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Supporting Information

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Yusheng Zhao, Kartar Singh, Rahul Chowdary Karuturi, Ahmed A. Hefny, Arash Shakeri, Mike A. Beazely, and Praveen P. N. Rao*

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[a] School of Pharmacy, Health Sciences Campus, University of Waterloo, 200 University Avenue West, Waterloo, Ontario, Canada N2L 3G1

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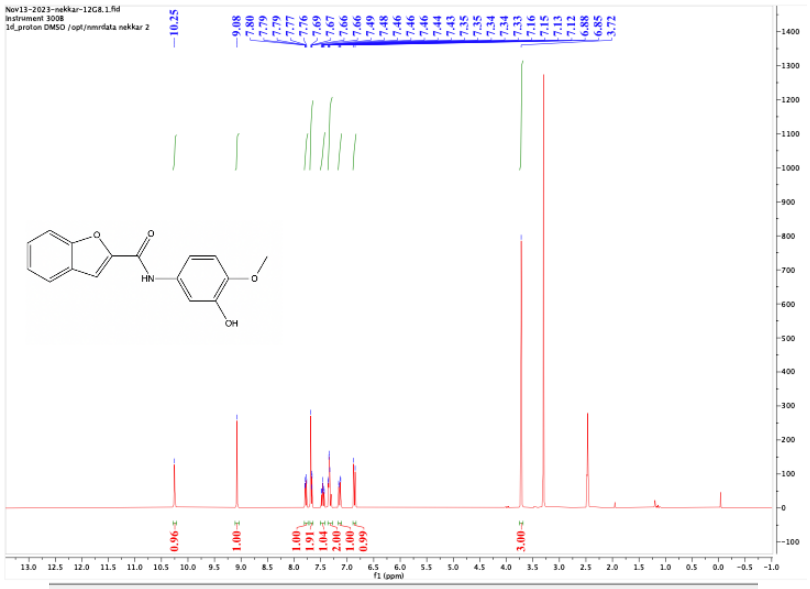
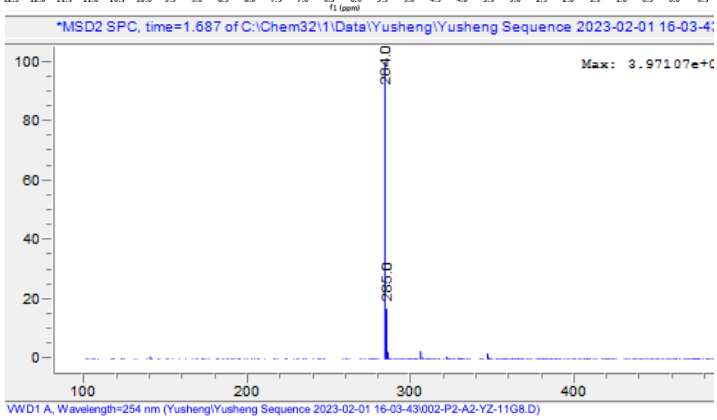
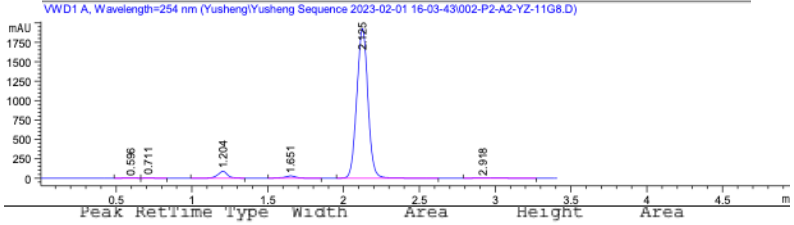
1. Analytical data for *N*-(3-hydroxy-4-methoxyphenyl)benzofuran-2-carboxamide (4a)







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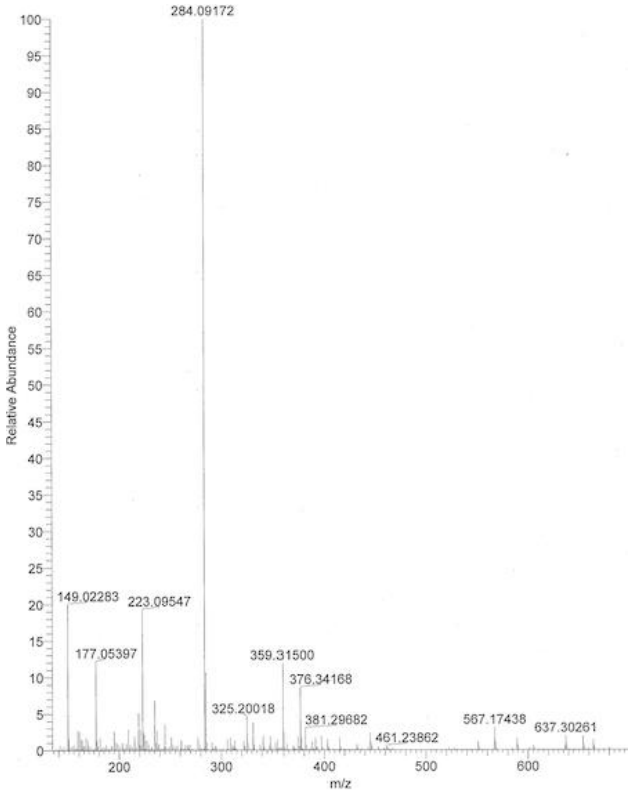
3	1.204	BB	0.0647	381.74744	87.88802	3.6720
4	1.651	BB	0.0729	137.77516	28.25671	1.3253
5	2.125	BB	0.0794	9802.79883	1925.58923	94.2935
6	2.918	BB	0.1184	44.65556	5.40580	0.4295

