

I. Representative spectra

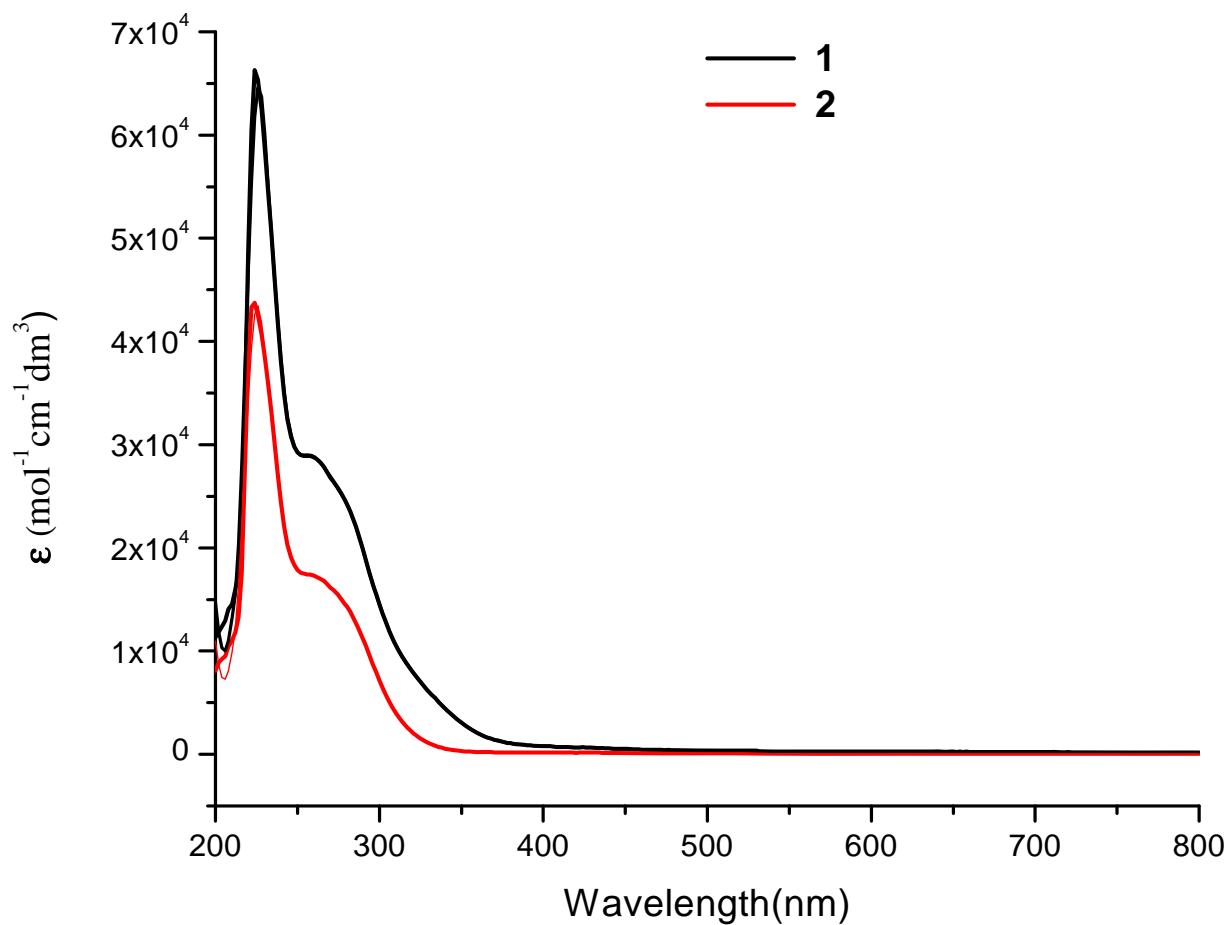


Fig. S1 UV- VIS spectra of **1** and **2**

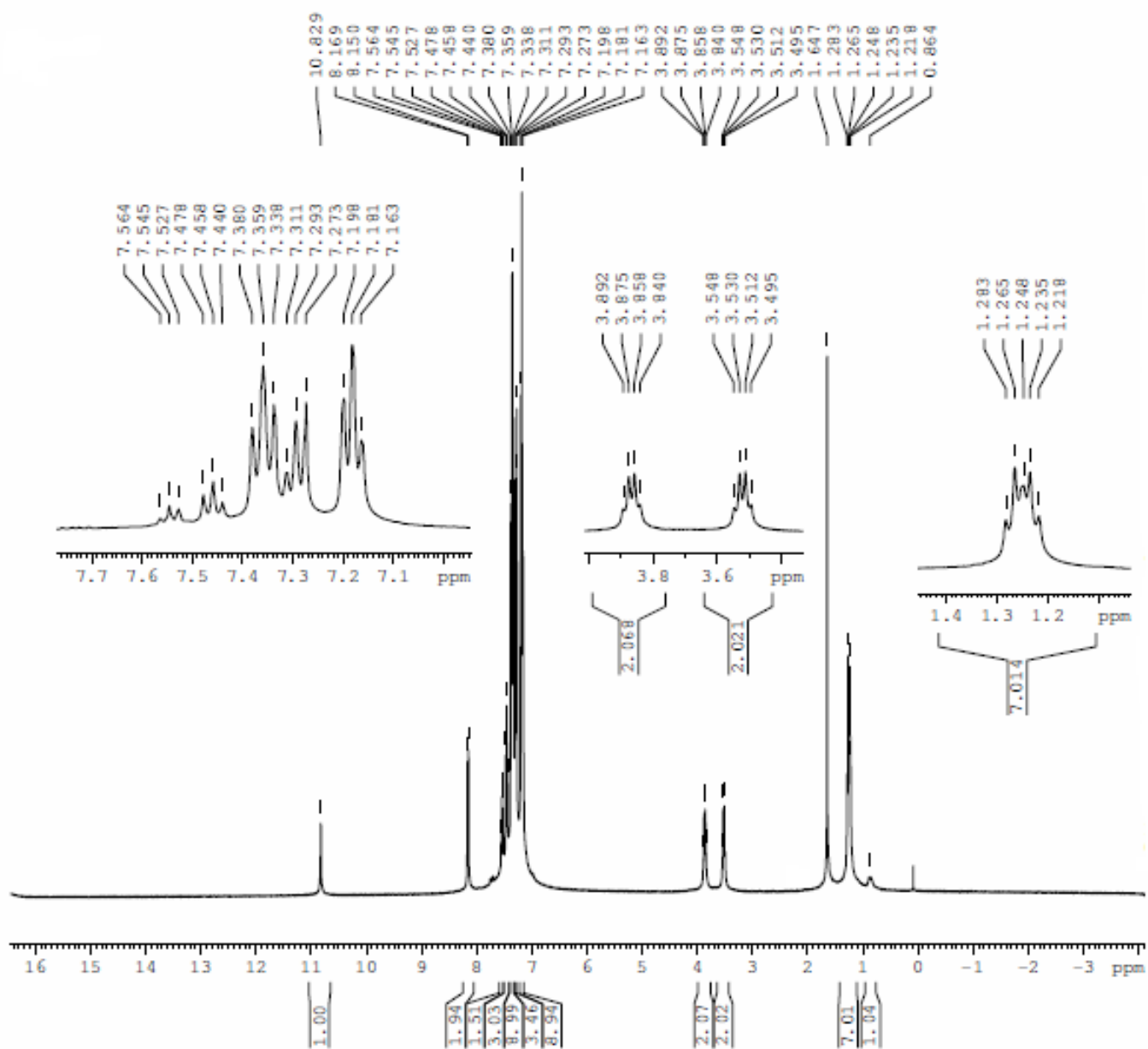


Fig. S2 ^1H NMR spectrum of **2**

