

Electronic Supplementary Information

Water mediated, environmentally friendly, step-wise, tandem & one-pot syntheses of 2-(1H-benzo[d]imidazole-2-yl)-N-arylbenzamides.

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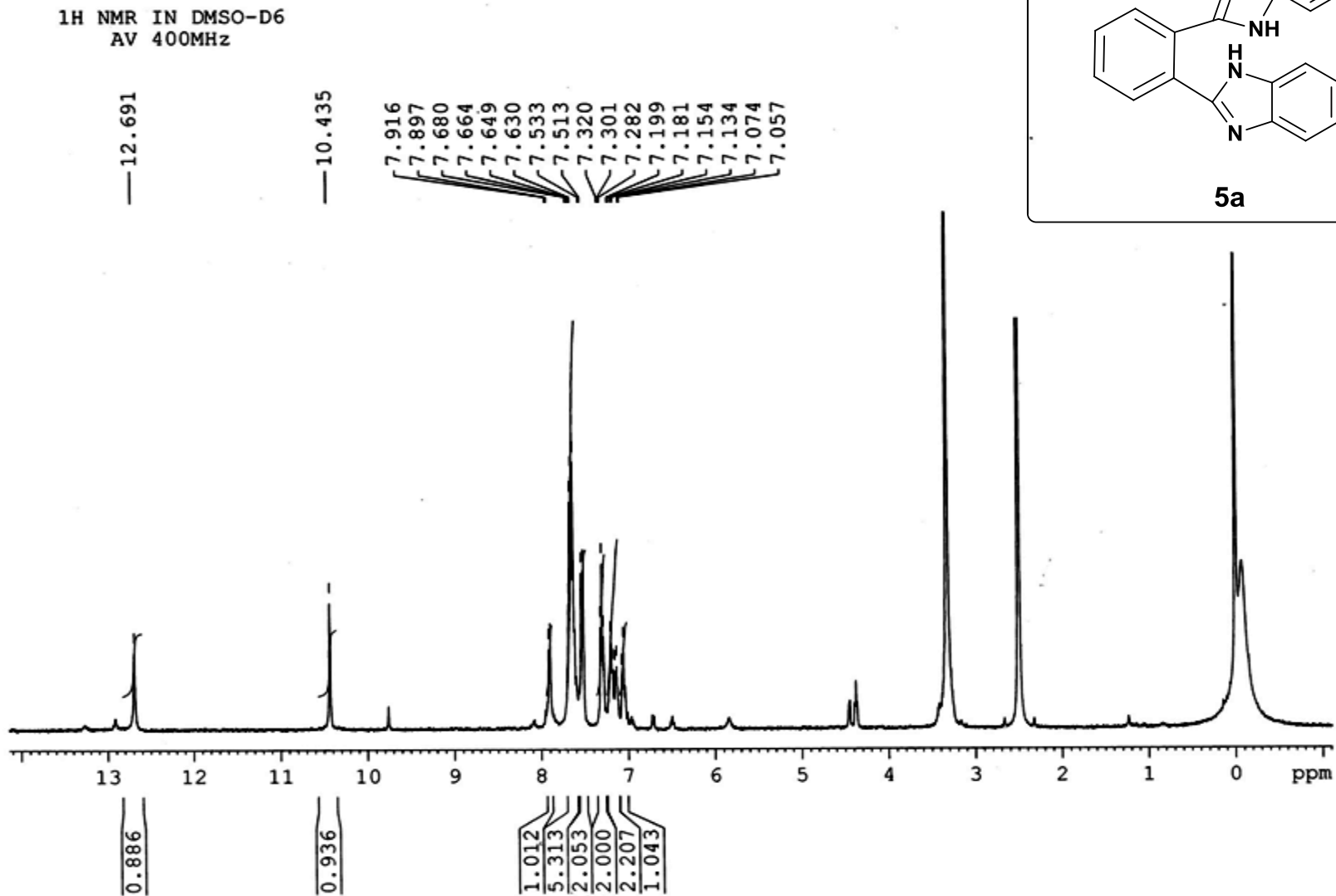
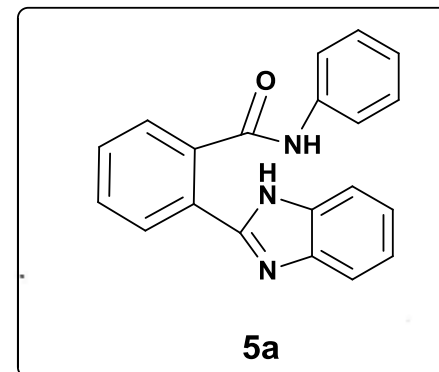
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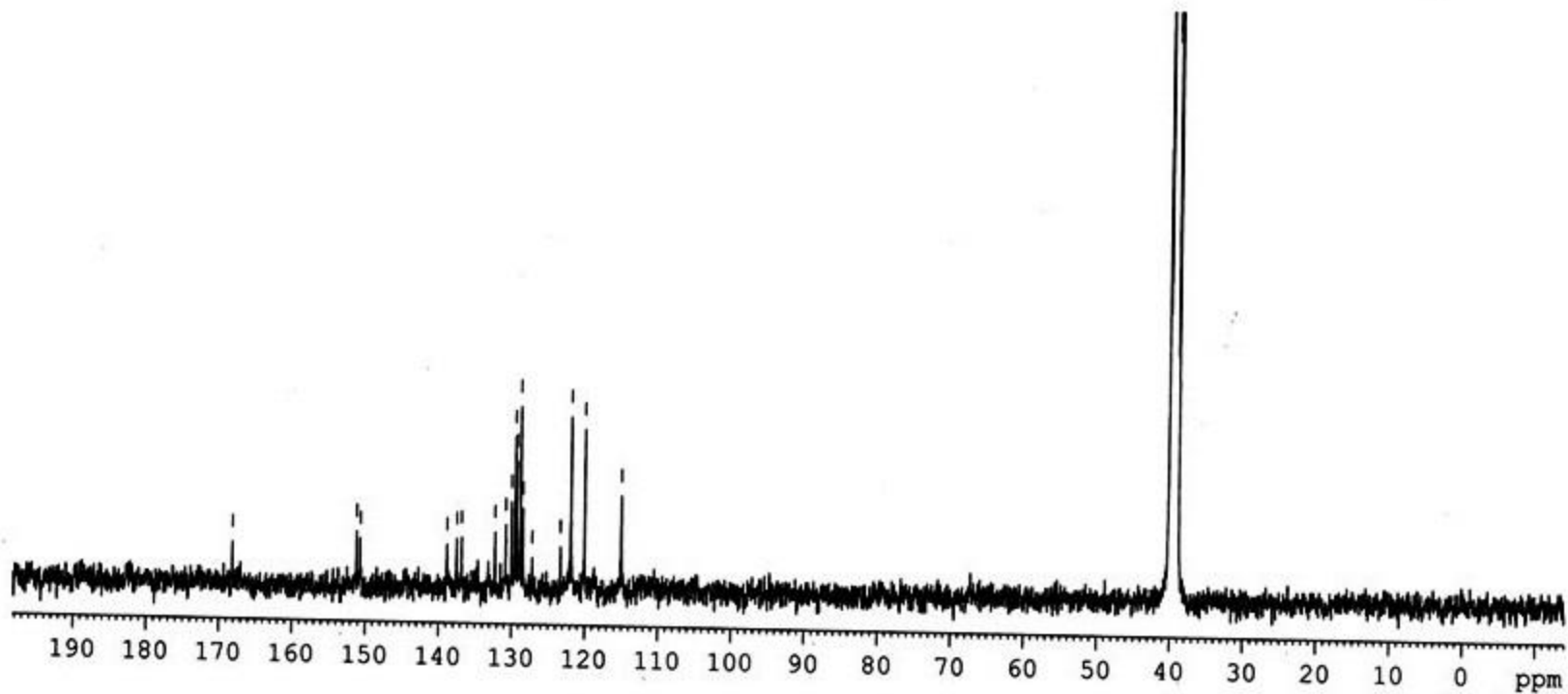
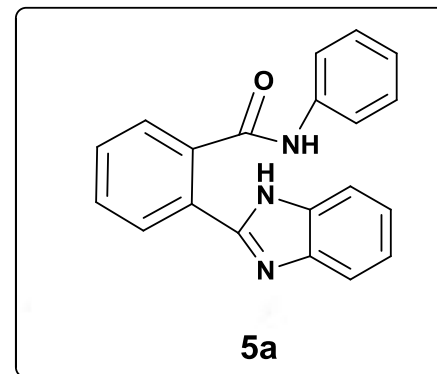
1. Scanned copies of NMR spectra of all compounds
2. Tables (3, 4, 5 & 6)