Totals : 1.03961e4 2054.47139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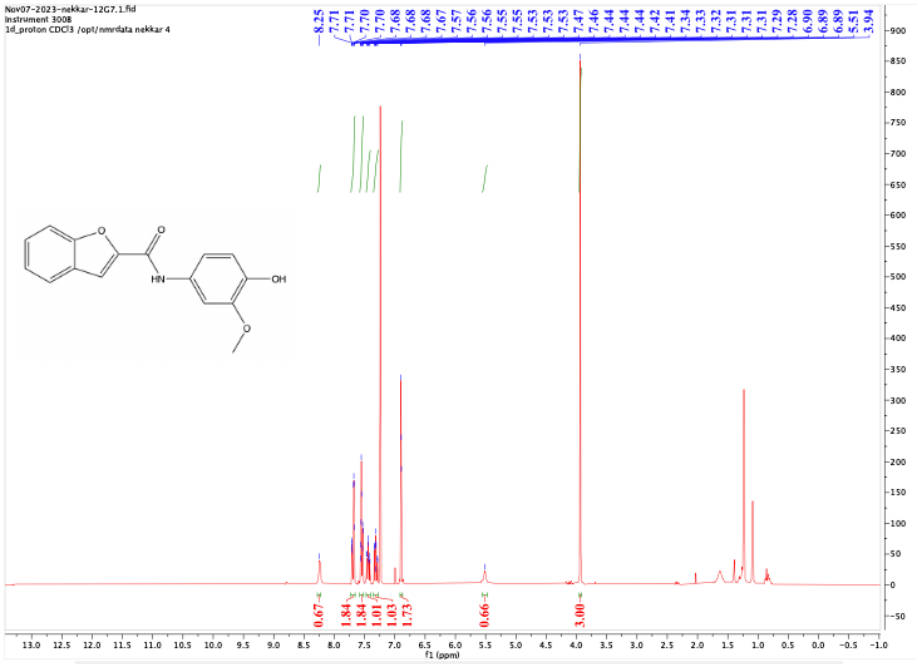
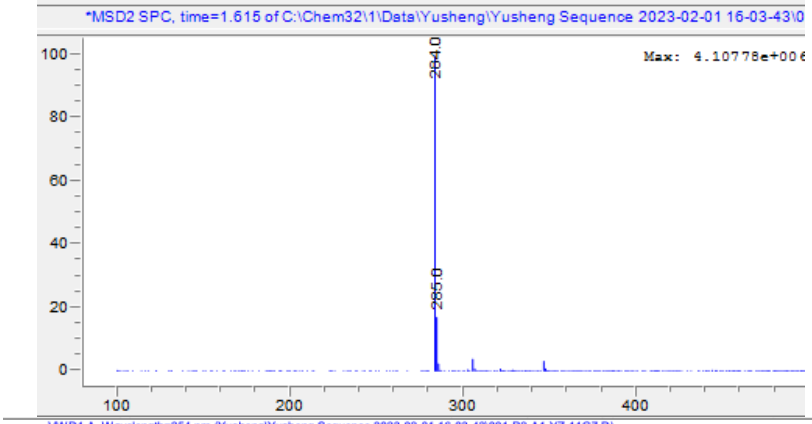
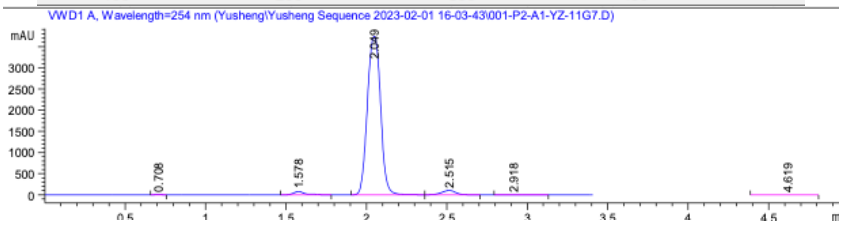
567.17438
637.30261