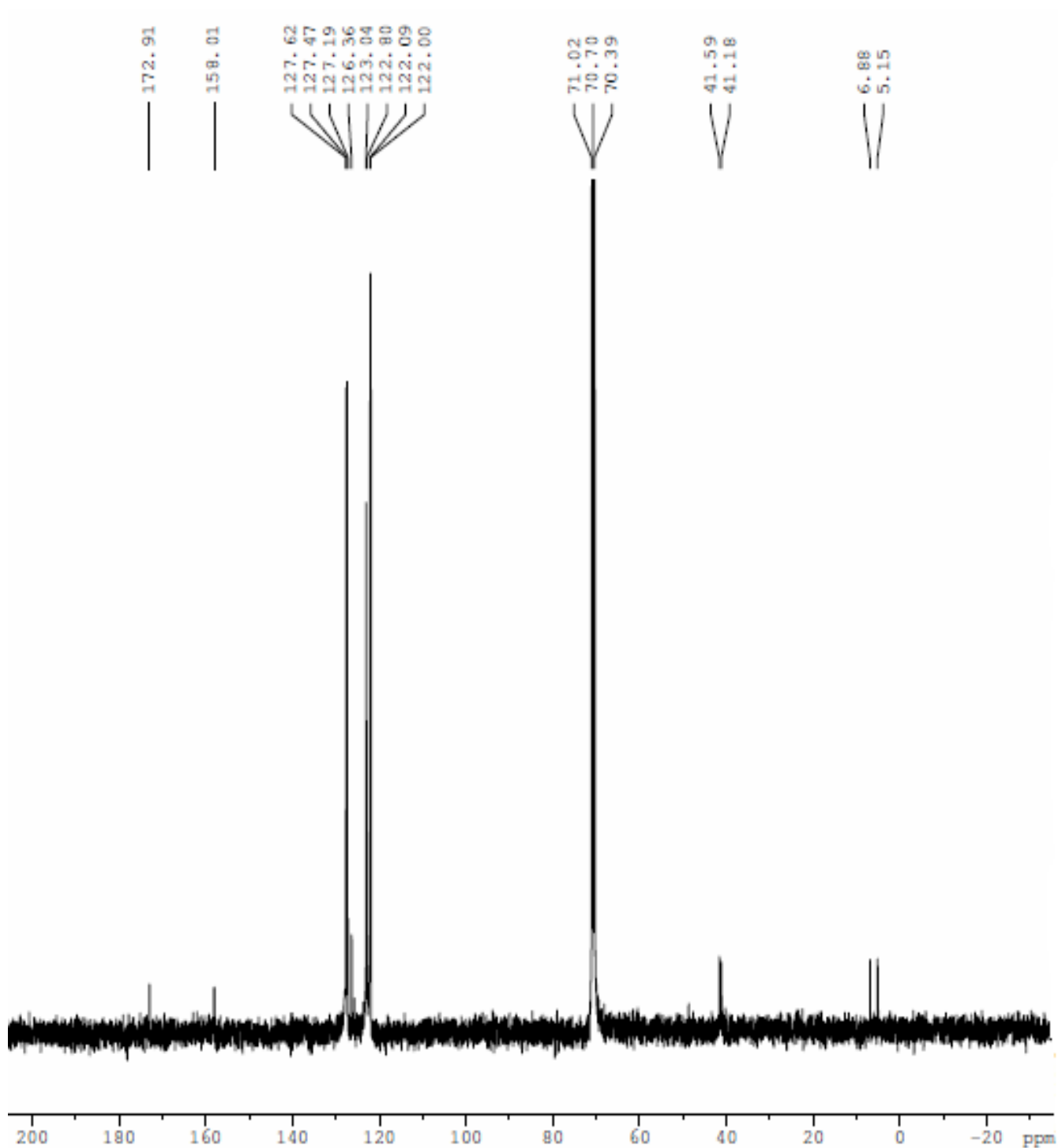


Fig. S3 ^{13}C NMR spectrum of **2**

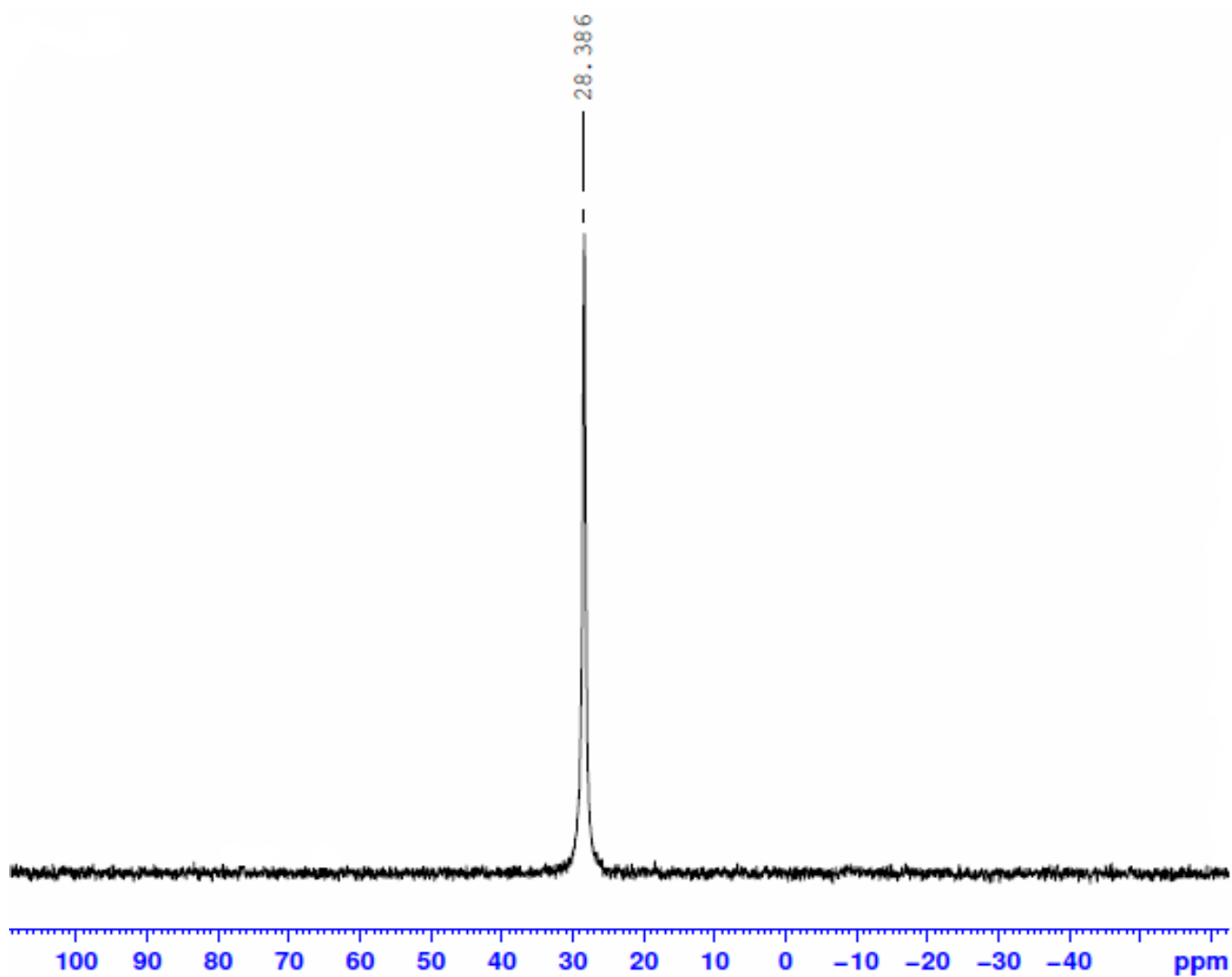
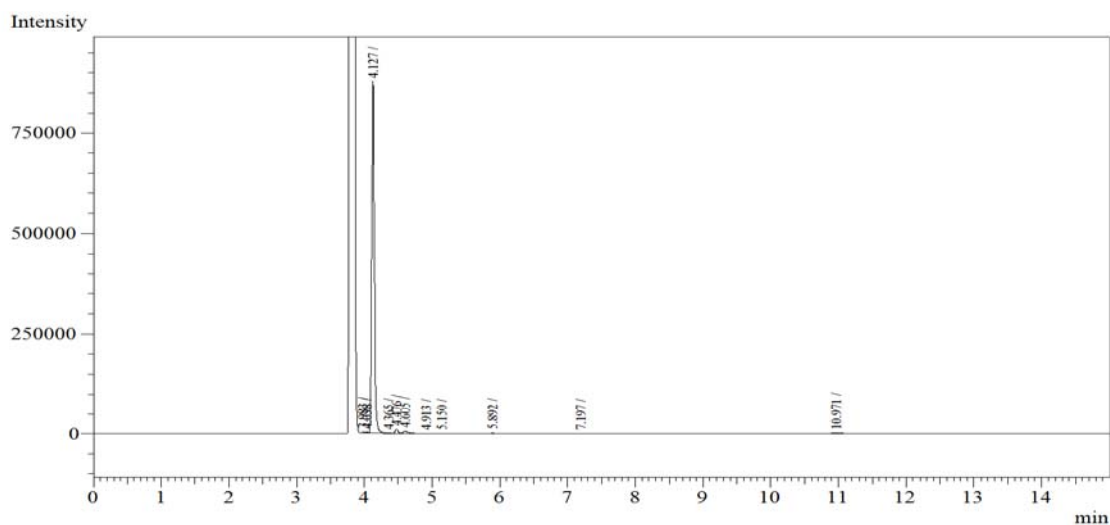
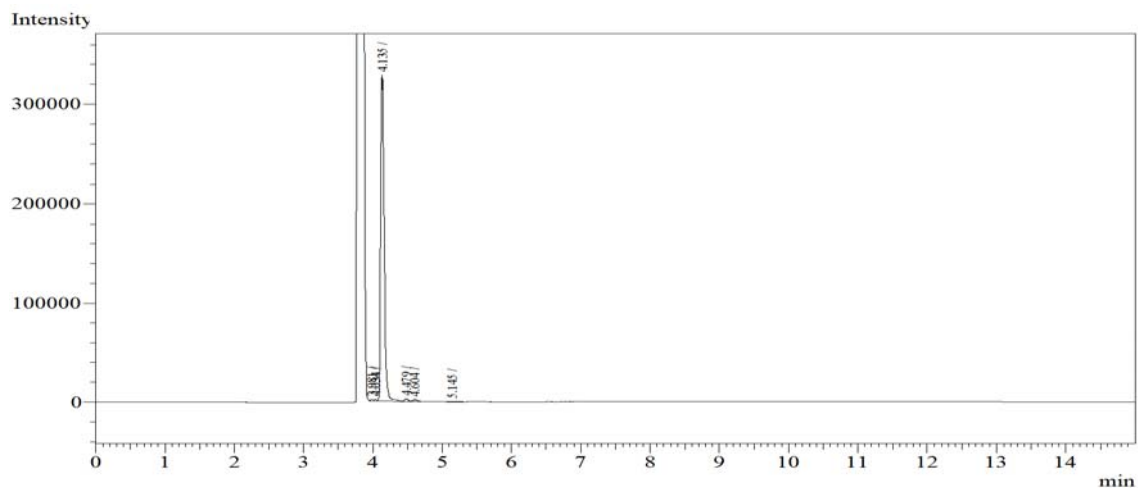


Fig. S4 ^{31}P NMR spectrum of **2**



Peak#	Ret.Time	Area	Height	Conc.
1	3.983	9256	4269	0.369
2	4.038	5646	2612	0.225
3	4.127	2376423	870562	94.817
4	4.365	3965	1317	0.158
5	4.476	29374	10642	1.172
6	4.605	29285	5955	1.168
7	4.913	4092	726	0.163
8	5.150	1307	250	0.052
9	5.892	8451	2252	0.337
10	7.197	1962	289	0.078
11	10.971	36563	1932	1.459
Total		2506324	900806	

