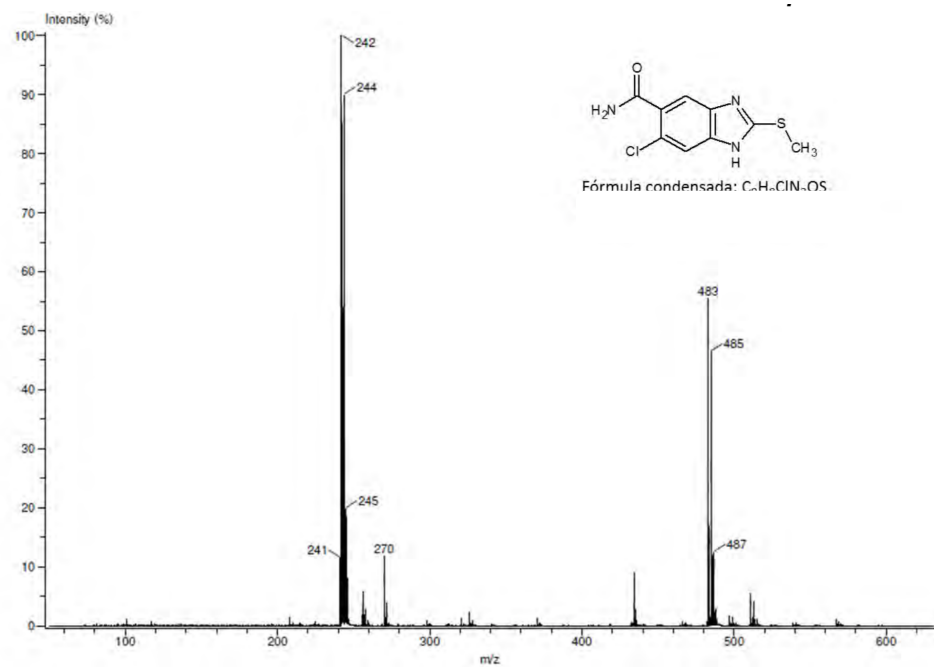


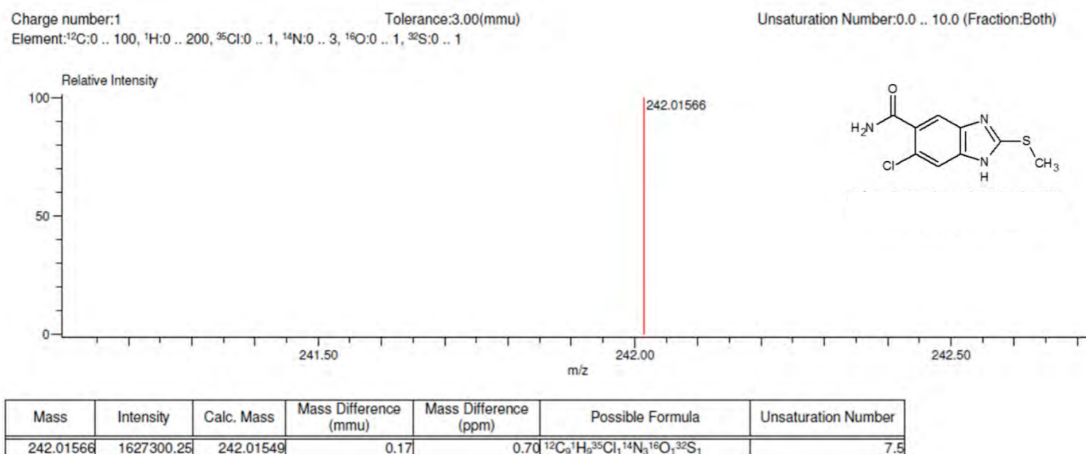
Figure S4. <sup>1</sup>H NMR (DMSO-*d*<sub>6</sub> + D<sub>2</sub>O; 400 MHz). 6-Chloro-2-(methylthio)-1*H*-benzimidazole-5-carboxamide (2).