2. Analytical data for *N*-(4-hydroxy-3-methoxyphenyl)benzofuran-2-carboxamide (4b)







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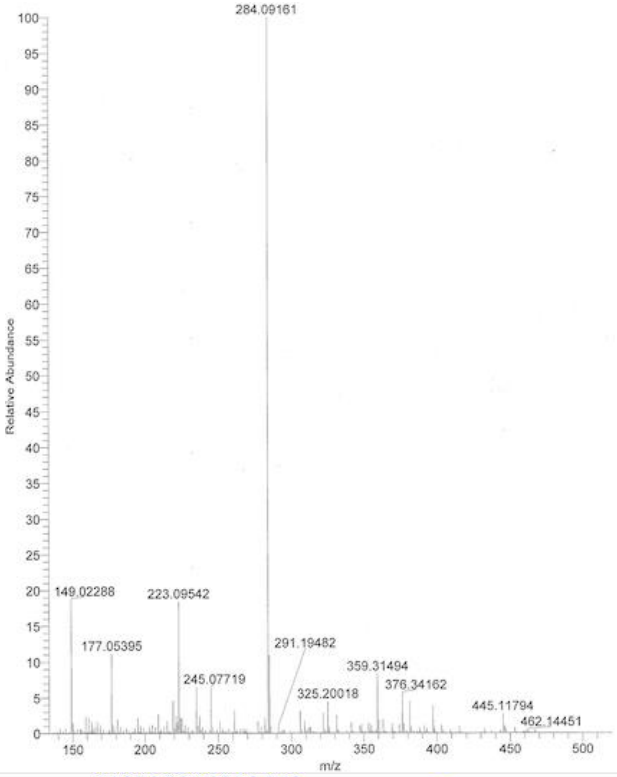
3	2.049	BB	0.0912	2.12289e4	3738.49683	95.3879
4	2.515	BB	0.0900	599.76508	102.93907	2.6949
5	2.918	BB	0.1040	11.98579	1.72714	0.0539
6	4.619	BB	0.1648	19.18929	1.83861	0.0862
Totals :				2.22553e4	3928.07736	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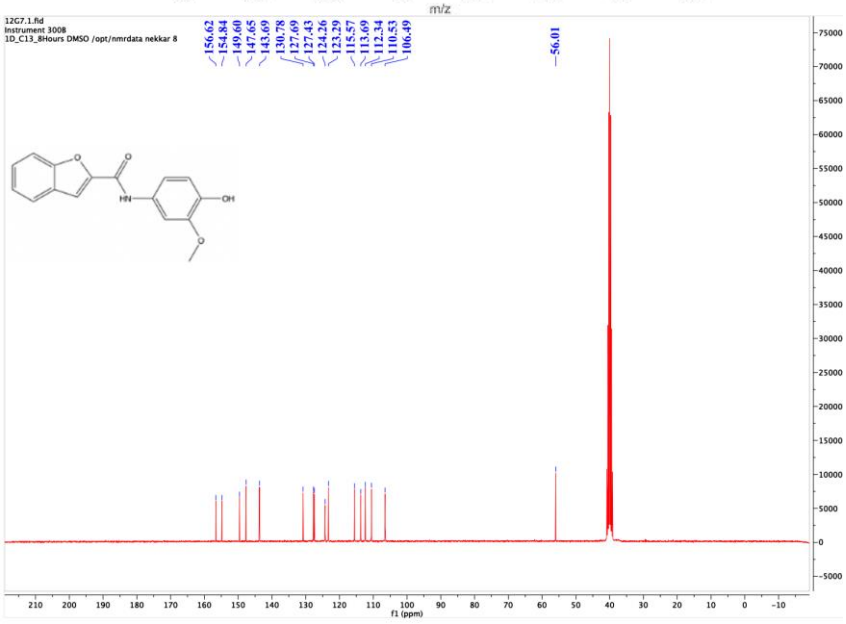
462.14451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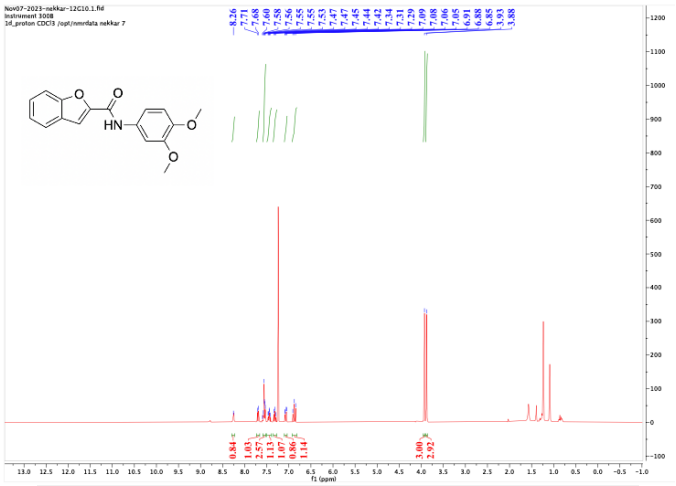
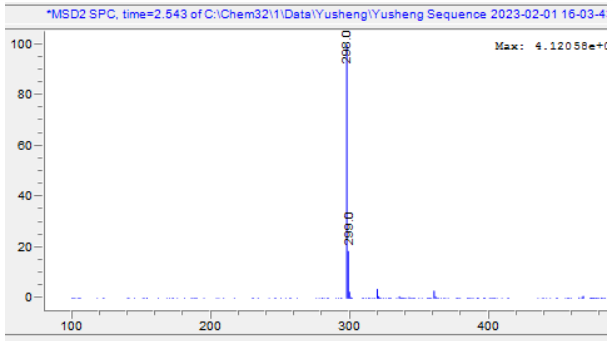
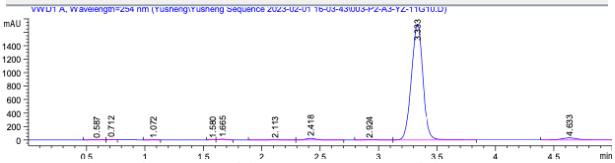
130.78
127.69
127.43
124.26
123.29
115.57
113.69
112.34
110.53
106.49
56.01
HN
OH
O
f1 (ppm)

3. Analytical data for *N*-(3,4-dimethoxyphenyl)benzofuran-2-carboxamide (4c)







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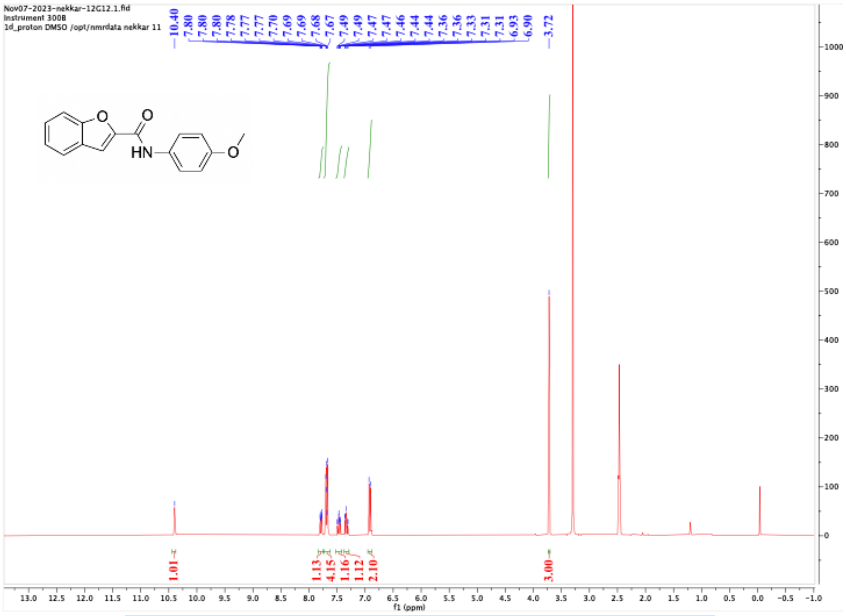
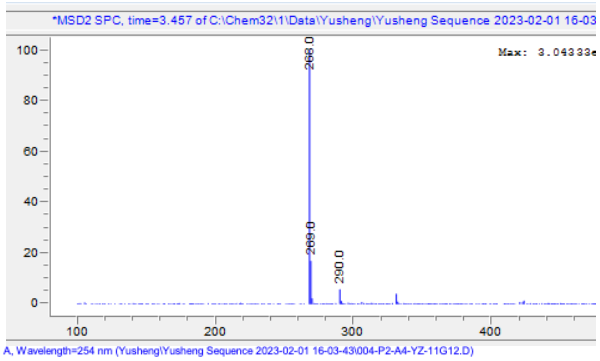
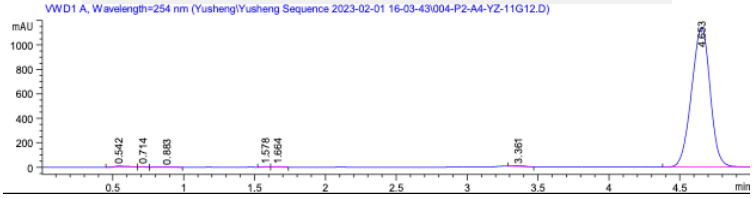
4	1.580	BB	0.0416	4.48856	1.76673	0.0368
5	1.665	BB	0.0612	30.60577	8.08403	0.2508
6	2.113	BB	0.1003	18.67484	2.78120	0.1531
7	2.418	BB	0.0846	132.72072	24.34251	1.0877
8	2.924	BB	0.1104	14.17255	1.87020	0.1162
9	3.333	BB	0.1054	1.17001e4	1719.84351	95.8882
10	4.633	BBA	0.1357	256.16074	29.09146	2.0994