1. Scanned copies of NMR spectra of all compounds

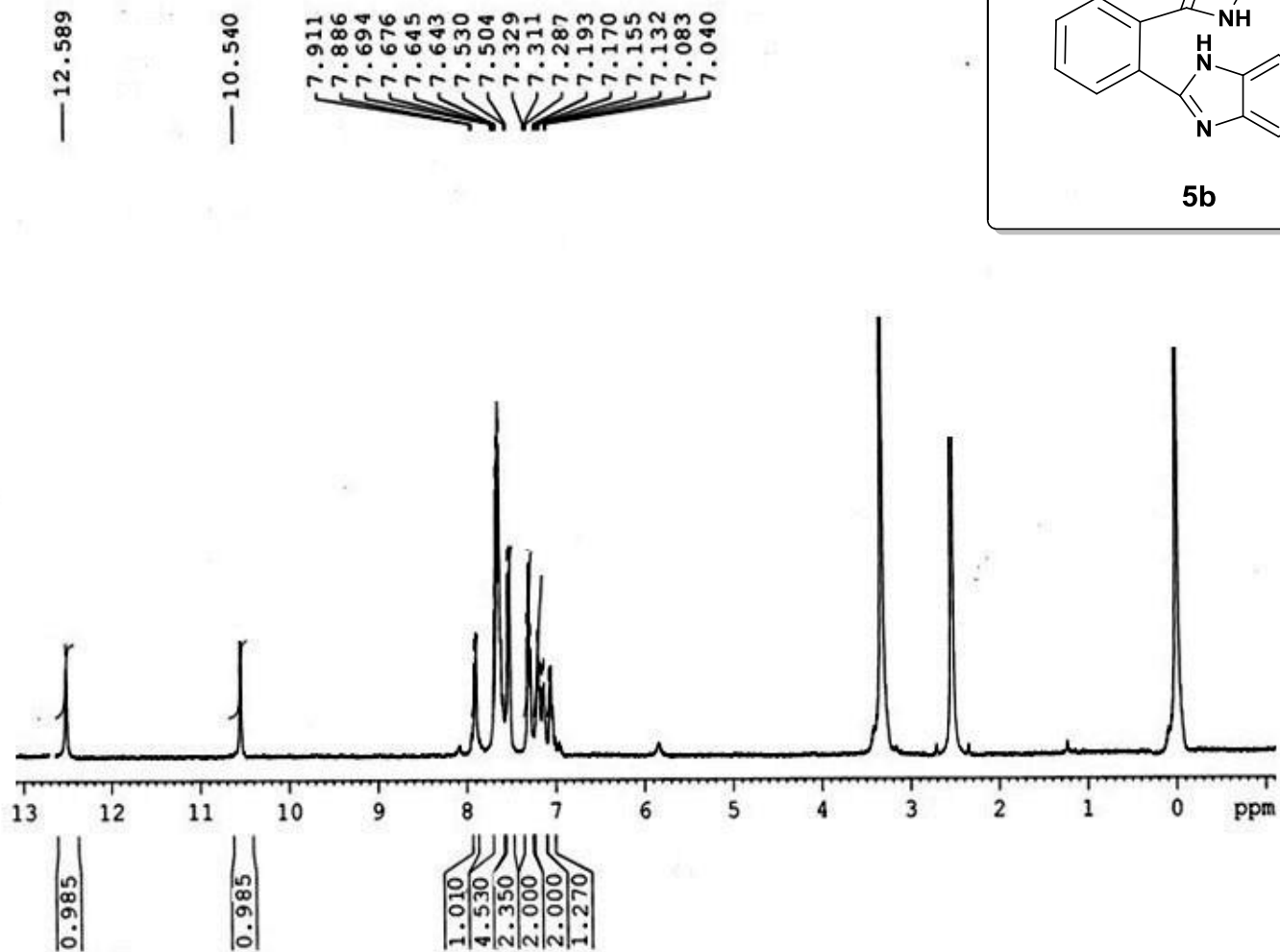


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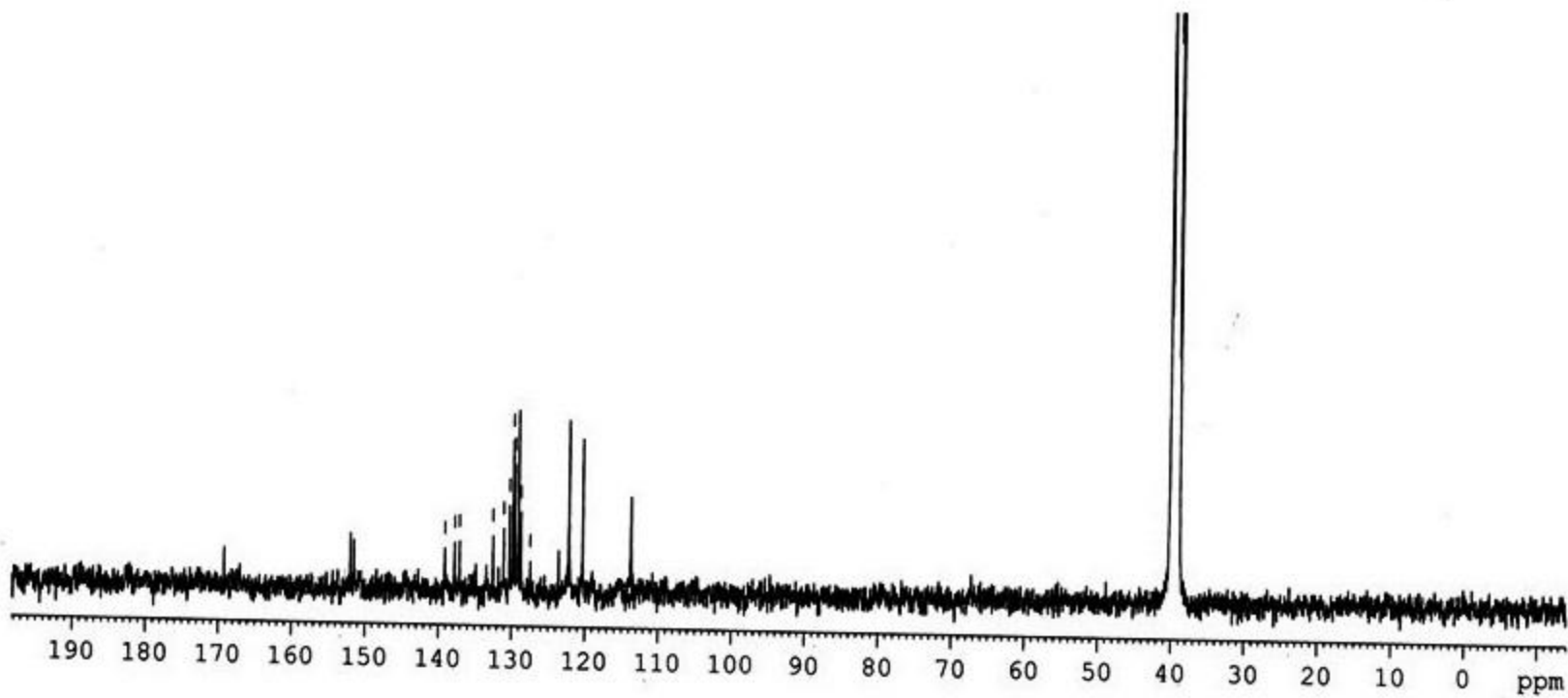
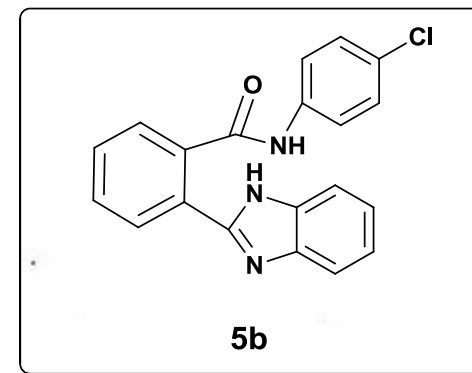
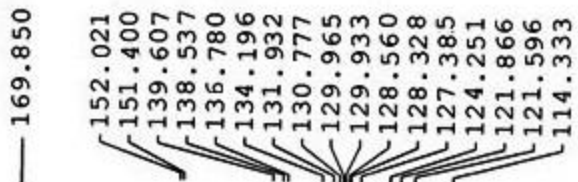
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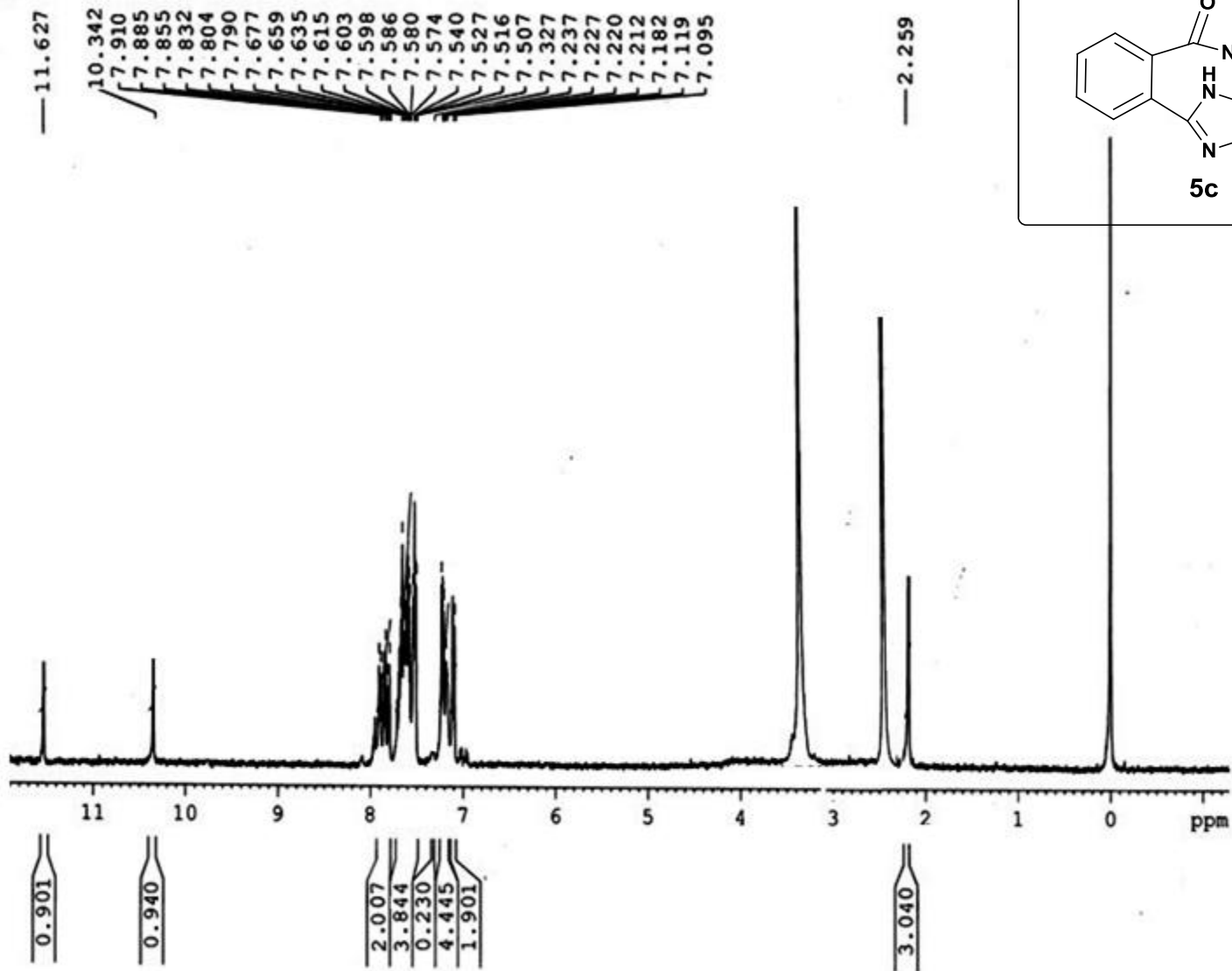
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AV 400MHz



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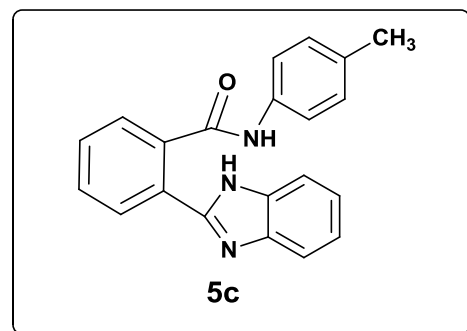
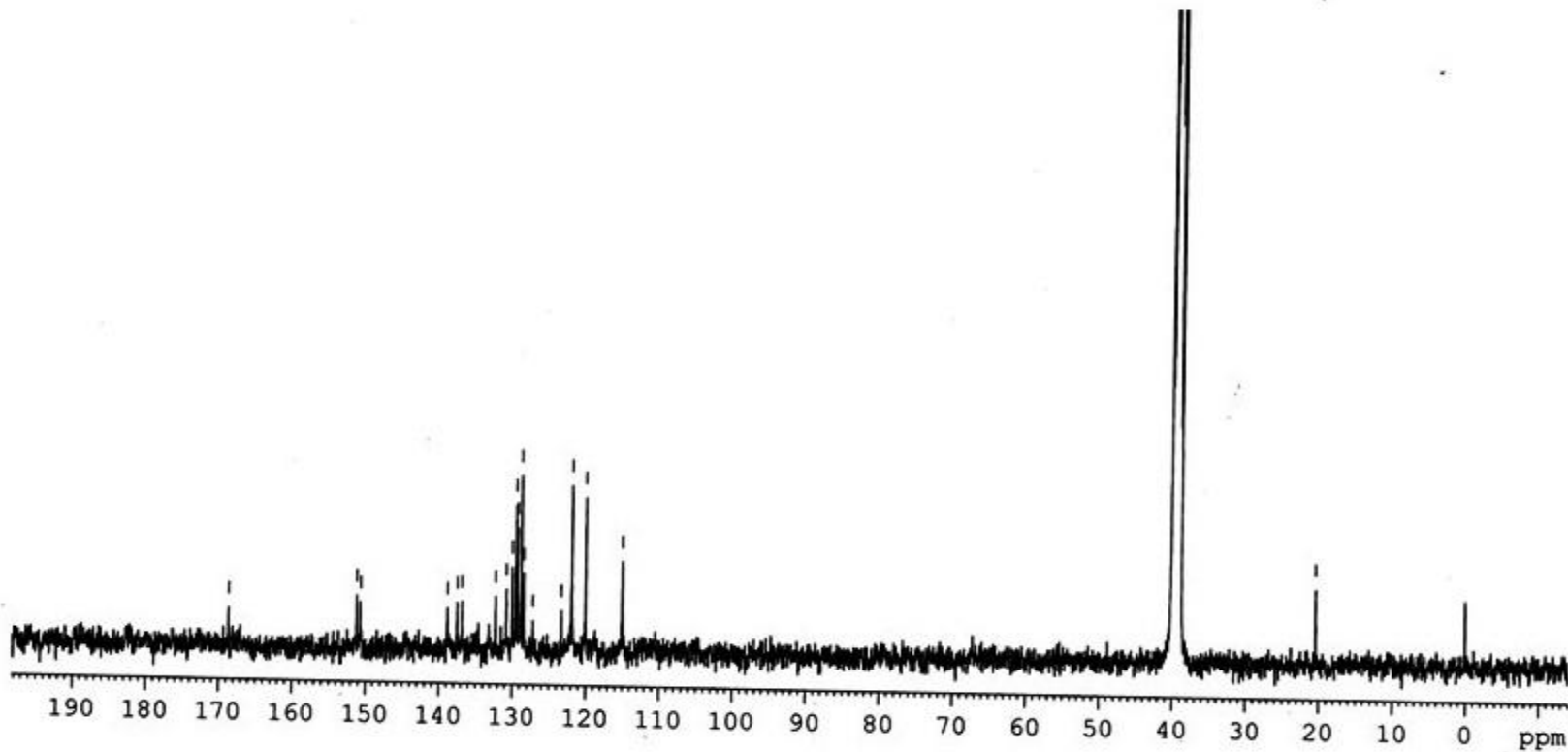