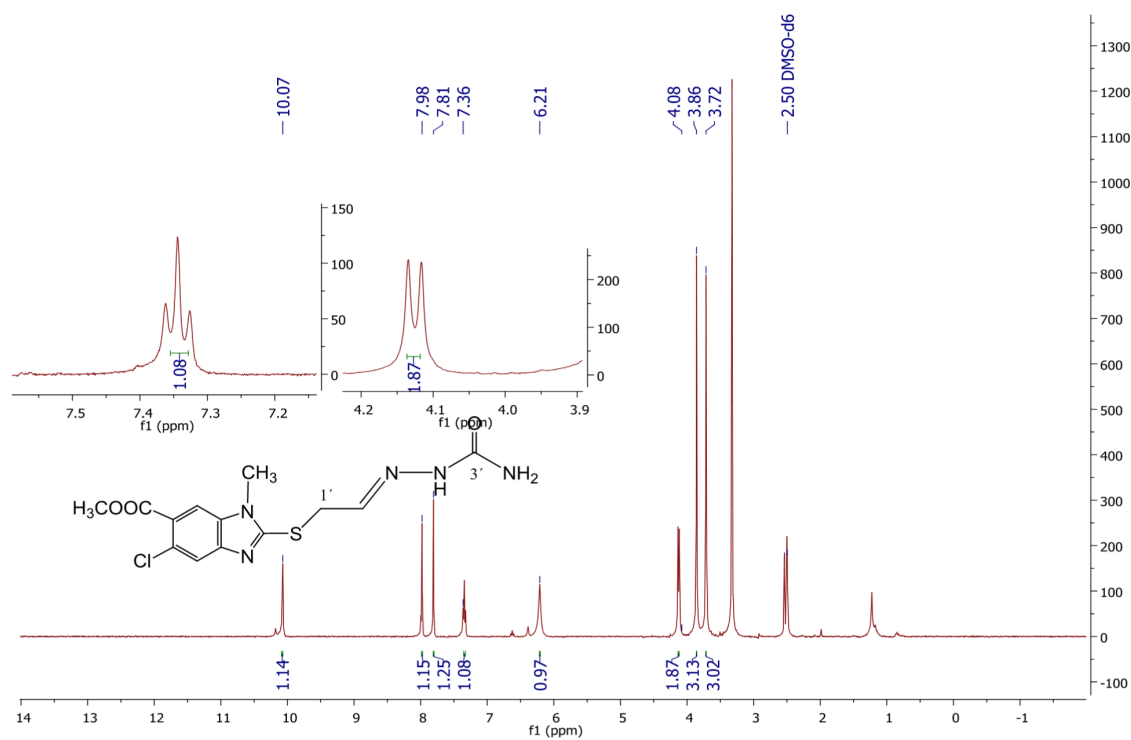
**Figure S5.** <sup>13</sup>C NMR (DMSO-*d*<sub>6</sub>; 100 MHz) 6-Chloro-2-(methylthio)-1*H*-benzimidazole-5-carboxamide (2).



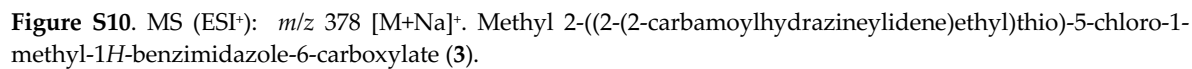
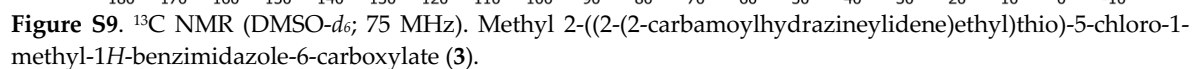
**Figure S6.** MS (DART<sup>+</sup>) *m/z*: 242 [M+H]<sup>+</sup>. 6-Chloro-2-(methylthio)-1*H*-benzimidazole-5-carboxamide (2).