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
Totals :				1.22018e4	1798.19176	

4. Analytical data for *N*-(4-methoxyphenyl)benzofuran-2-carboxamide (4d)







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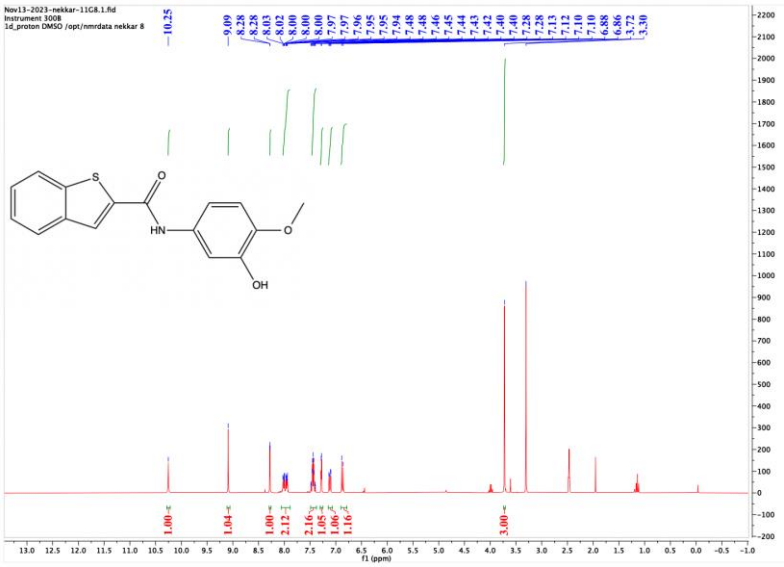
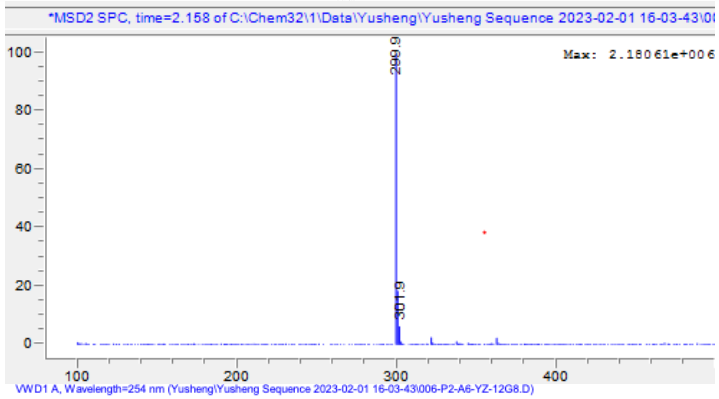
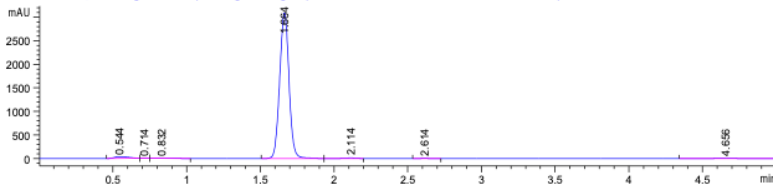
5	1.664	BB	0.0581	12.74531	3.52930	0.1212
6	3.361	BB	0.0868	30.76379	5.71166	0.2925
7	4.653	BBA	0.1420	1.03850e4	1142.70837	98.7289
Totals :				1.05187e4	1169.47398	