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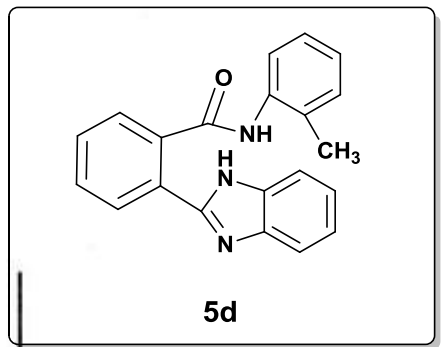
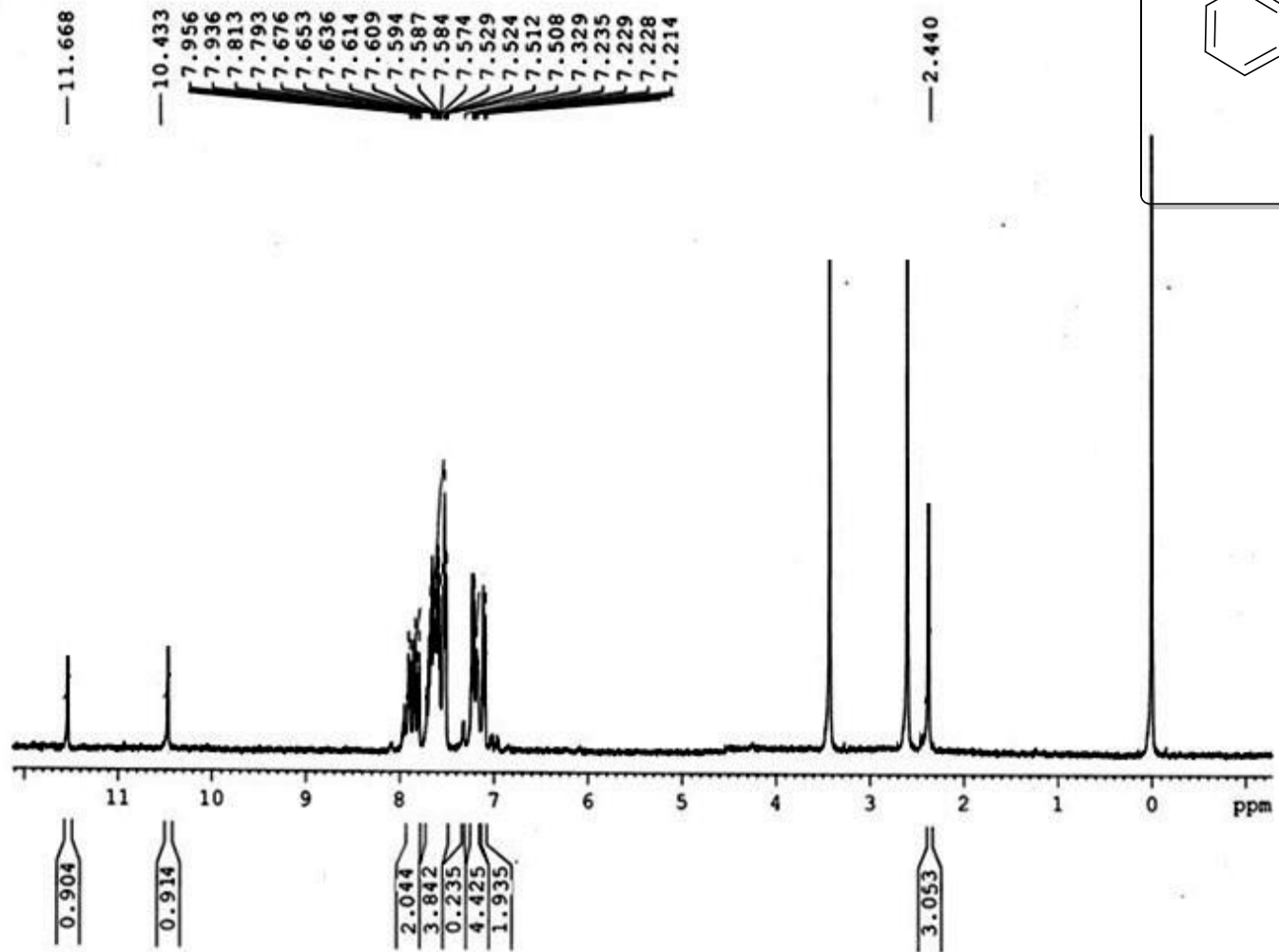


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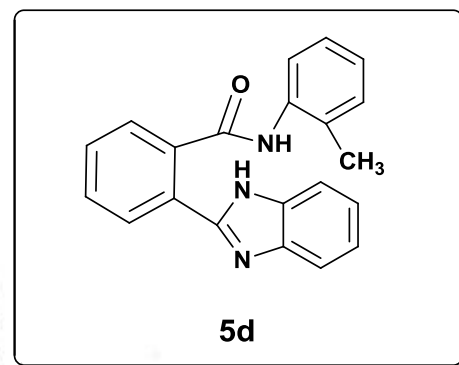
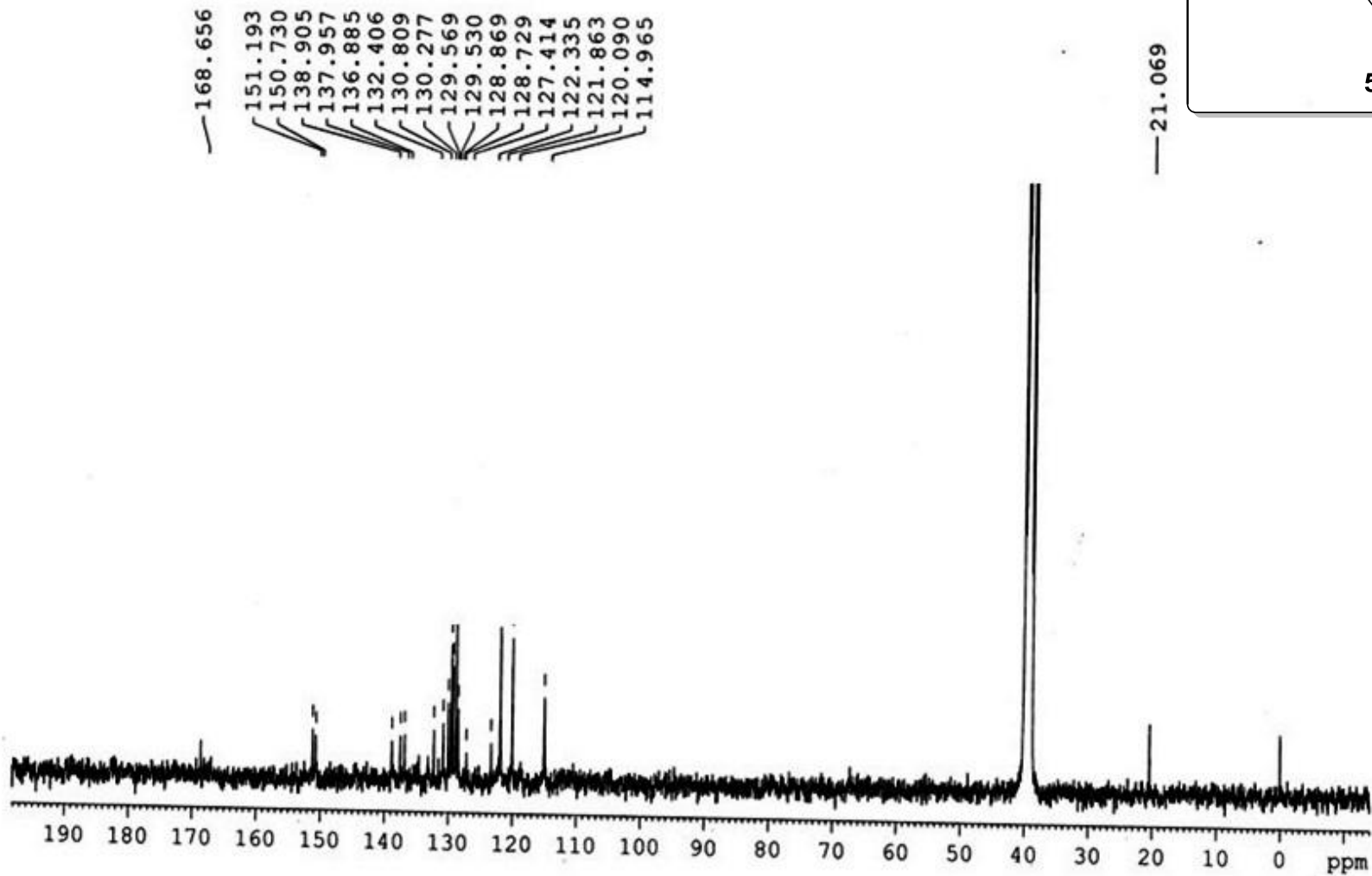
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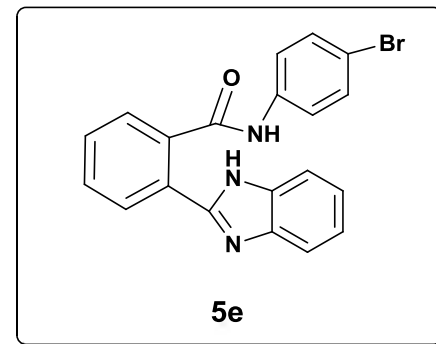
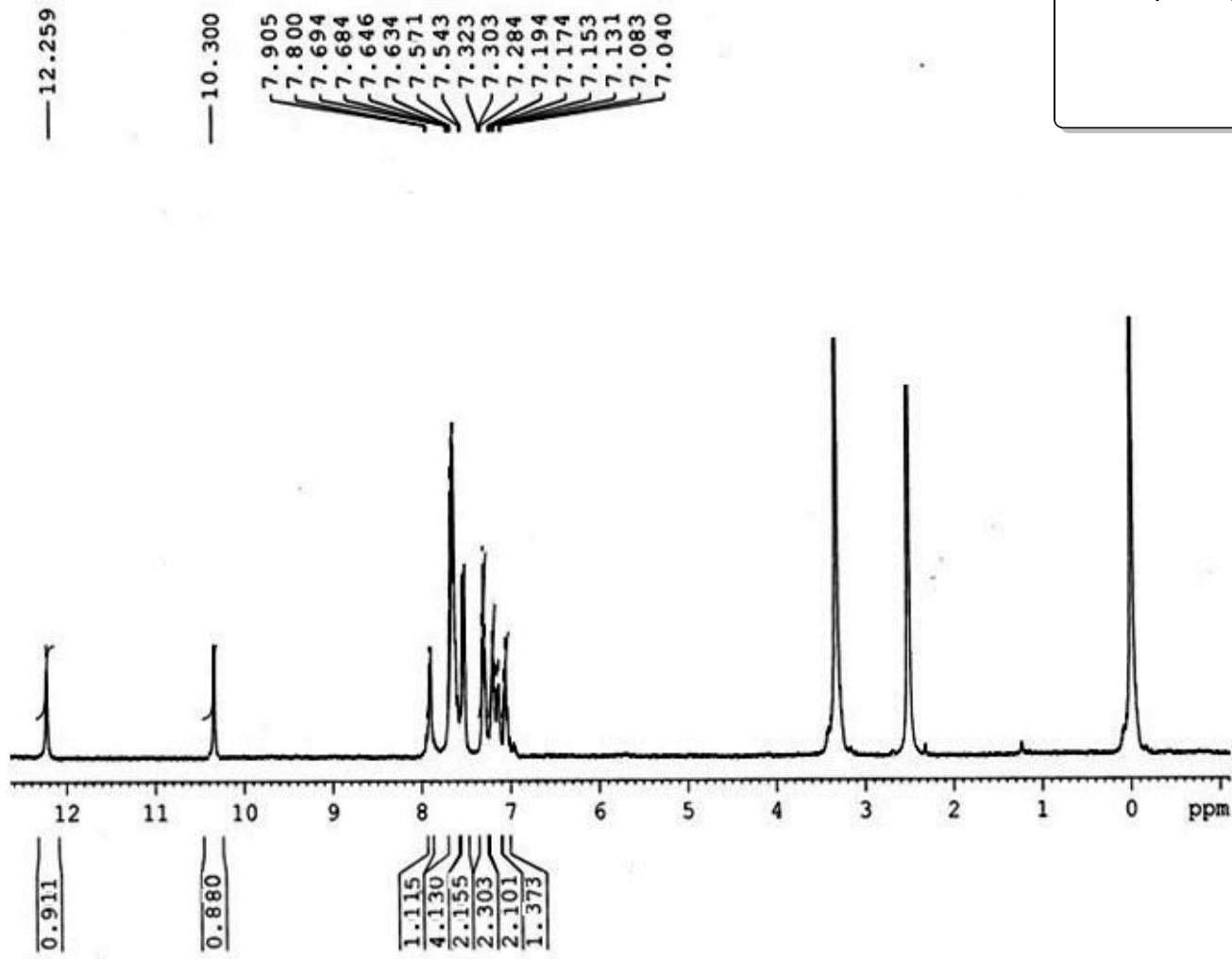
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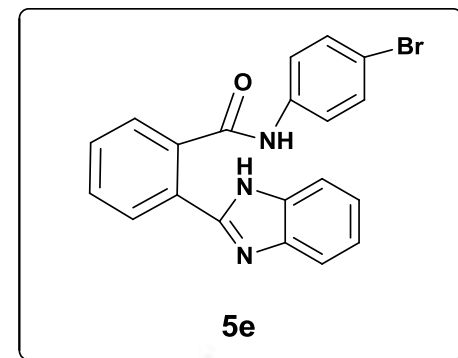
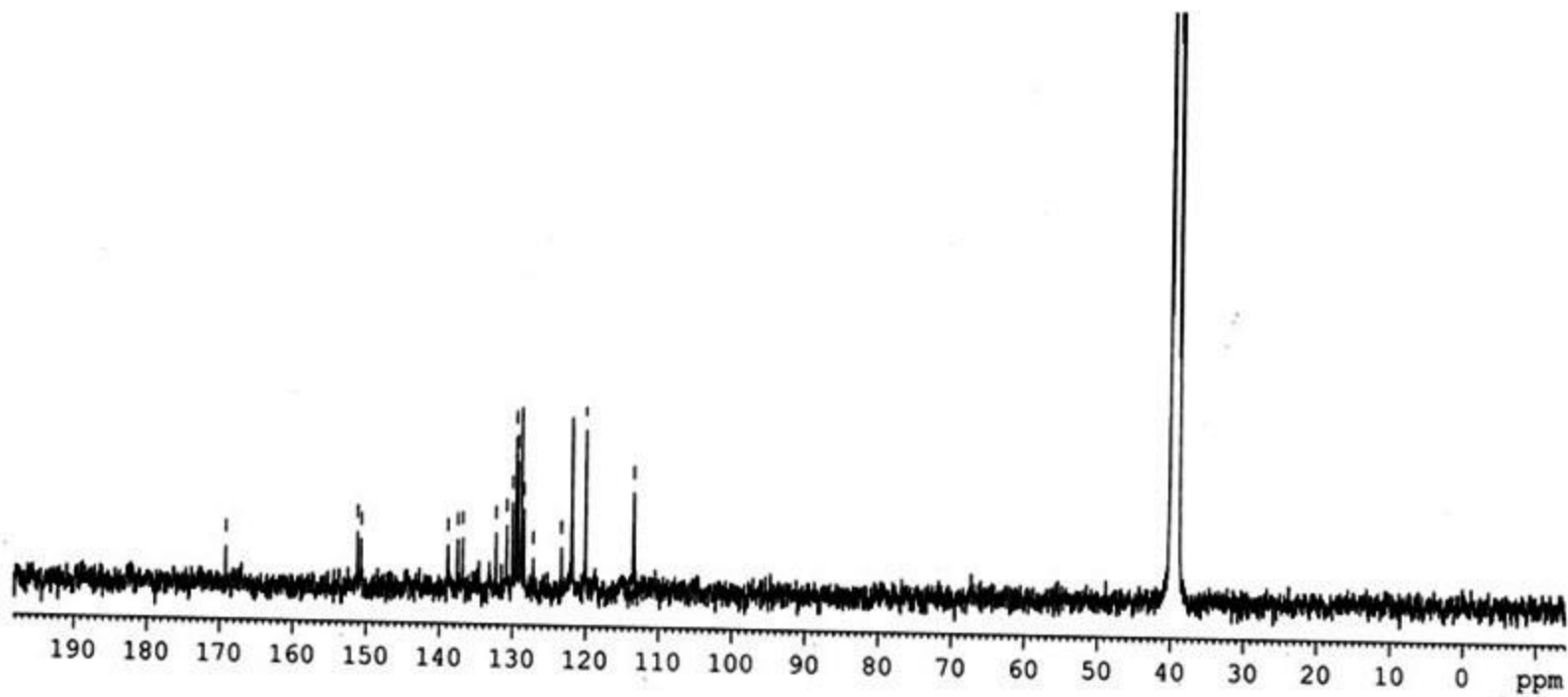