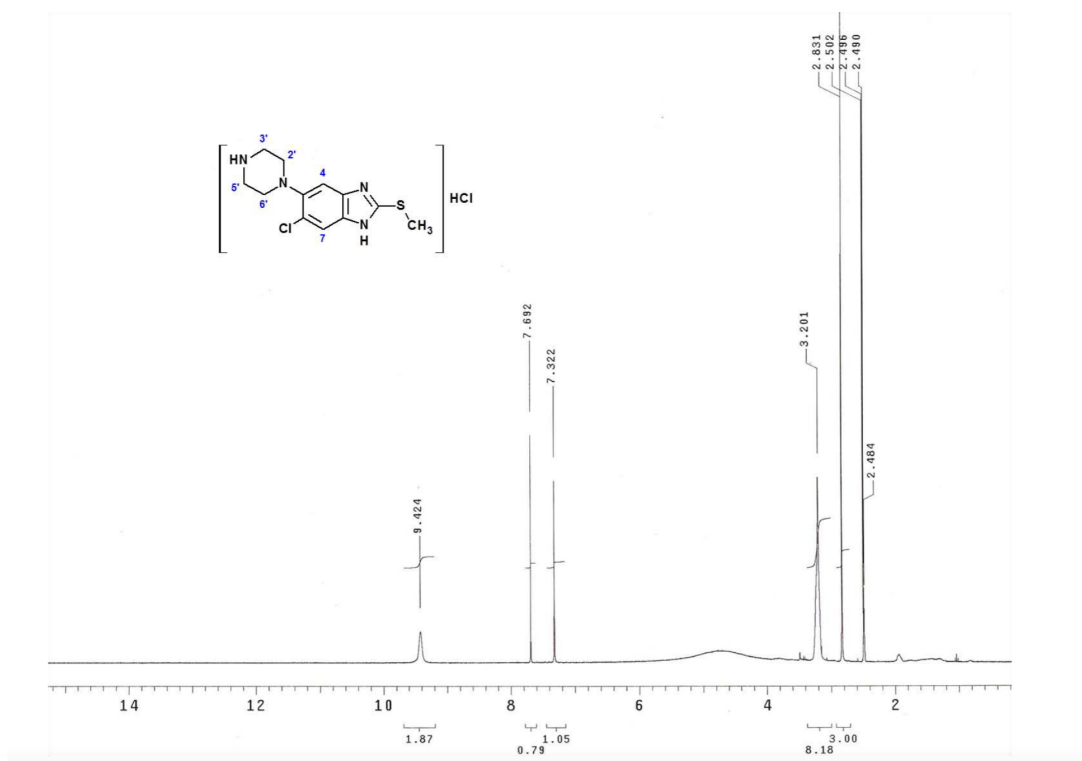


**Figure S7.** HRMS (DART<sup>+</sup>) cal. [C<sub>9</sub>H<sub>6</sub>ClN<sub>3</sub>OS +H] 242.01549, found 242.01566. 6-Chloro-2-(methylthio)-1*H*-benzimidazole-5-carboxamide (**2**).

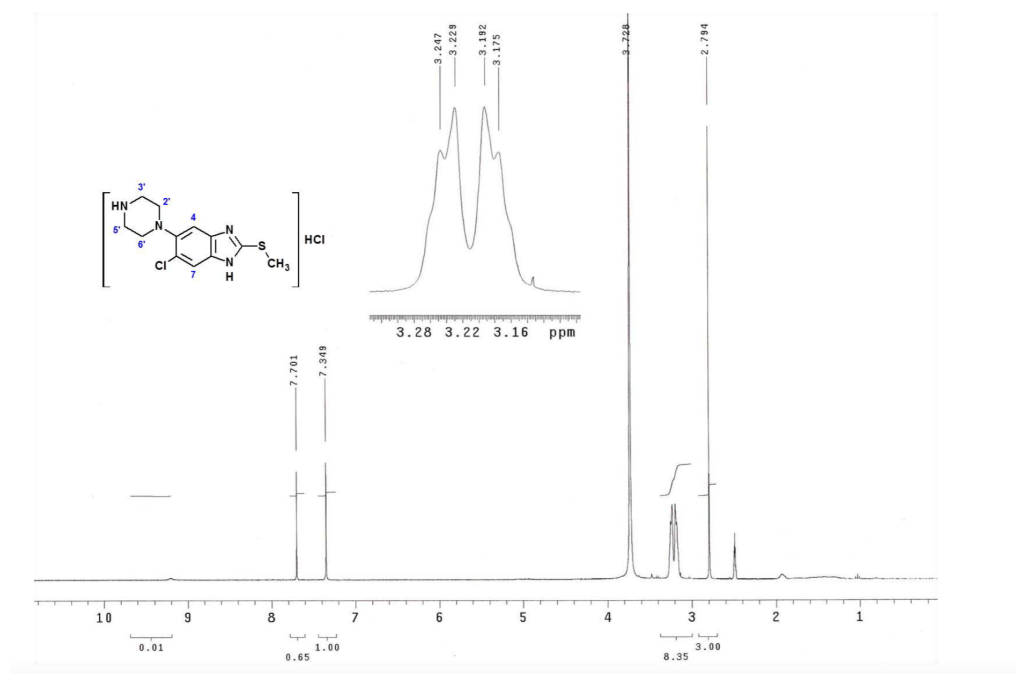


**Figure S8.** <sup>1</sup>H NMR (DMSO-*d*<sub>6</sub>; 300 MHz. Methyl 2-((2-(2-carbamoylhydrazineylidene)ethyl)thio)-5-chloro-1-methyl-1*H*-benzimidazole-6-carboxylate (**3**).