5. Analytical data for *N*-(3-hydroxy-4-methoxyphenyl)benzo[b]thiophene-2-carboxamide (5a)







Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
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3	0.832	BB	0.1312	54.95166	6.46300	0.3916
4	1.664	BB	0.0684	1.36022e4	3089.33960	96.9346
5	2.114	BB	0.0751	45.44403	9.45236	0.3239
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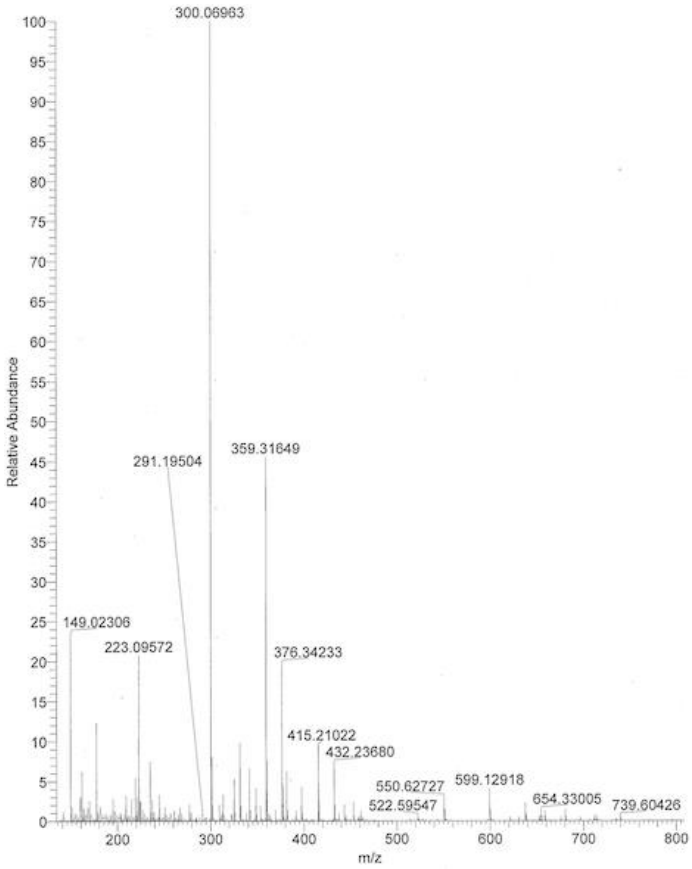
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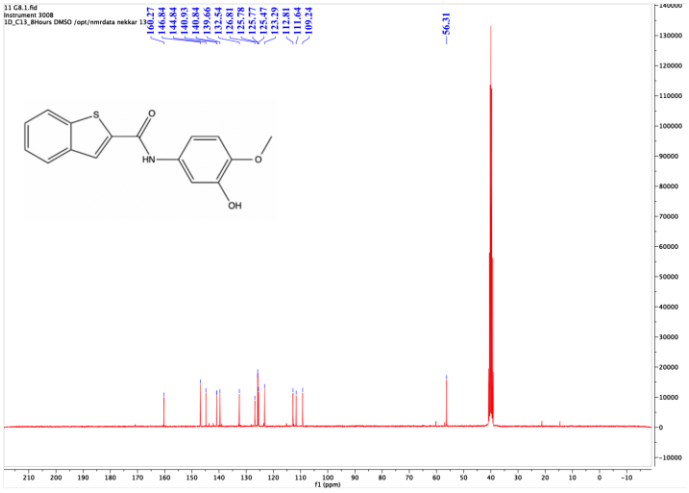
739.60426
Relative Abundance
m/z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140.84
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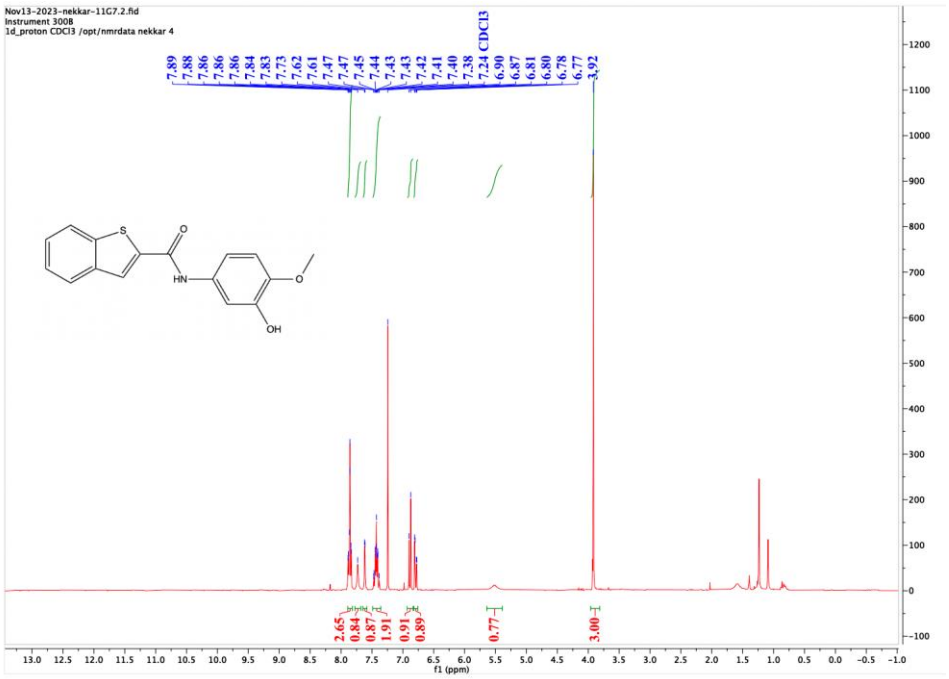
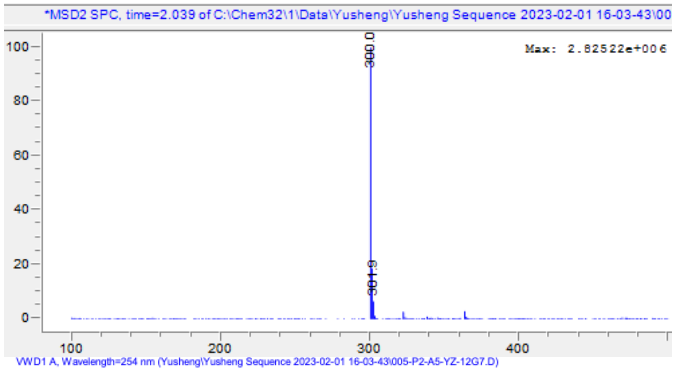
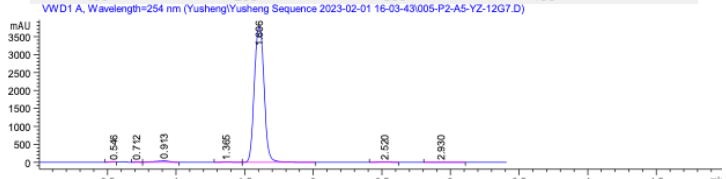
126.81
125.78
125.77
125.47
123.29
112.81
111.64
109.24
56.31
S
O
HN
O
OH
f1 (ppm)