Fig. S5 GC Chromatogram for entry 1 in **Table 5**



Peak#	Ret.Time	Area	Height	Conc.
1	3.981	4192	1778	0.345
2	4.034	3198	1636	0.263
3	4.135	1187484	326231	97.830
4	4.479	8969	2513	0.739
5	4.604	8836	1711	0.728
6	5.145	1150	153	0.095
Total		1213829	334022	

Fig. S6 GC Chromatogram for entry 2 in **Table 5** and entry 3 in **Table 6**

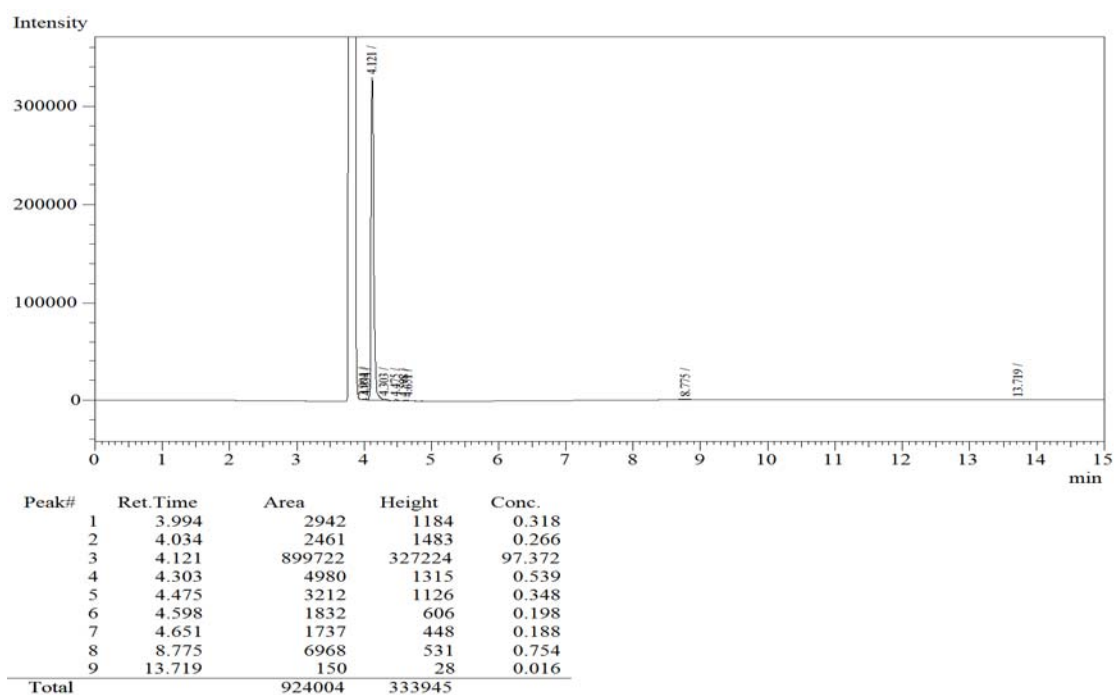