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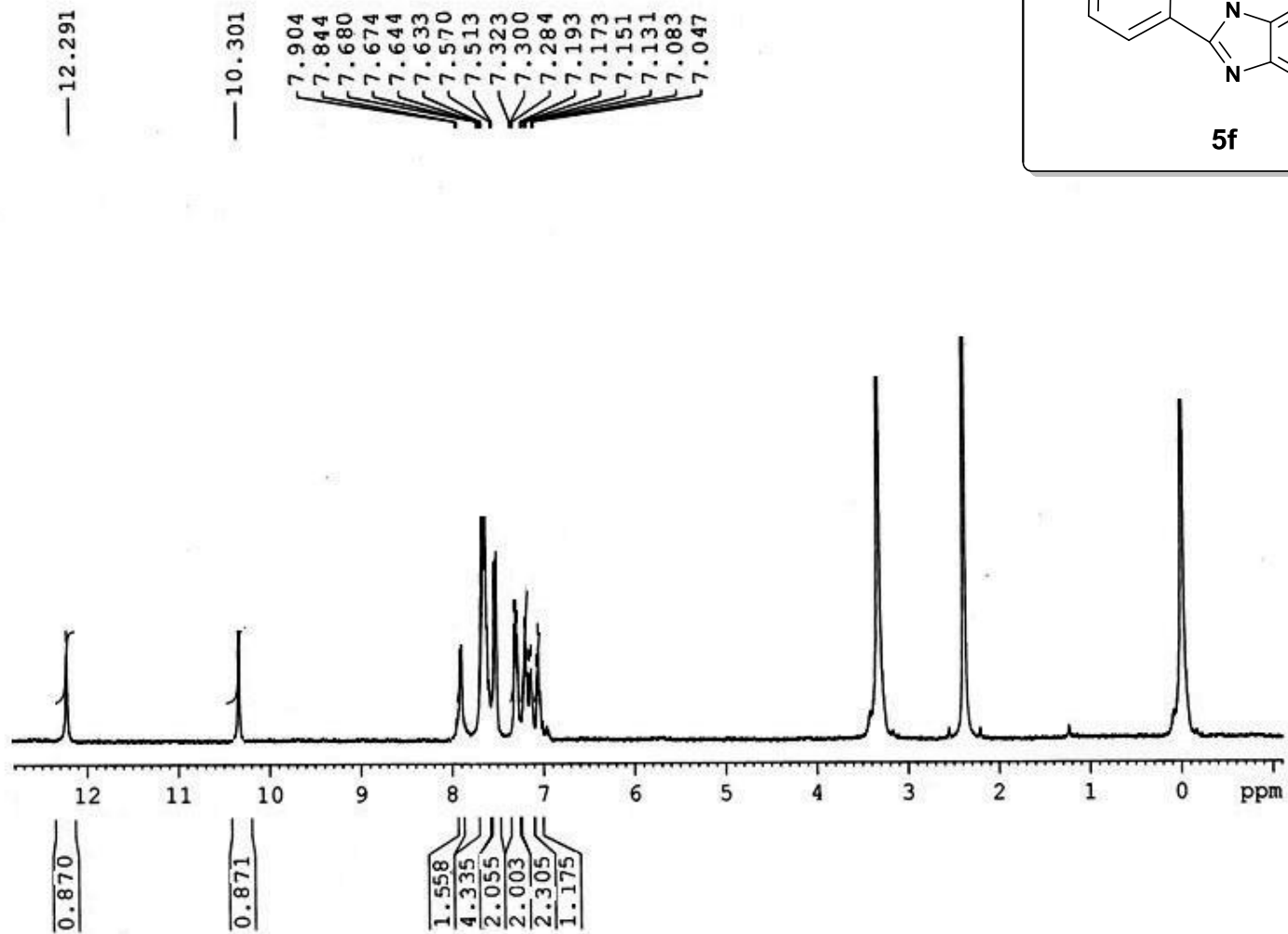