6. Analytical data for *N*-(4-hydroxy-3-methoxyphenyl)benzo[b]thiophene-2-carboxamide (5b)







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4	1.365	BB	0.0621	47.01423	11.65625	0.2488
5	1.606	BB	0.0792	1.85021e4	3776.62402	97.9228
6	2.520	BB	0.0807	48.40391	9.45237	0.2562
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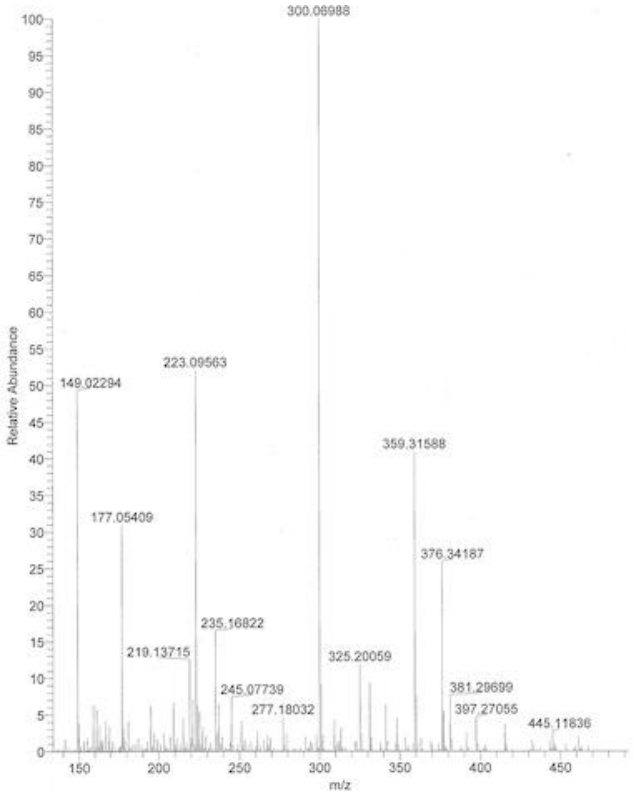
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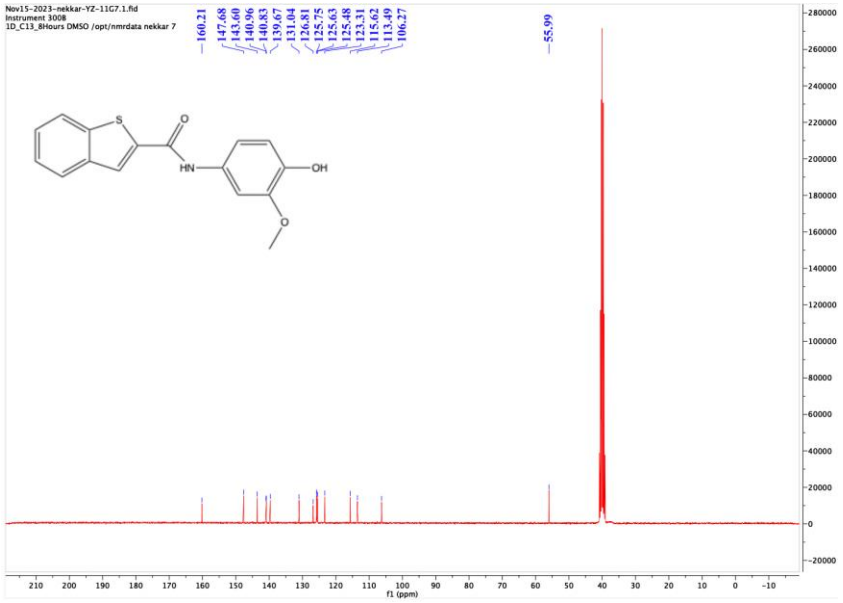
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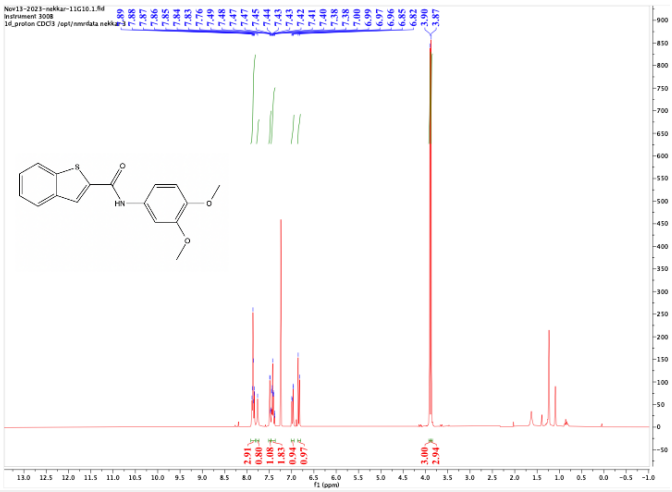
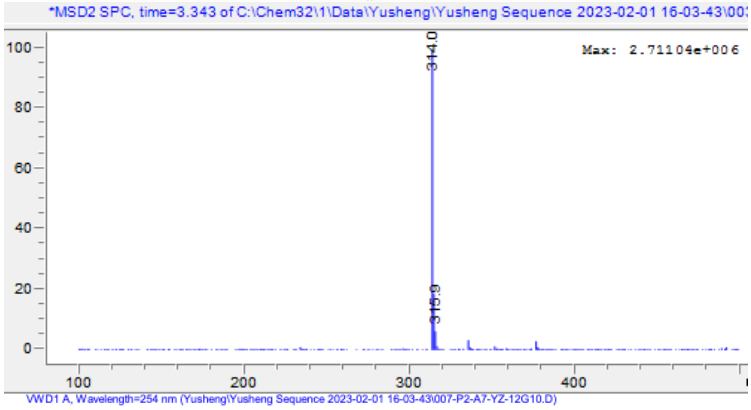
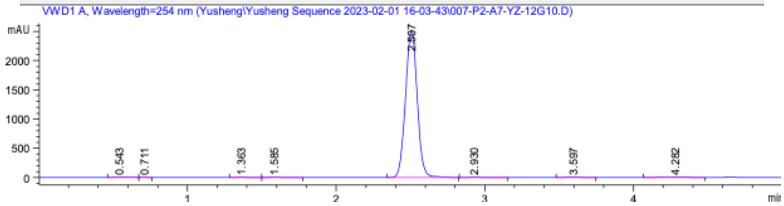
125.75
125.63
125.48
123.31
115.62
113.49
106.27
55.99
S
O
HN
OH
O
f1 (ppm)