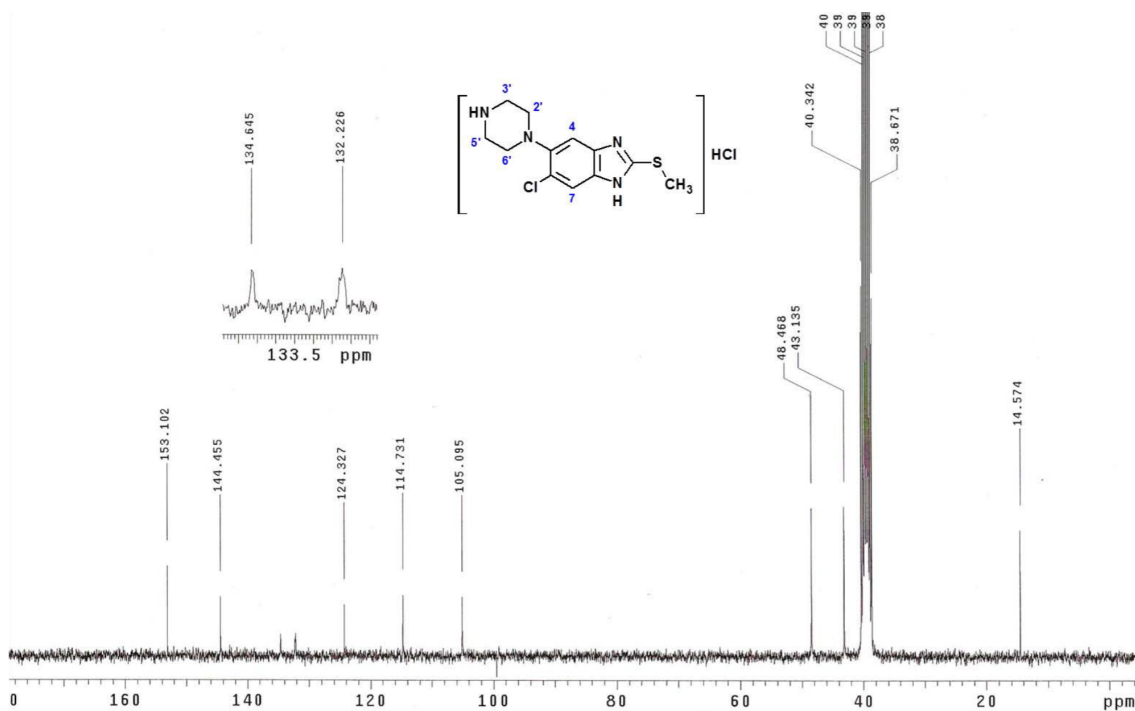


**Figure S11.** <sup>1</sup>H NMR (DMSO-*d*<sub>6</sub>; 300 MHz). 6-Chloro-2-(methylthio)-5-(piperazin-1-yl)-1*H*-benzimidazole (6).

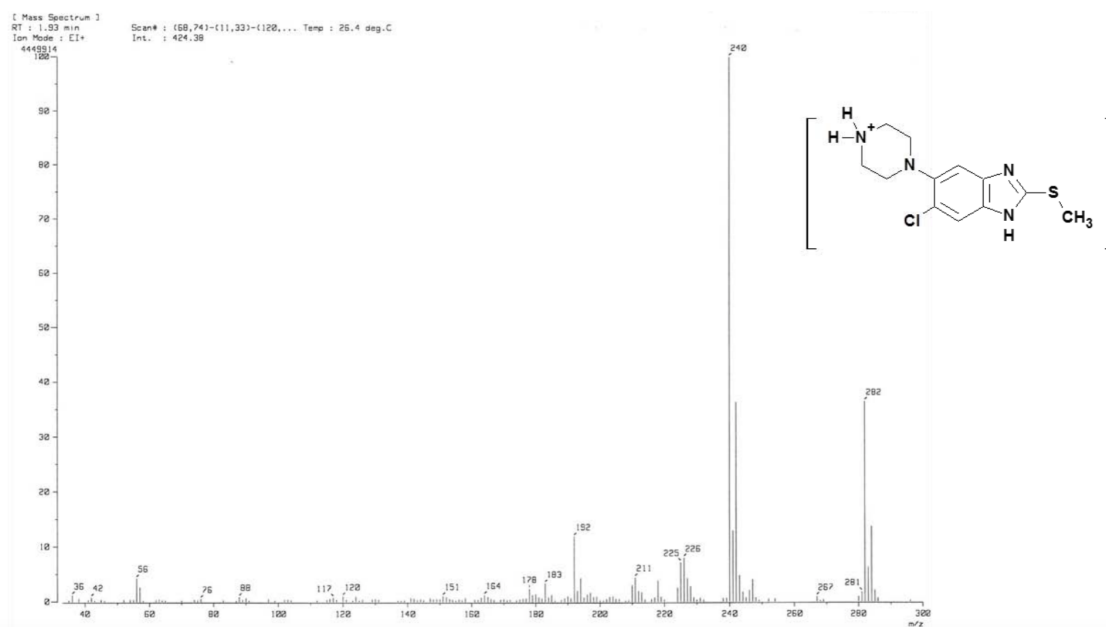


**Figure S12.** <sup>1</sup>H NMR (DMSO-*d*<sub>6</sub> + D<sub>2</sub>O; 300 MHz) 6-Chloro-2-(methylthio)-5-(piperazin-1-yl)-1*H*-benzimidazole (6).