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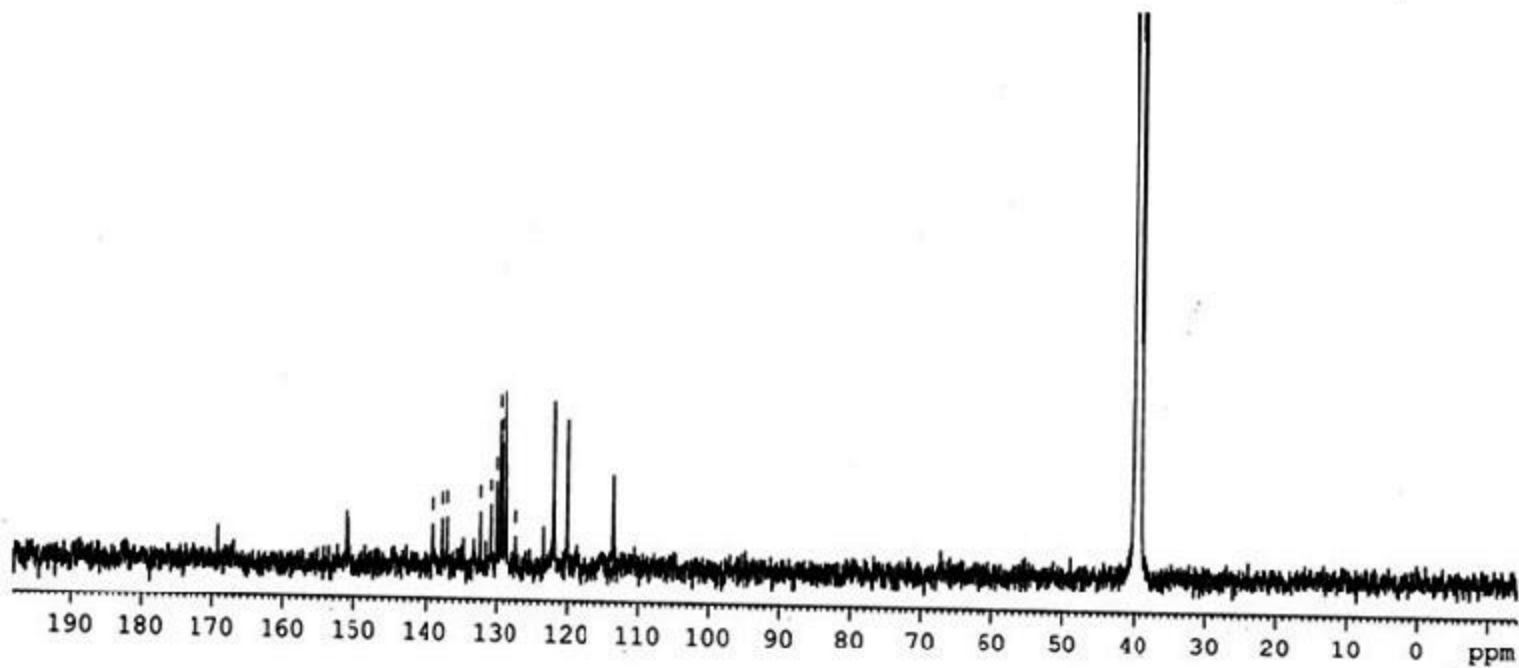
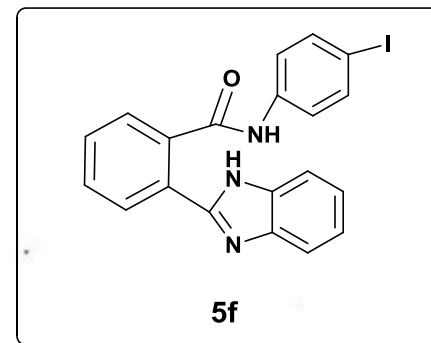
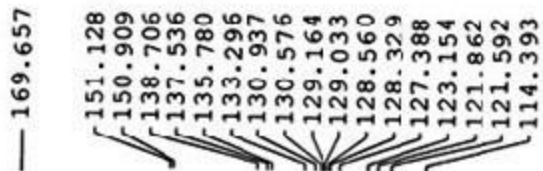
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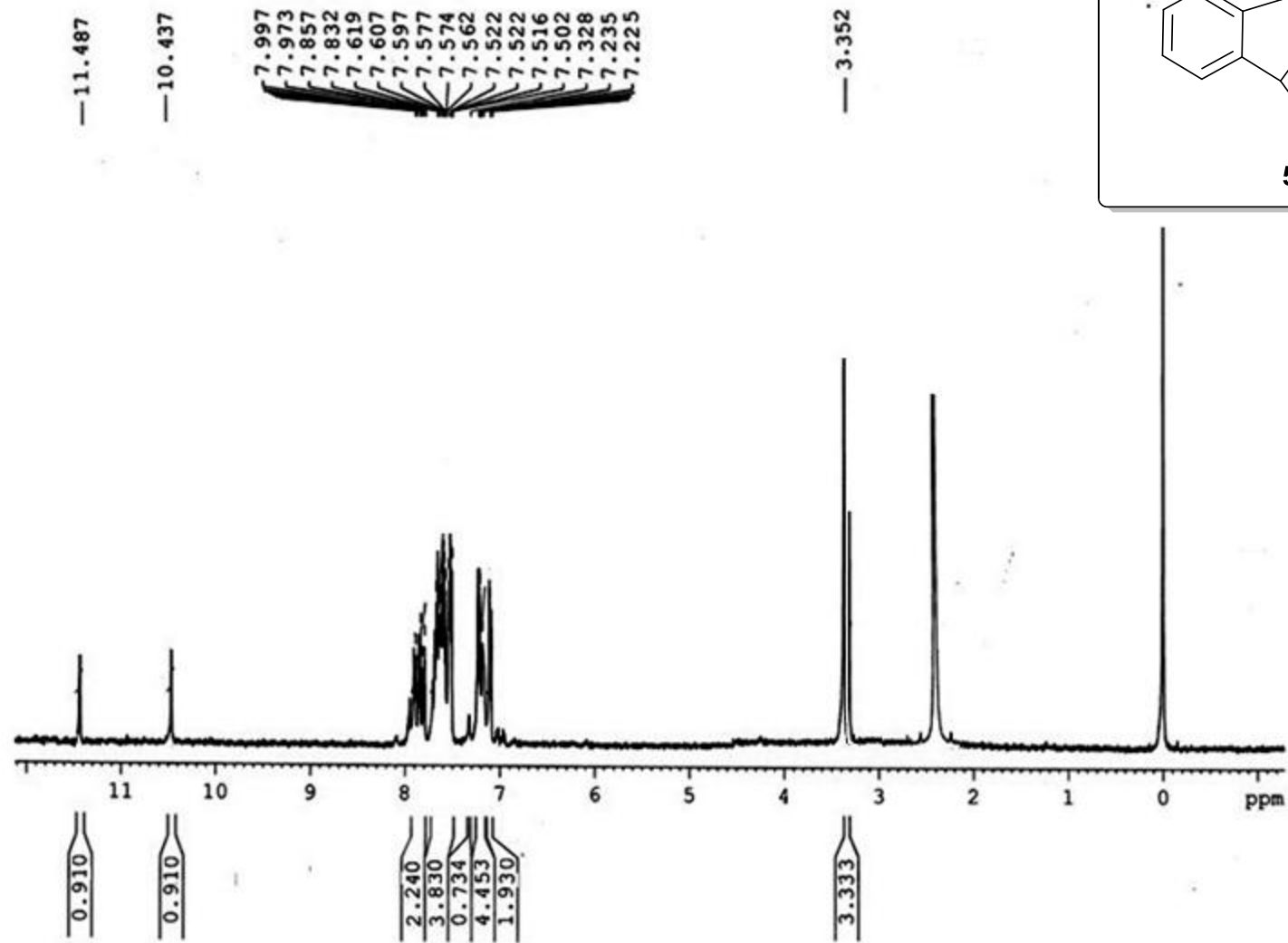
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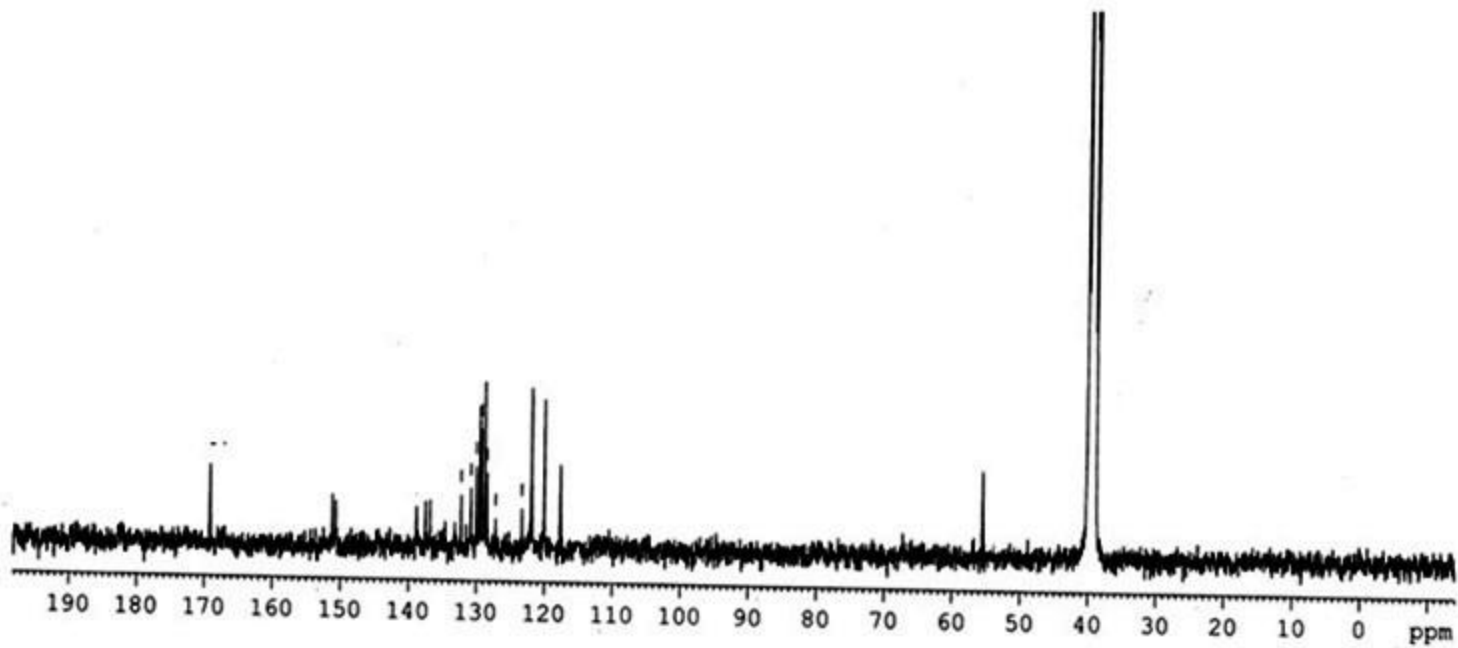
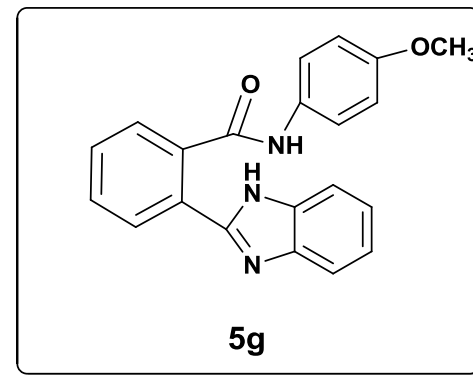
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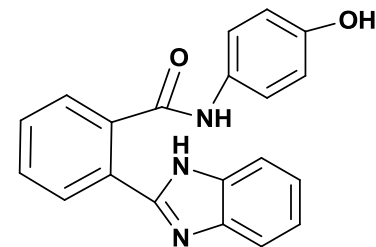
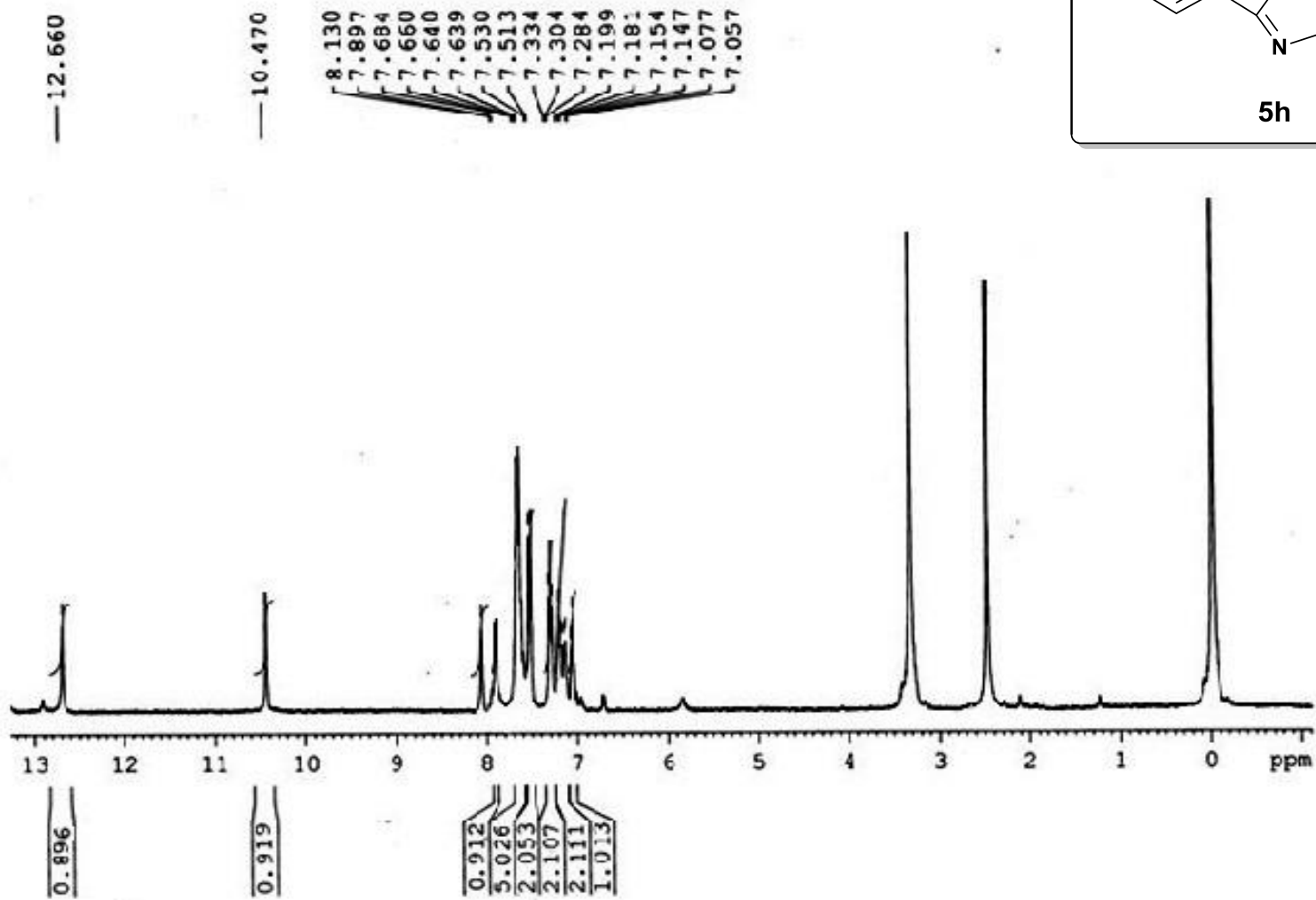
¹H NMR IN DMSO-D₆
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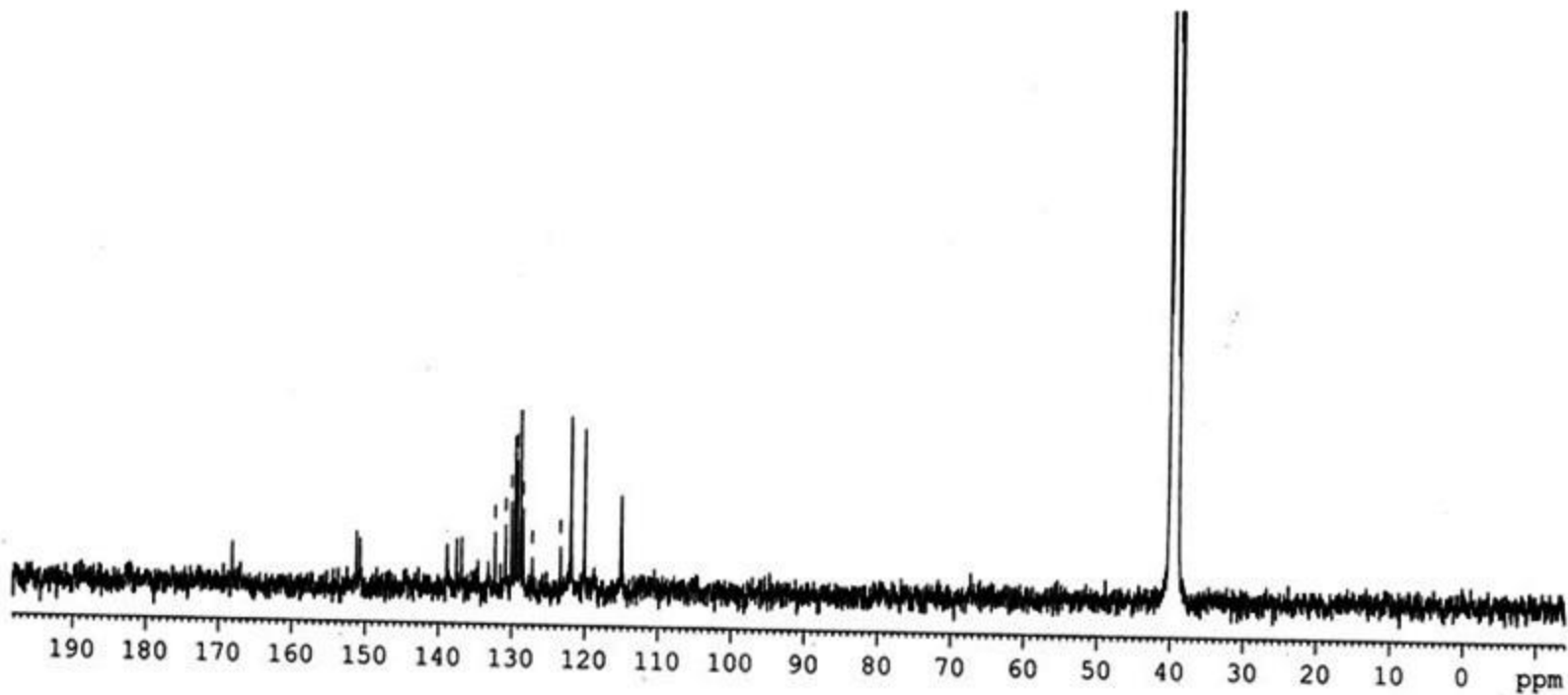
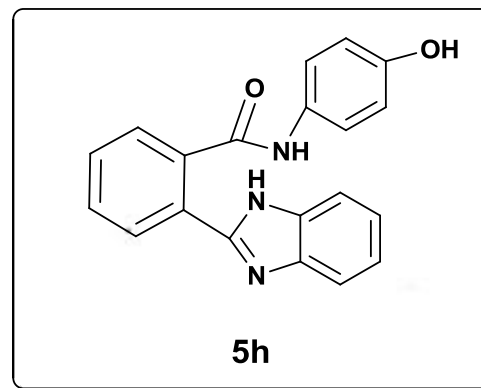
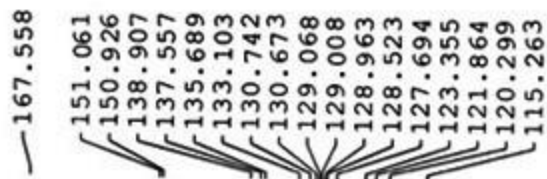