7. Analytical data for *N*-(3,4-dimethoxyphenyl)benzo[*b*]thiophene-2-carboxamide (5c)







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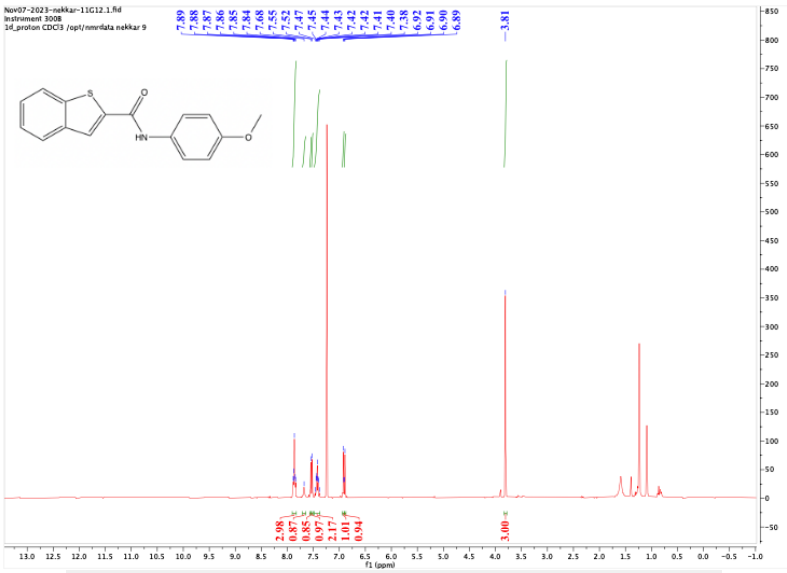
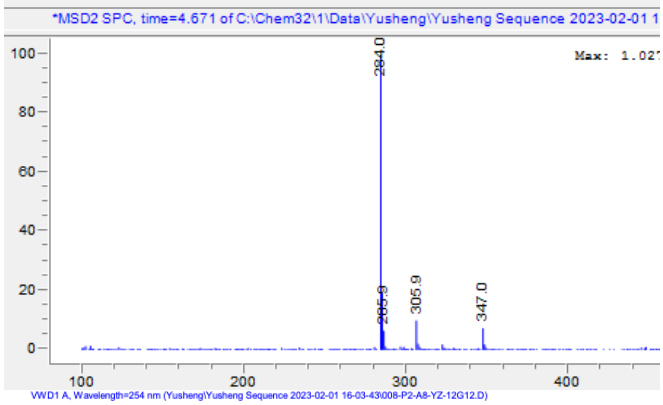
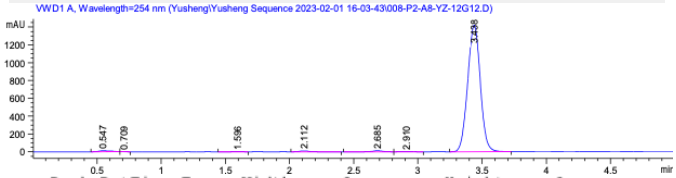
3	1.363	BB	0.0604	17.66060	4.44508	0.1269
4	1.585	BB	0.0661	23.18388	5.29710	0.1666
5	2.507	BB	0.0847	1.37490e4	2516.75195	98.8108
6	2.930	BB	0.1007	13.40386	2.01255	0.0963
7	3.597	BB	0.0999	14.15774	2.26428	0.1017
8	4.282	BB	0.1401	40.02562	4.32154	0.2877
Totals :				1.39145e4	2545.46186	

8. Analytical data for *N*-(4-methoxyphenyl)benzo[*b*]thiophene-2-carboxamide (5d)







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4	2.112	BB	0.0763	50.42281	10.26890	0.5068
5	2.685	BB	0.0827	62.03573	11.54520	0.6235
6	2.910	BB	0.0863	13.47597	2.48512	0.1354
7	3.438	BB	0.1069	9734.72559	1421.36951	97.8456

9. ThT-based aggregation kinetics background readings

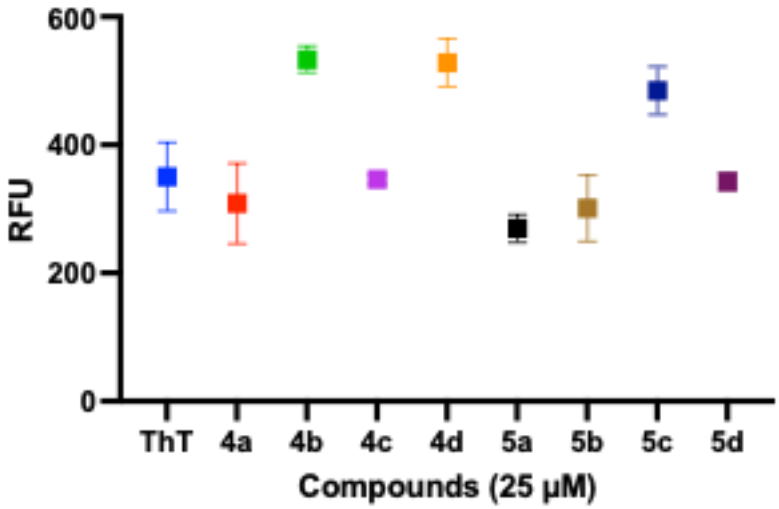

Figure S9. Background readings of compounds **4a**–**d** and **5a**–**d** (25 μM each), with ThT in the absence of Aβ42 at 37 °C in phosphate buffer after 24 h incubation. Aggregation kinetics were monitored by ThT at 440 nm excitation and 490 nm emission. Results are averages of three independent experiments in triplicate measurements.