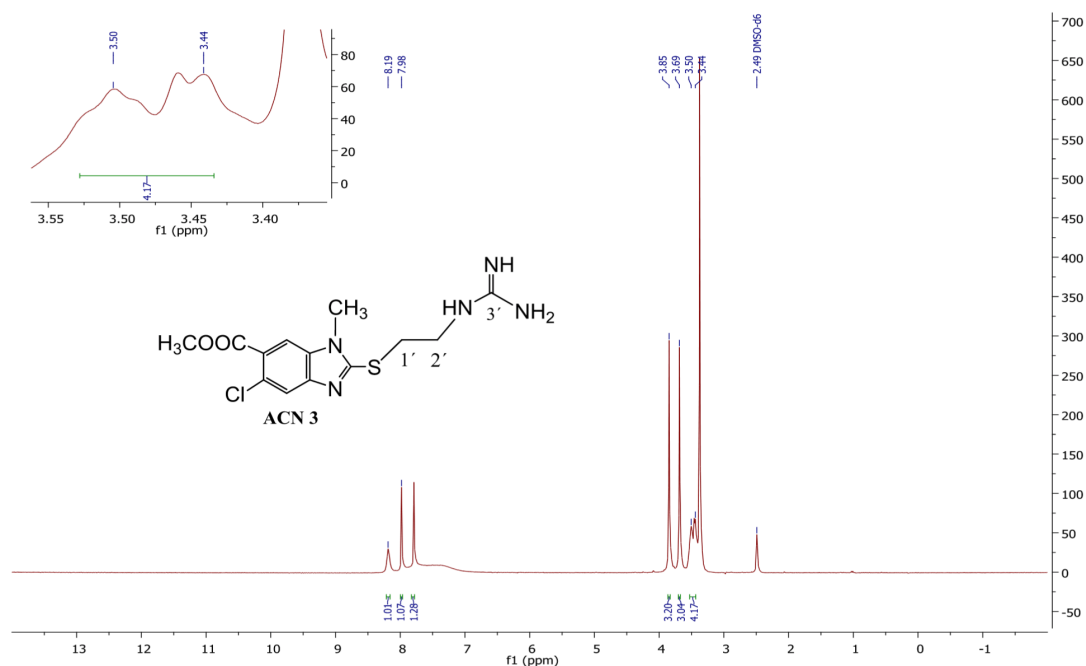




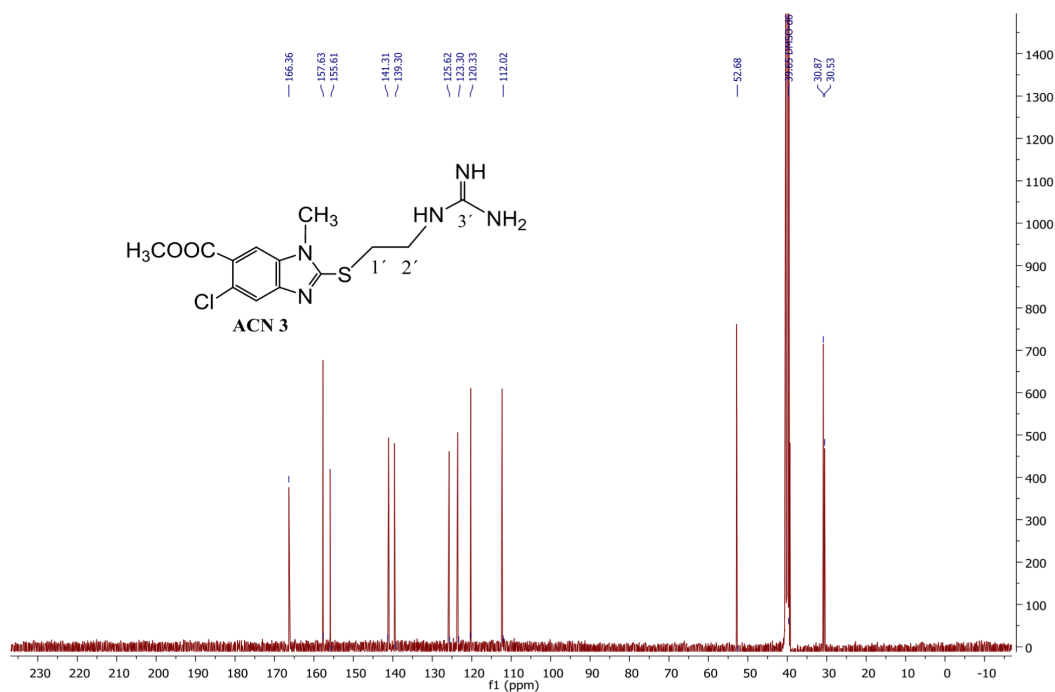
**Figure S13.** <sup>13</sup>C NMR (DMSO-*d*<sub>6</sub>; 75 MHz). 6-Chloro-2-(methylthio)-5-(piperazin-1-yl)-1H-benzimidazole (6).