NMR IN DMSO-D6
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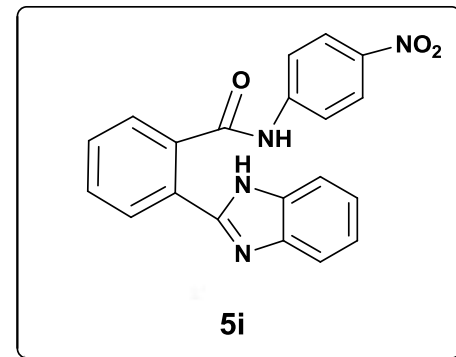
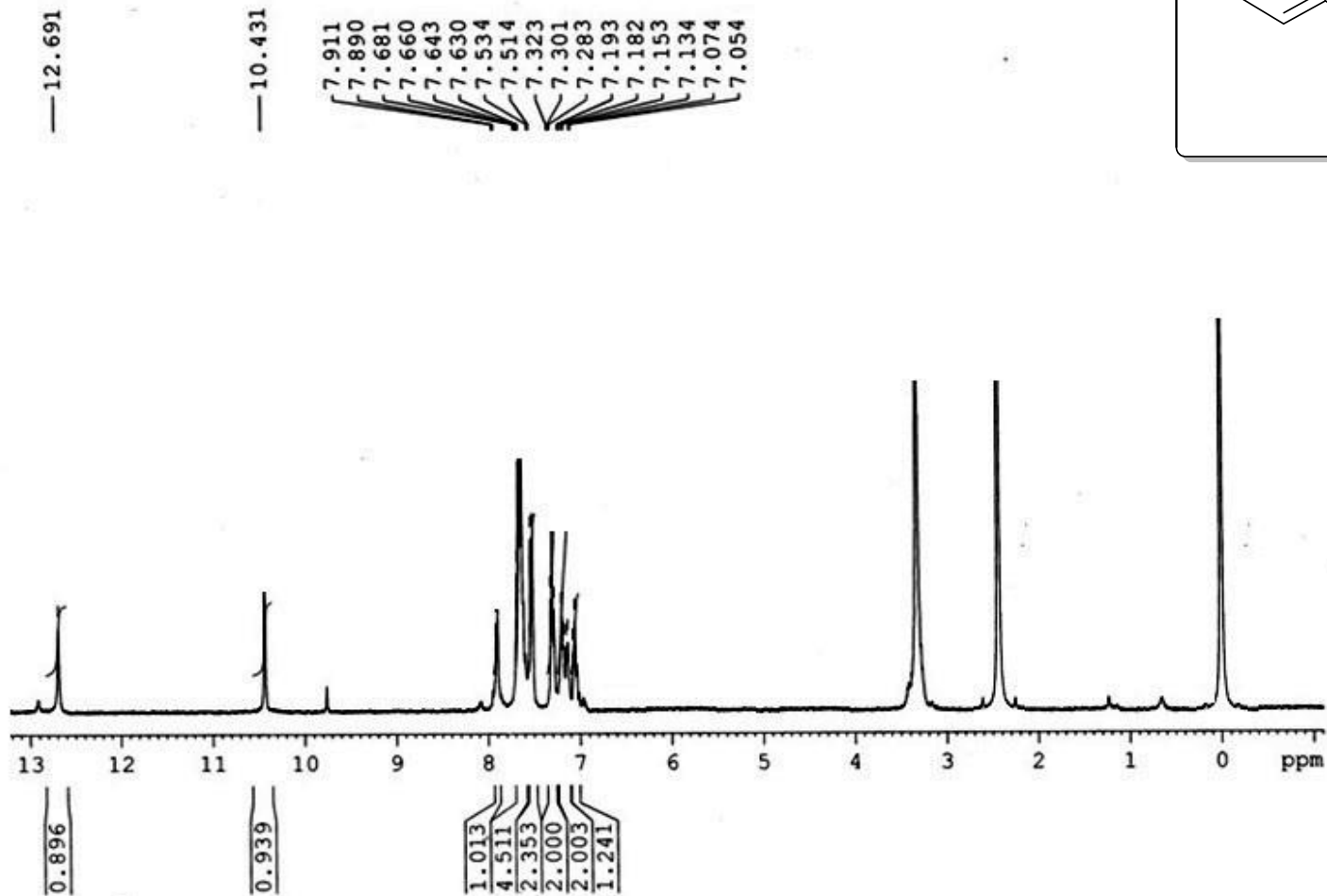


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¹³C NMR IN DMSO-D₆
AV 400MHz

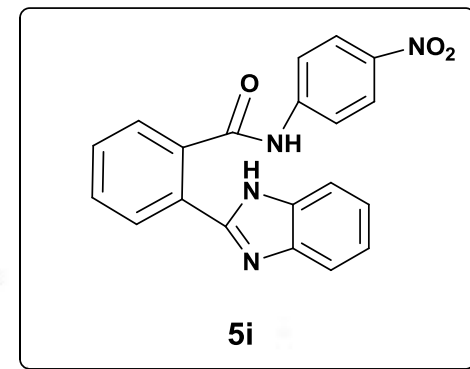
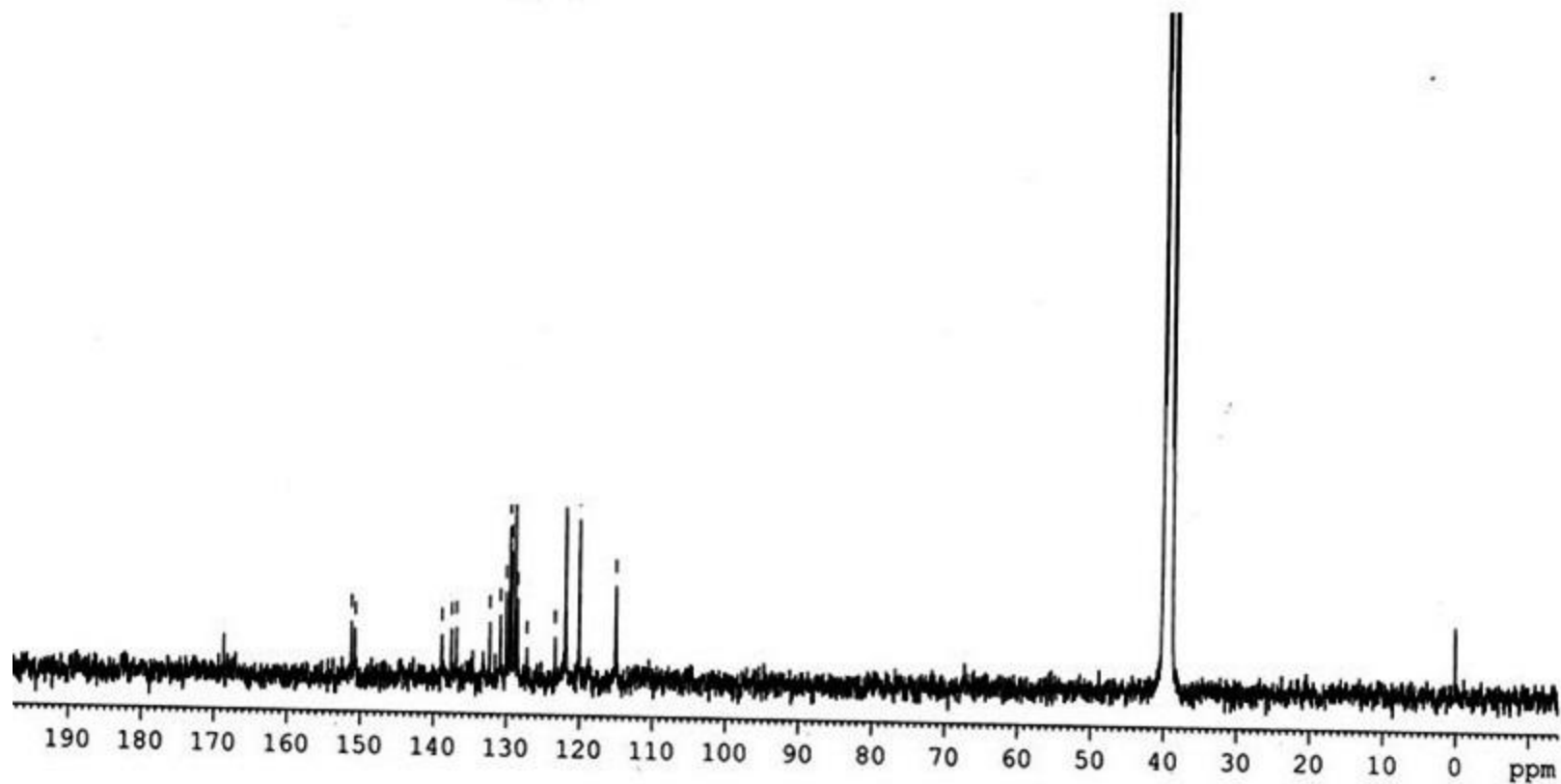


¹H NMR IN DMSO-D6
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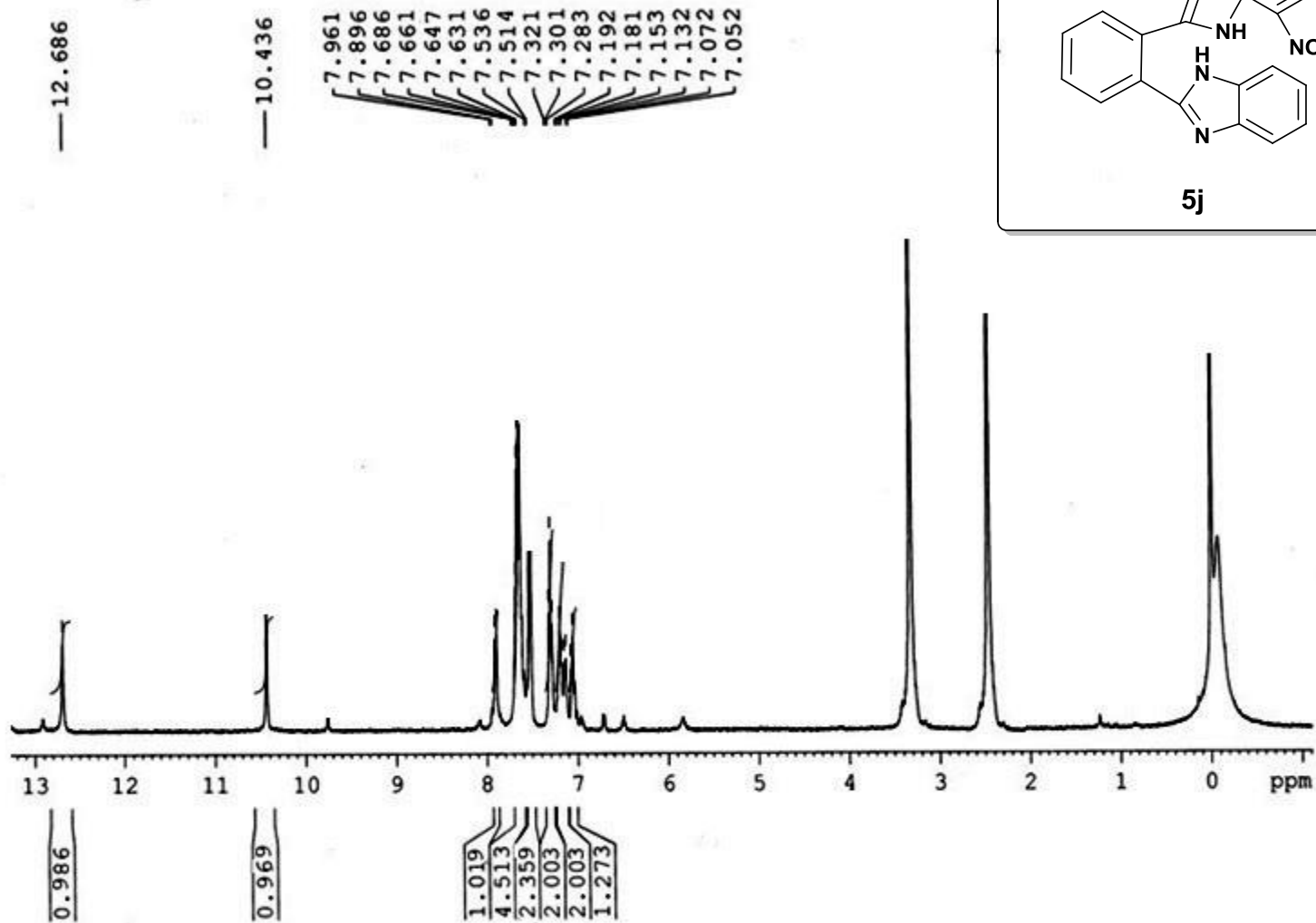