10. Effect of compounds 4a–d and 5a–d on preformed Aβ42 aggregates

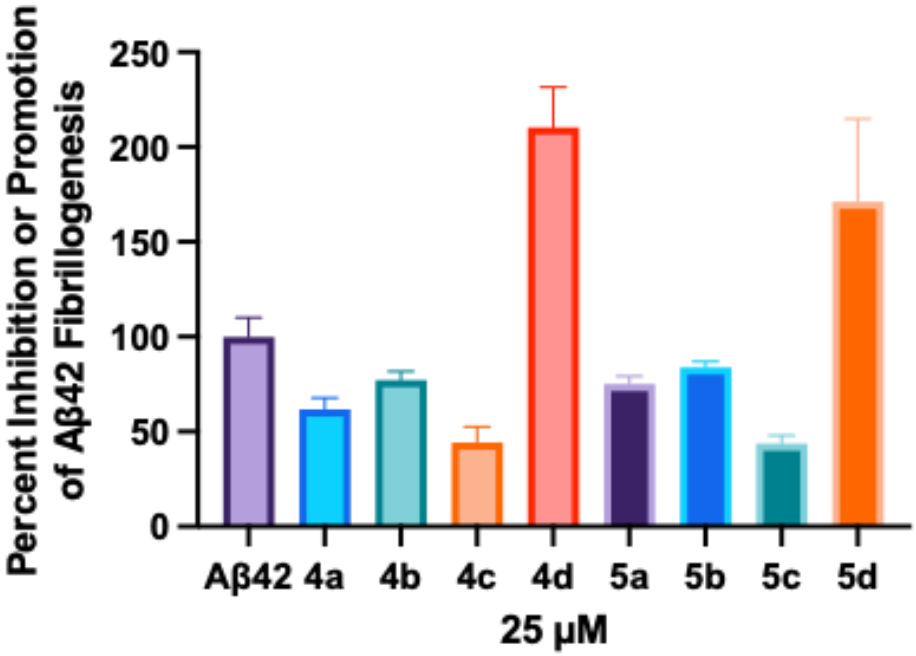

Figure S10. The effect of compounds **4a**–**d** and **5a**–**d** (25 μM each) on preformed Aβ42 (10 μM), was determined using ThT fluorescence at 37 °C in phosphate buffer after 24 h incubation. Aggregation kinetics were monitored by ThT (440 nm excitation and 490 nm emission). Results are averages of two independent experiments (n = 3).

11. Congo red UV assay for compounds 4b, 4d, 5b, 5d and resveratrol (RVT)

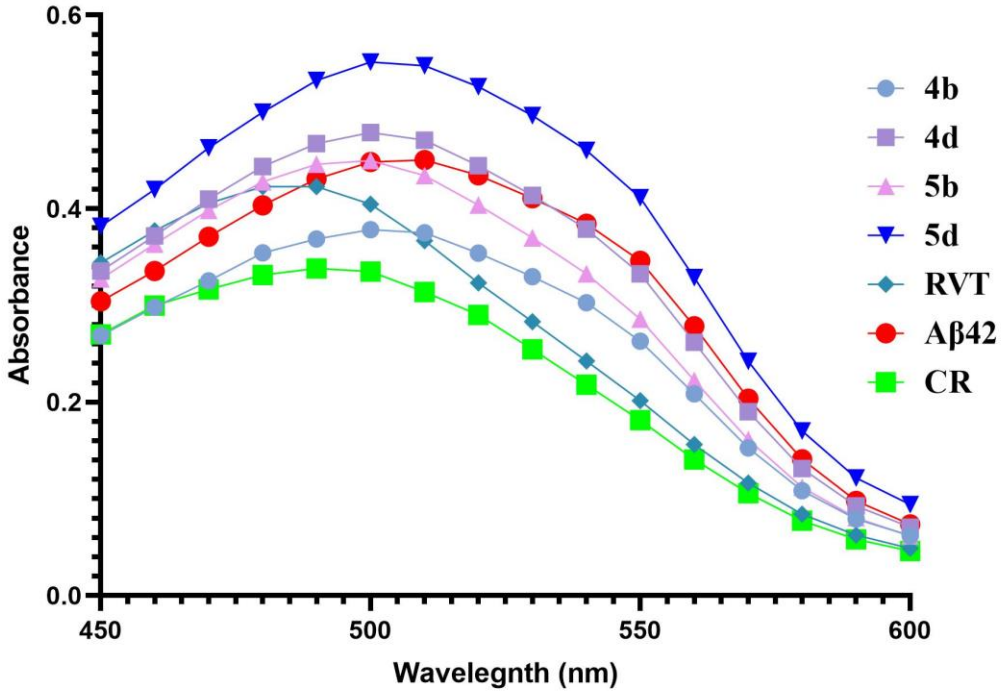

Figure S11. CR-assay curve of Aβ42 (20 μM) in the presence and absence of **4b, 4d, 5b, 5d** and RVT at 25 μM. The CR assay absorbance was measured by UV scanning from 450– 600 nm after 24 h incubation at 37 °C. Results are averages of two independent experiments (n = 3).

12. Table S1. Physicochemical properties of 4a–d and 5a–d calculated using the web tool SwissADME

Compd	Molecular Weight	No. of H-Bond Acceptors	Donors	Number of Rotatable Bonds	Polar Surface Area (TPSA) Å^2	Consensus Log P	BBB Perm.
4a	283.28	4	2	4	71.70	2.54	Yes
4b	283.28	4	2	4	71.70	2.50	Yes
4c	297.31	4	1	5	60.70	2.88	Yes
4d	267.28	3	1	4	51.47	2.94	Yes
5a	299.34	3	2	4	86.80	3.26	Yes
5b	299.34	3	2	4	86.80	3.29	Yes
5c	313.37	3	1	5	75.80	3.62	Yes
5d	283.35	2	1	4	66.57	3.61	Yes