Fig. S7 GC Chromatogram for entry 3 in **Table 5**

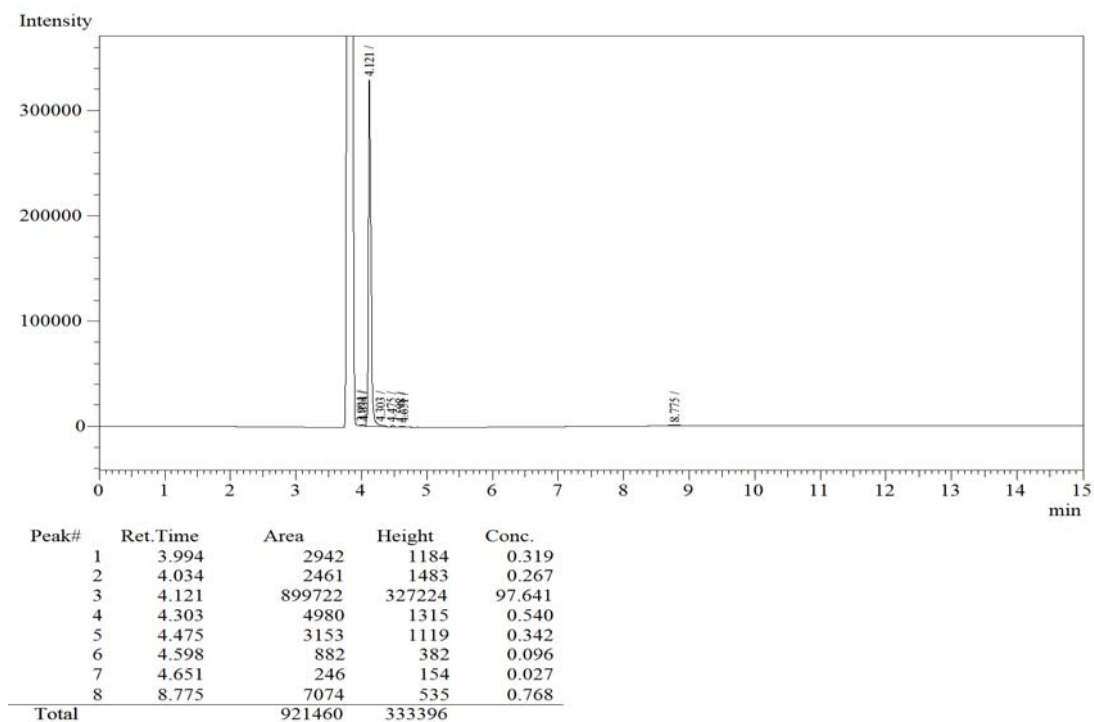


Fig. S8 GC Chromatogram for entry 4 in **Table 5**

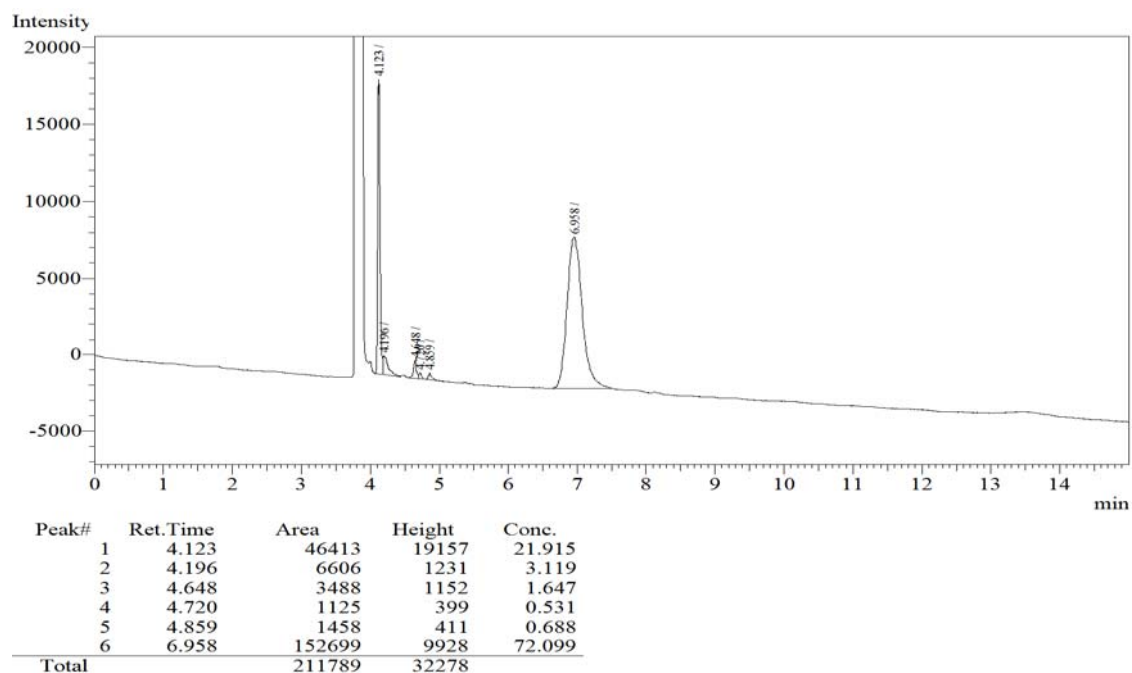


Fig. S9 GC Chromatogram for entry 5 in **Table 5**

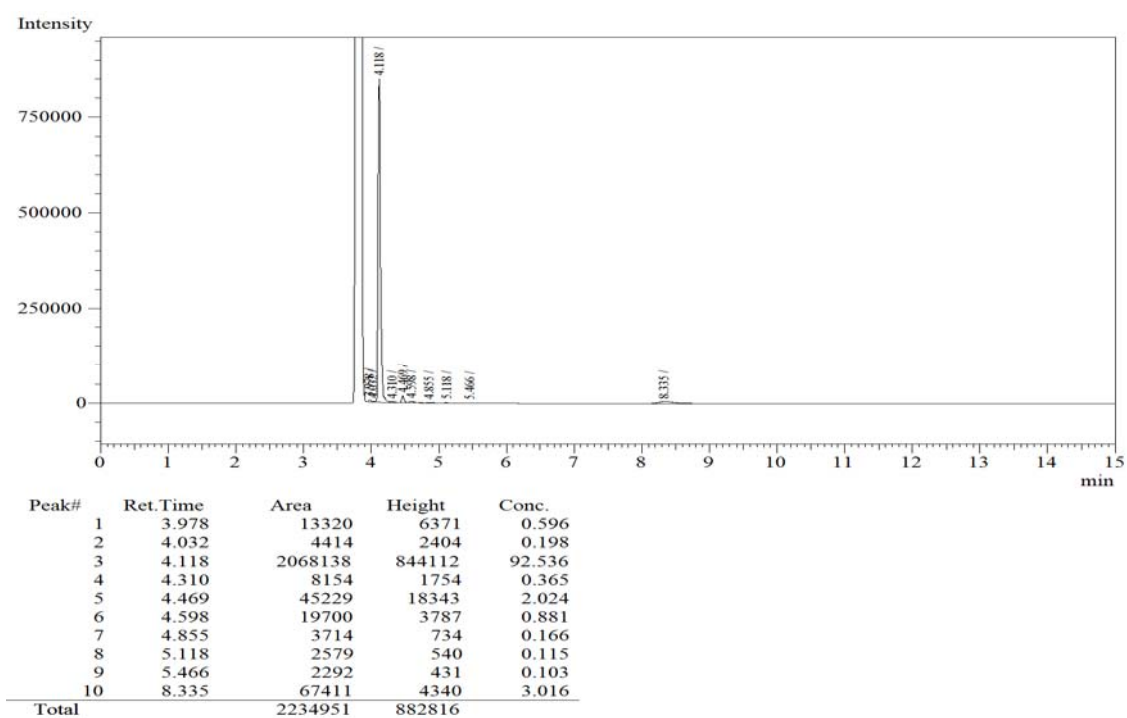
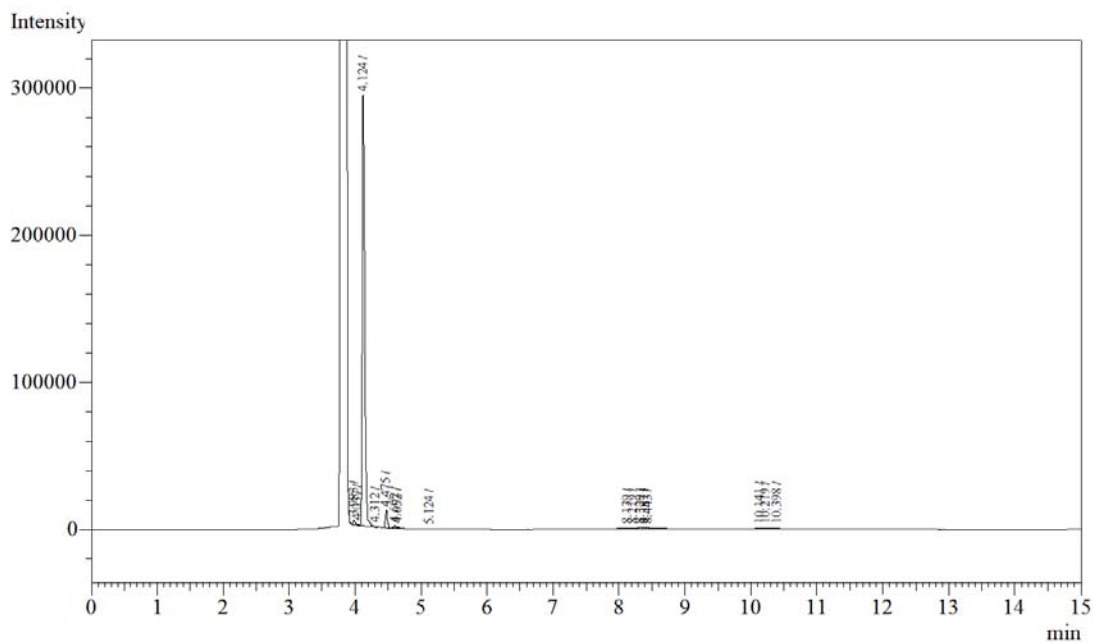


Fig. S10 GC Chromatogram for entry 6 in **Table 5**



Peak#	Ret. Time	Area	Height	Conc.
1	3.983	5760	2953	0.683
2	4.037	1035	676	0.123
3	4.124	754969	291583	89.568
4	4.312	1572	629	0.186
5	4.475	25868	11674	3.069
6	4.602	4086	1486	0.485
7	4.652	2229	942	0.264
8	5.124	2004	443	0.238
9	8.139	4378	490	0.519
10	8.219	3009	605	0.357
11	8.329	4044	696	0.480
12	8.387	2269	693	0.269
13	8.443	12444	693	1.476
14	10.141	10068	555	1.194
15	10.219	4720	584	0.560
16	10.398	4447	438	0.528
Total		842902	315140	