¹³C NMR IN DMSO-D₆
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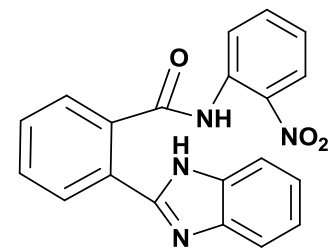
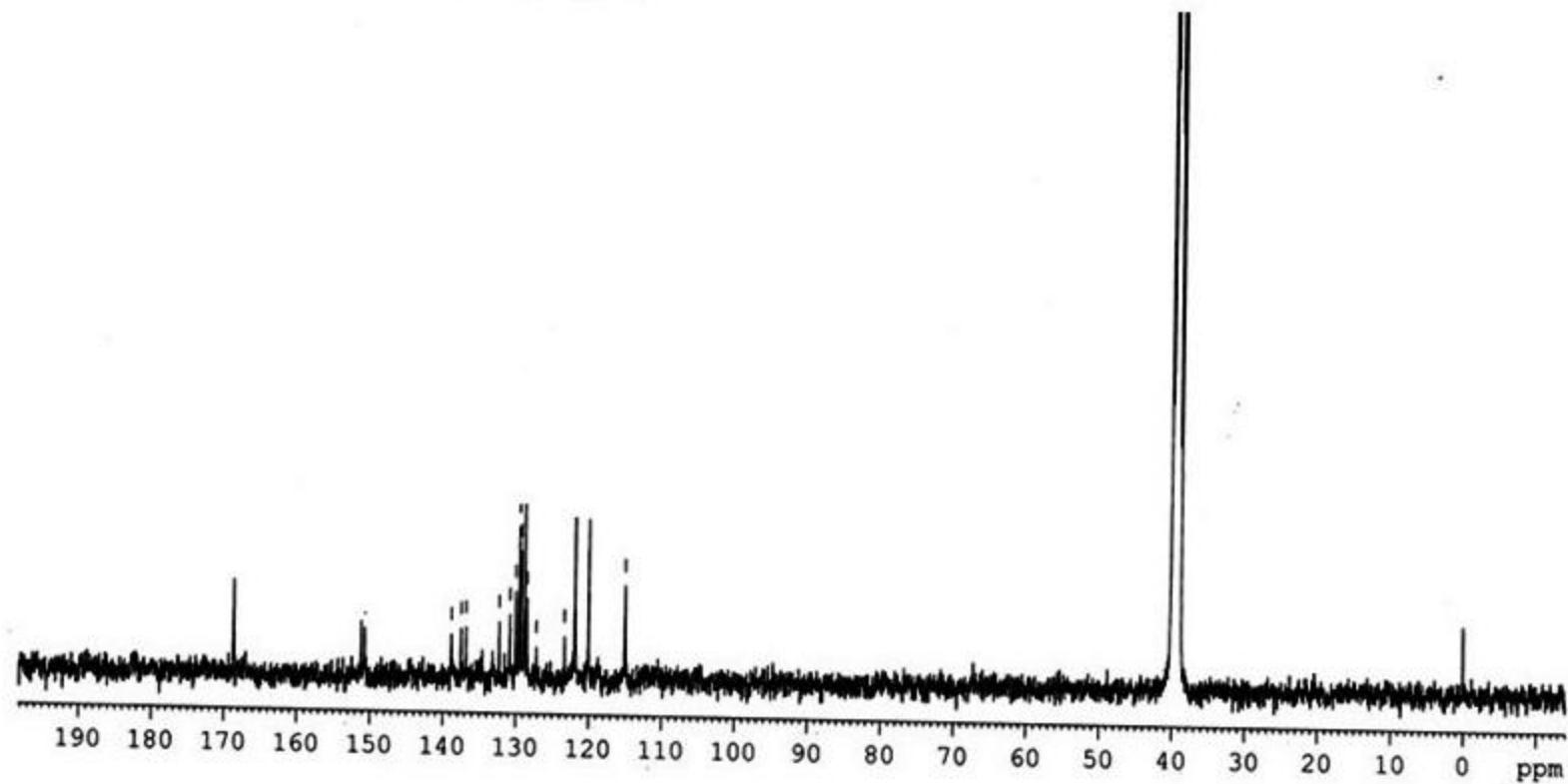
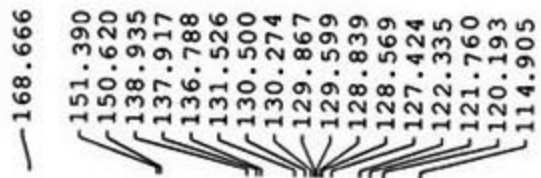
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¹H NMR IN DMSO-D₆
AV 400MHz

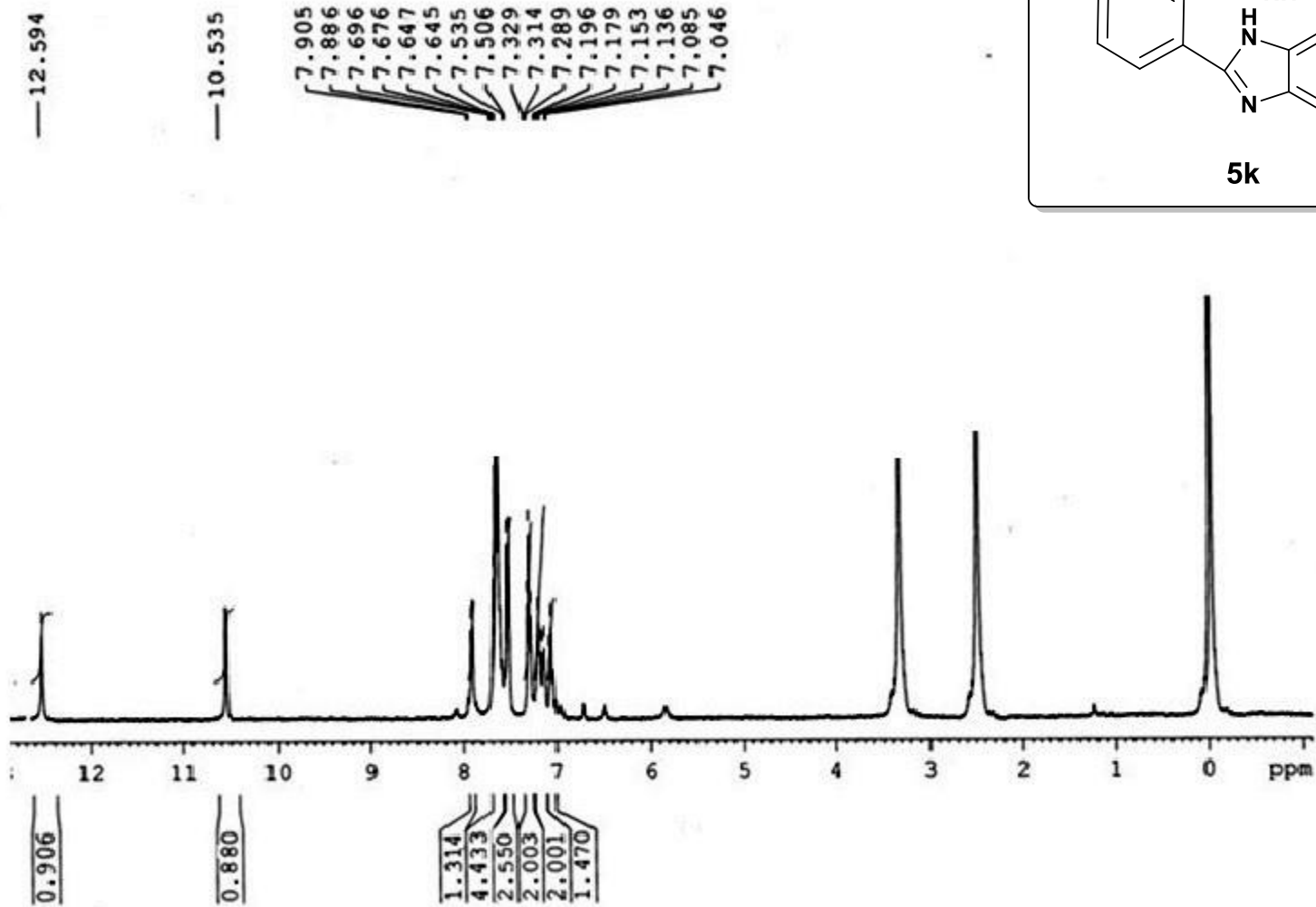


¹³C NMR IN DMSO-D6
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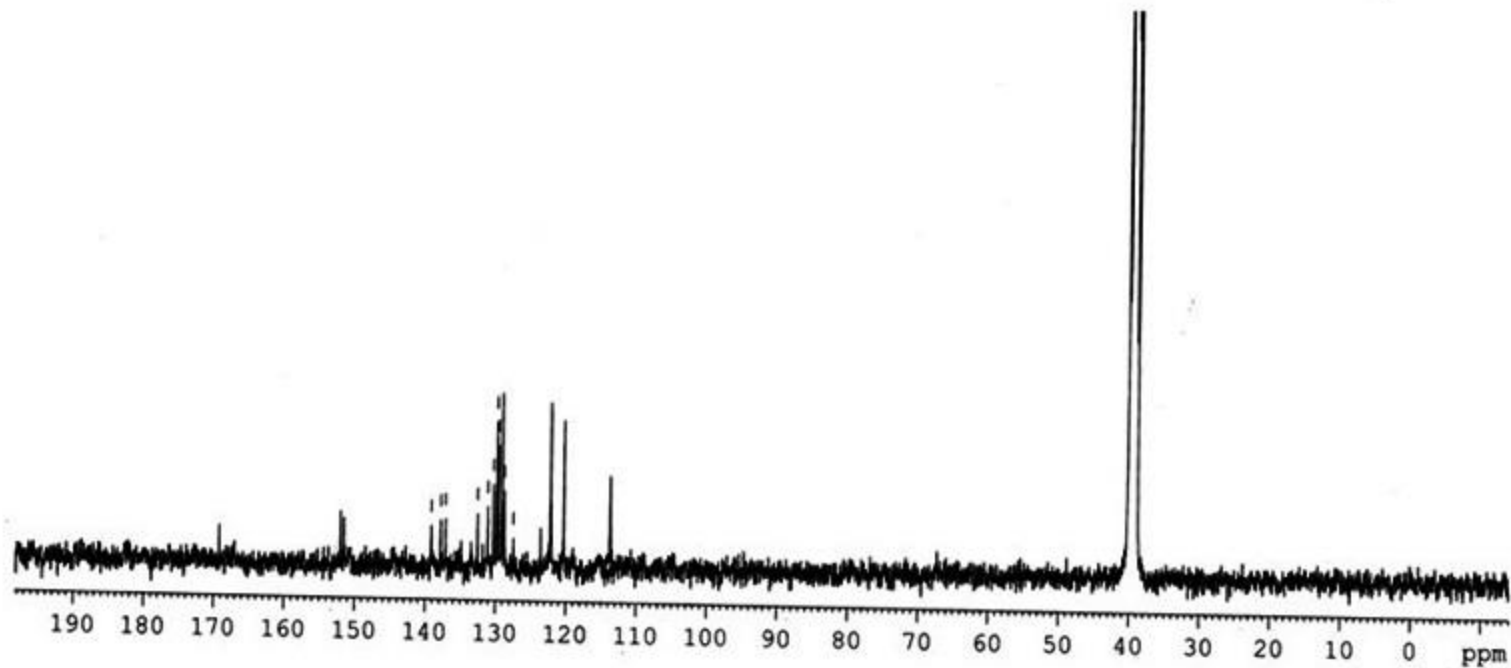
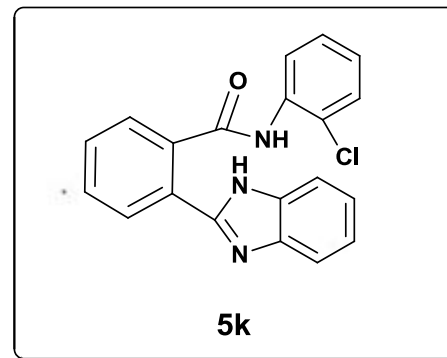
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¹H NMR IN DMSO-D₆
AV 400MHz