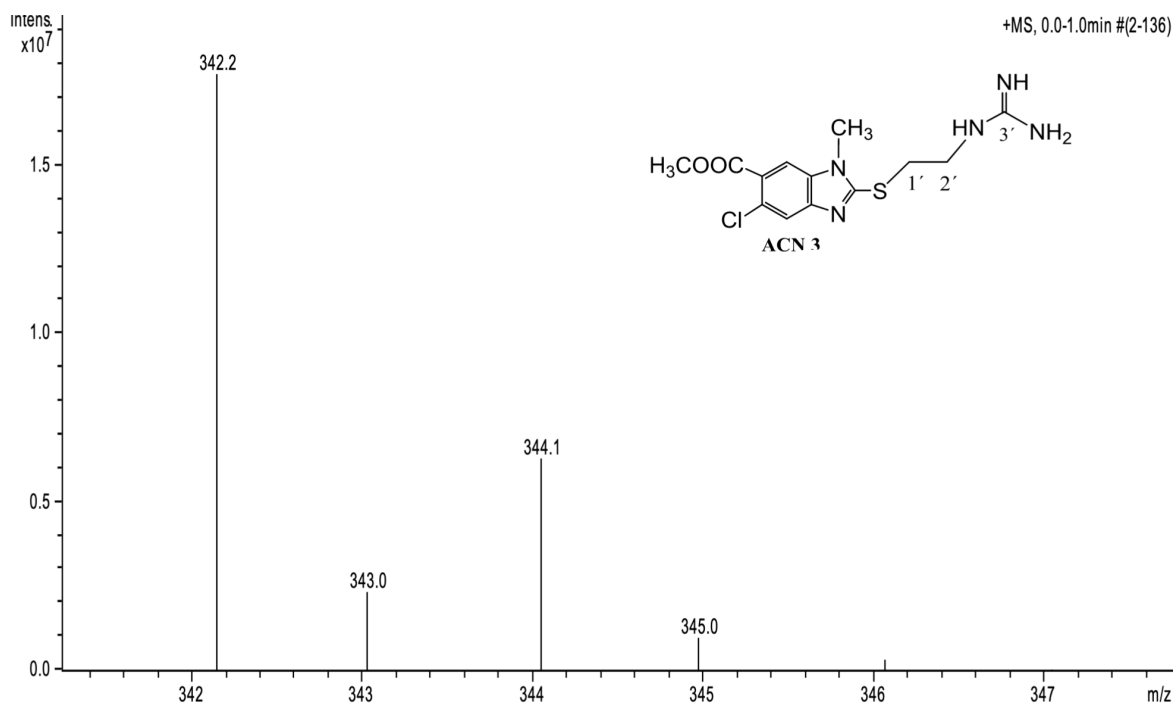
**Figure S14.** MS (EI<sup>+</sup>) *m/z*: 282 [M]<sup>+</sup>. 6-Chloro-2-(methylthio)-5-(piperazin-1-yl)-1H-benzimidazole (6).



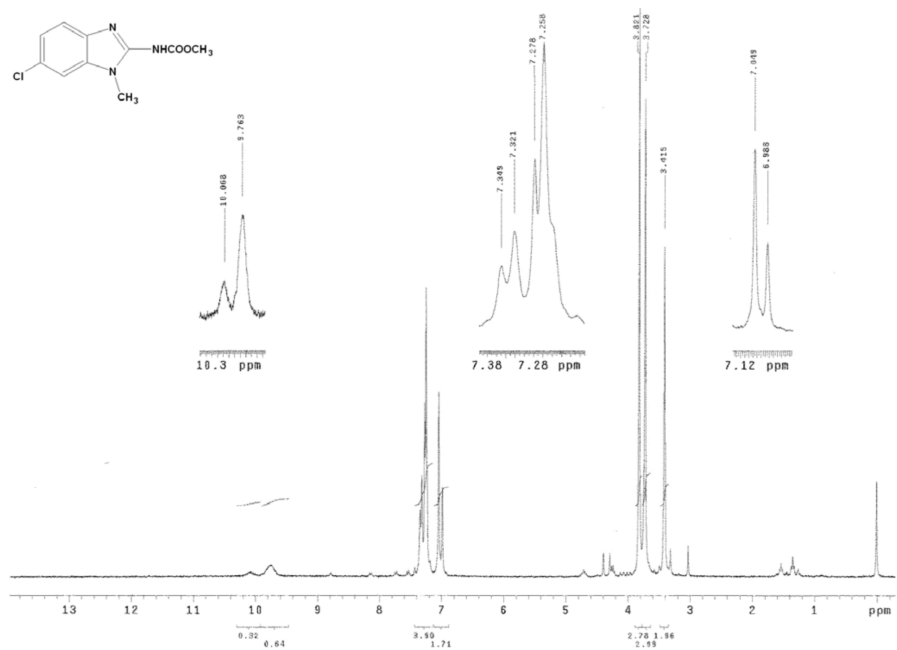
**Figure S15.** <sup>1</sup>H NMR (DMSO-*d*<sub>6</sub>; 400 MHz). Methyl 5-chloro-2-((2-guanidinoethyl)thio)-1-methyl-1H-benzimidazole-6-carboxylate (7).



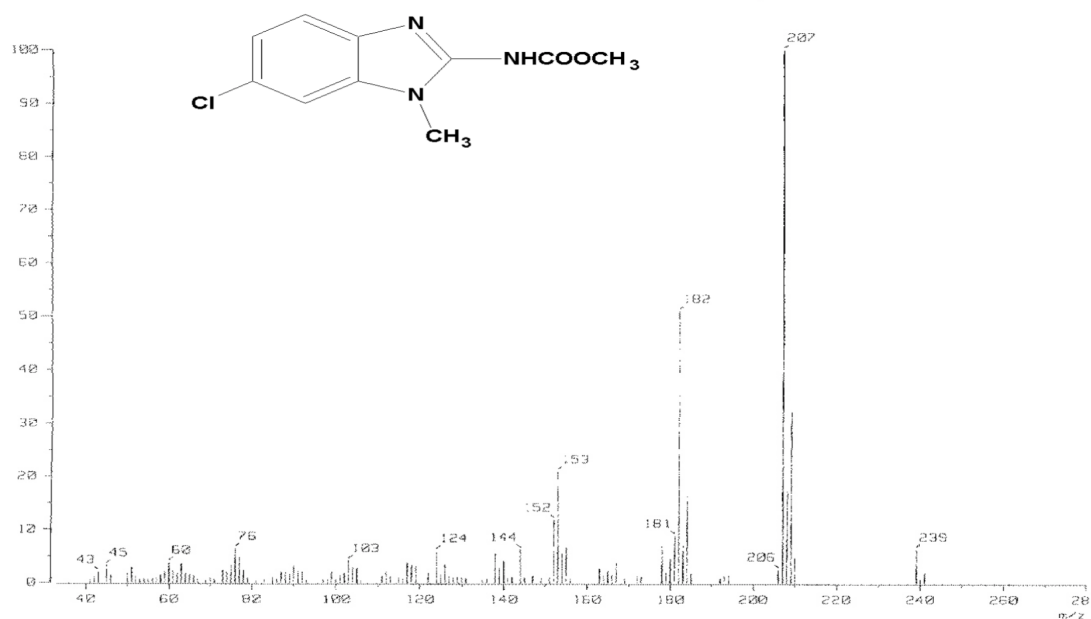
**Figure S16.** <sup>13</sup>C NMR (DMSO-*d*<sub>6</sub>; 100 MHz). Methyl 5-chloro-2-((2-guanidinoethyl)thio)-1-methyl-1H-benzimidazole-6-carboxylate (7).



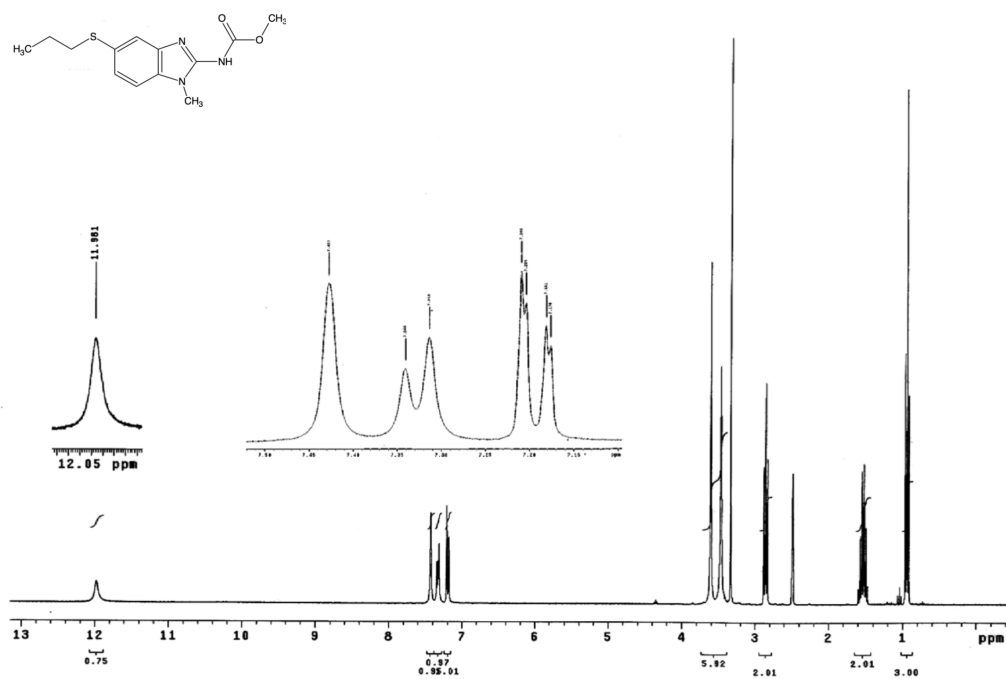
**Figure S17.** MS (ESI<sup>+</sup>):  $m/z$  342 [M+H]<sup>+</sup>. Methyl 5-chloro-2-((2-guanidinoethyl)thio)-1-methyl-1H-benzimidazole-6-carboxylate (7).