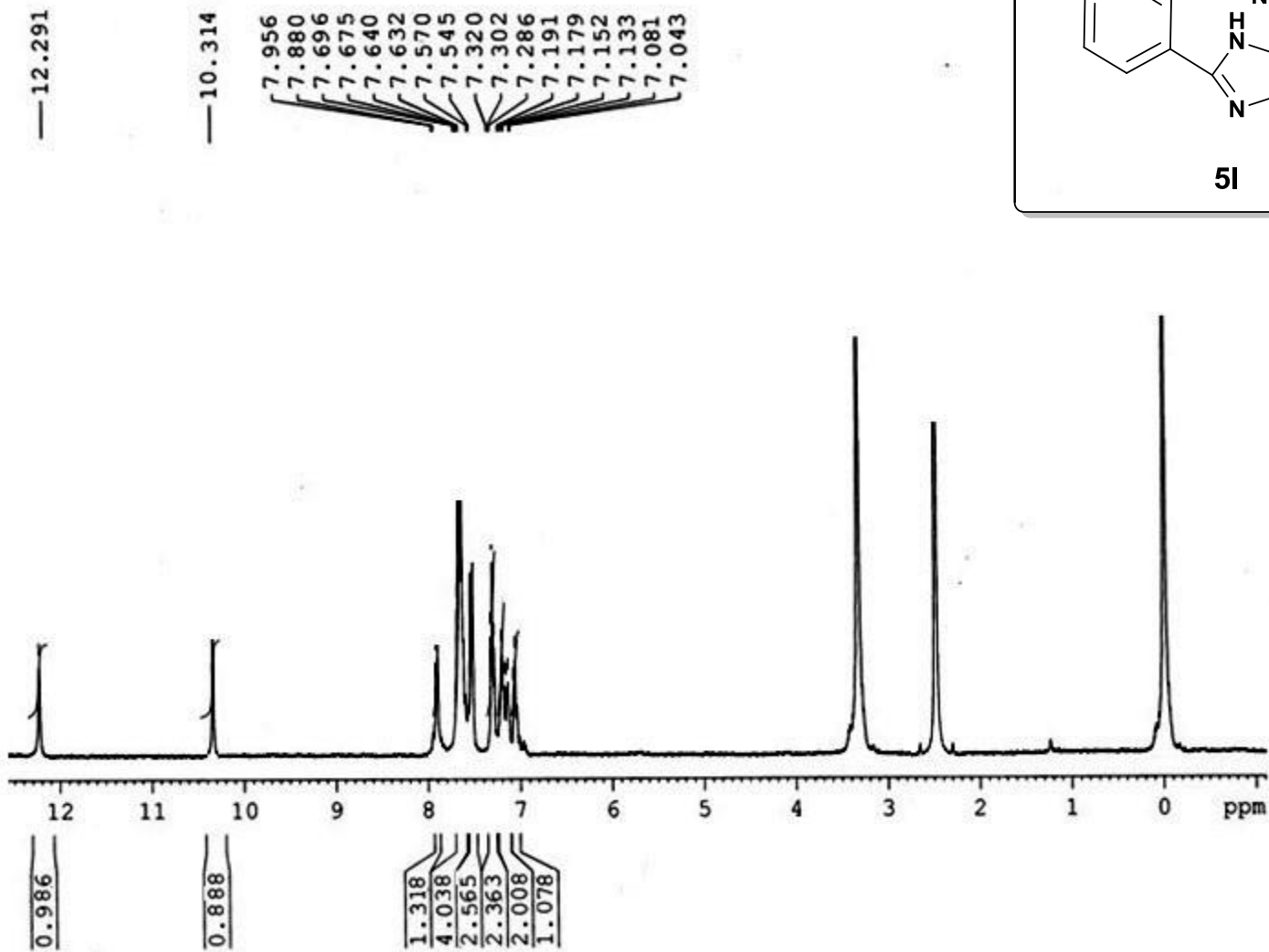


**¹³C NMR IN DMSO-D6
AV 400MHz**

— 169.810
152.125
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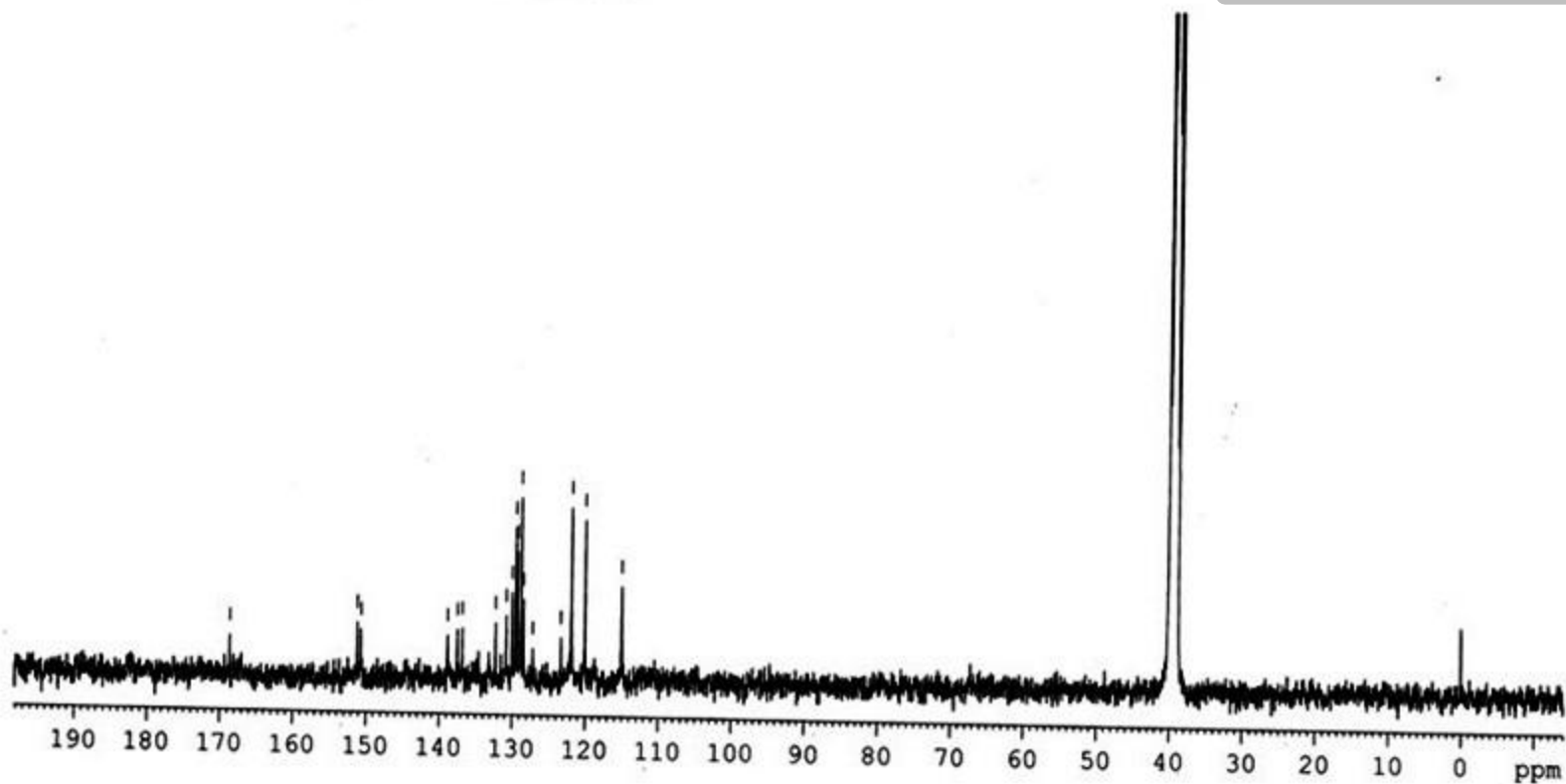
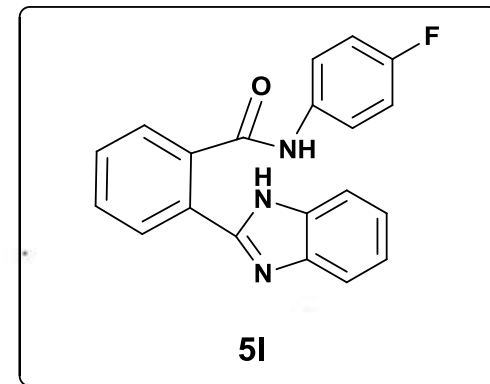


¹H NMR IN DMSO-D₆
AV 400MHz



**¹³C NMR IN DMSO-D₆
AV 400MHz**

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136.889
132.353
130.948
130.007
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128.529
127.315
123.354
121.962
120.094
115.360



2. Tables (3, 4, 5 & 6)

Table 3 Reaction time and yields of **3a-3l** obtained from **1** & **2a-2l**.

Entry	Starting Material	Product	Time (min)	Yield [≠]	M.P (°C) [lit. M.P.°C]
1	2a	3a	10	91	170-172 [lit., ²² 170-172]
2	2b	3b	15	91	181-182 [lit., ²² 182-184]
3	2c	3c	10	87	155-157 [lit., ²² 156-158]
4	2d	3d	10	88	177-179 [lit., ²² 178-180]
5	2e	3e	15	90	188-190 [lit., ²² 190-192]
6	2f	3f	10	91	180-182 [lit., ²³ 179]
7	2g	3g	10	86	159-161 [lit., ²² 160-162]
8	2h	3h	15	91	>250 [lit., ²³ 289-290]
9	2i	3i	15	90	190-192 [lit., ²³ 192-193]
10	2j	3j	15	87	238-240 [lit., ²¹ 238-240]
11	2k	3k	15	83	142-144 [lit., ²³ 142]
12	2l	3l	15	86	153-155 [lit., ²¹ 155]

[≠] Refers to yields of crude products only.

Table 4 Reaction time and yields of **5a-5l** obtained from **3a-3l** & **4** via step wise fashion in water.

Entry	Starting Materials		Product	Time (min)	Yield [≠]
1	3a	4	5a	90	88
2	3b	4	5b	100	85
3	3c	4	5c	100	84
4	3d	4	5d	120	78
5	3e	4	5e	100	82
6	3f	4	5f	90	84
7	3g	4	5g	100	76
8	3h	4	5h	100	82
9	3i	4	5i	120	82
10	3j	4	5j	120	79
11	3k	4	5k	120	82
12	3l	4	5l	120	78

[≠] Refers to yields of crude products only.

Table 5 Reaction time and yields of **5a-5l** obtained from **7** & **2a-2l** via step wise fashion in water.

Entry	Starting Materials		Product	Time (min)	Yield [≠]
1	7	2a	5a	90	84
2	7	2b	5b	90	78
3	7	2c	5c	90	79
4	7	2d	5d	90	78
5	7	2e	5e	90	83
6	7	2f	5f	90	77
7	7	2g	5g	90	78
8	7	2h	5h	90	83
9	7	2i	5i	120	84
10	7	2j	5j	120	78
11	7	2k	5k	120	85
12	7	2l	5l	120	84

[≠] Refers to yields of crude products only

Entry	Prproduct	Time (min) ^a	Yield ^{b,≠}	Time ^b (min)	Yield ^{b,≠}	Time ^c (min)	Yield ^{c,≠}
1	5a	60	88	90	87	120	88
2	5b	60	88	90	87	120	87
3	5c	60	88	120	86	150	86
4	5d	60	89	120	88	150	82
5	5e	70	88	90	89	150	82
6	5f	60	92	90	88	120	86
7	5g	65	89	90	89	120	87
8	5h	70	87	90	87	120	85
9	5i	85	87	120	84	150	83
10	5j	90	88	120	85	150	82
11	5k	80	89	120	85	150	84
12	5l	90	89	120	85	150	82

a) One-pot synthesis from 1, 2 & 4 b) Tandem reaction from (**1+2 →3 →4→5**) c) Tandem reaction from (**1+4 →7 →2→ 5**)

≠ Refers to yields of crude products only.