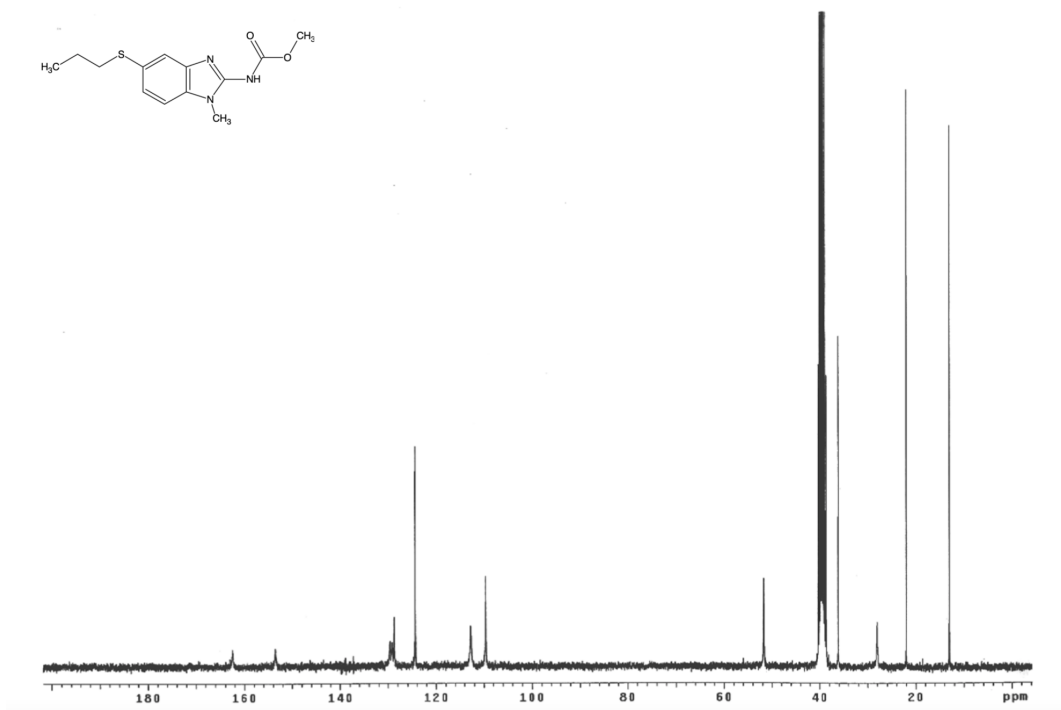
**Figure S18.** <sup>1</sup>H NMR (CDCl<sub>3</sub>; 300 MHz). Methyl (6-chloro-1-methyl-1H-benzimidazol-2-yl)carbamate (8).



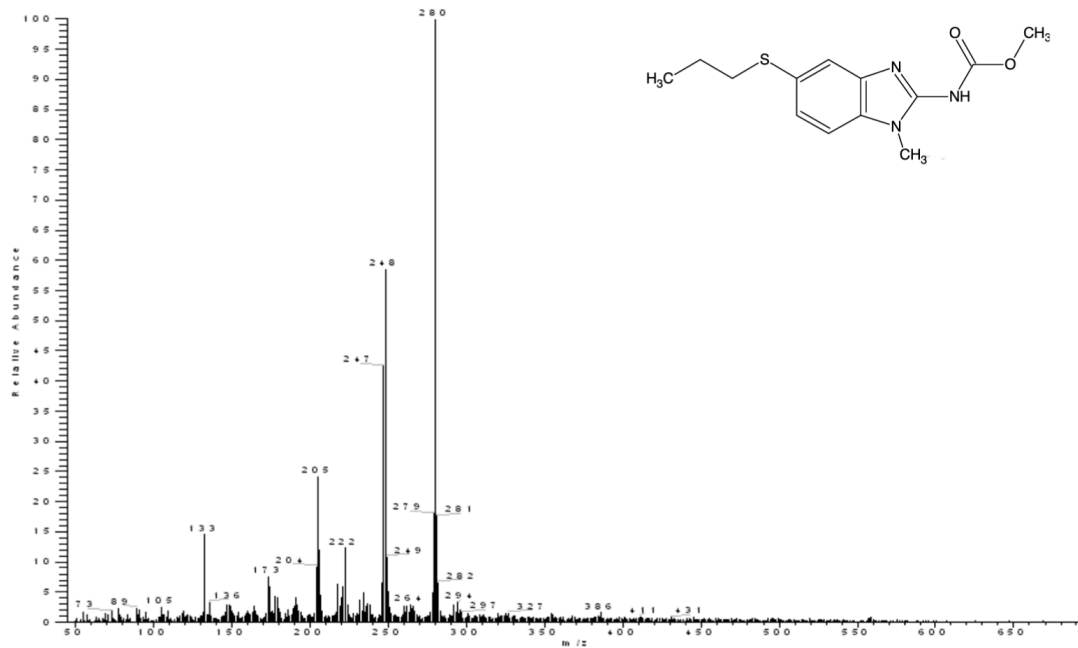
**Figure S19.** MS (EI<sup>+</sup>):  $m/z$  239 [M]<sup>+</sup>. Methyl (6-chloro-1-methyl-1H-benzimidazol-2-yl)carbamate (8).



**Figure S20.** <sup>1</sup>H NMR (DMSO-*d*<sub>6</sub>; 300 MHz). Methyl (1-methyl-5-(propylthio)-1H-benzimidazol-2-yl)carbamate (9).



**Figure S21.** <sup>13</sup>C NMR (DMSO-*d*<sub>6</sub>; 75 MHz). Methyl (1-methyl-5-(propylthio)-1*H*-benzimidazol-2-yl)carbamate (9).



**Figure S22.** MS (FAB<sup>+</sup>): *m/z* 280 [M+H]<sup>+</sup>. Methyl (1-methyl-5-(propylthio)-1*H*-benzimidazol-2-yl)carbamate (9).