Fig. S11 GC Chromatogram for entry 7 in **Table 5**

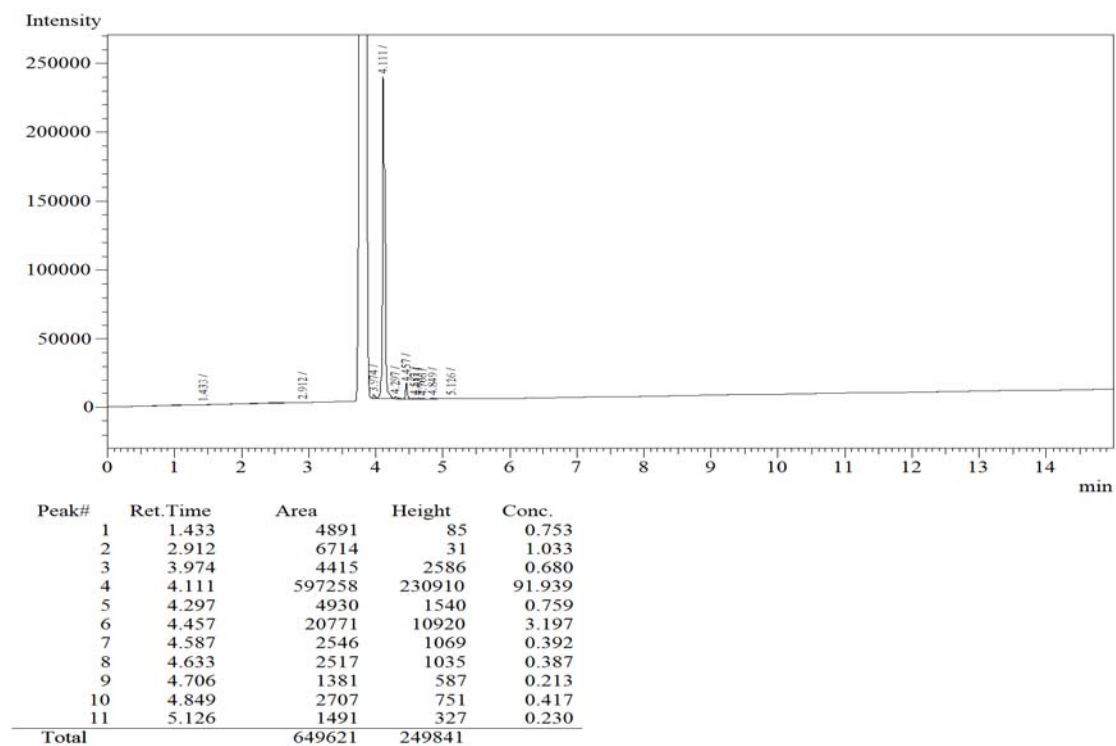


Fig. S12 GC Chromatogram for entry 8 in **Table 5**

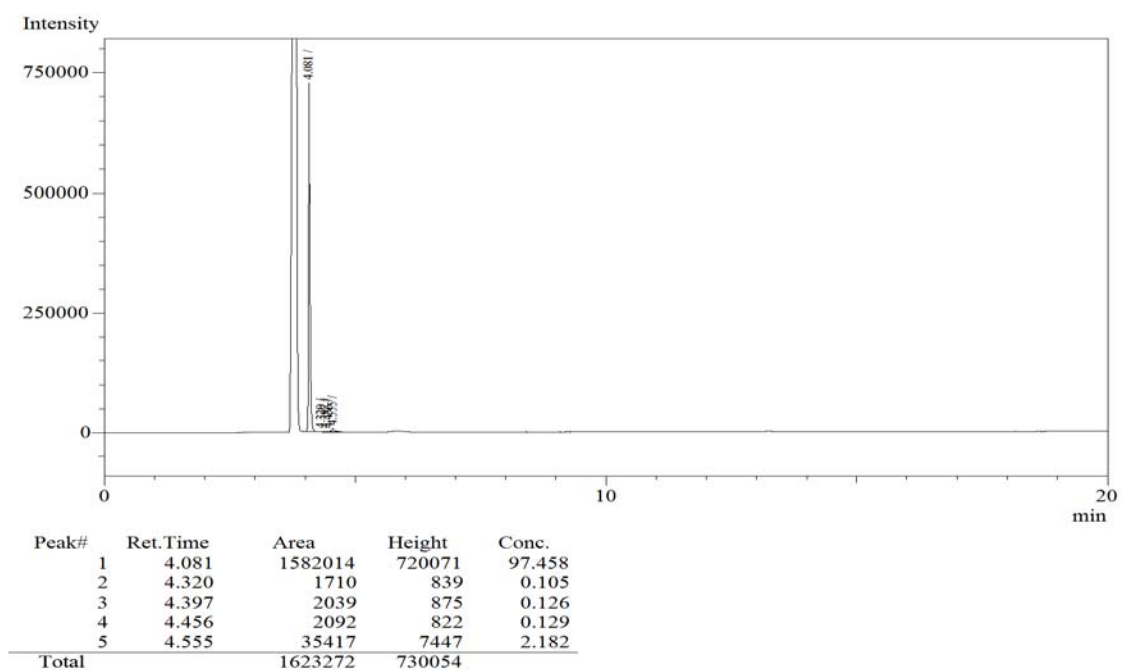


Fig. S13 GC Chromatogram for entry 9 in **Table 5**

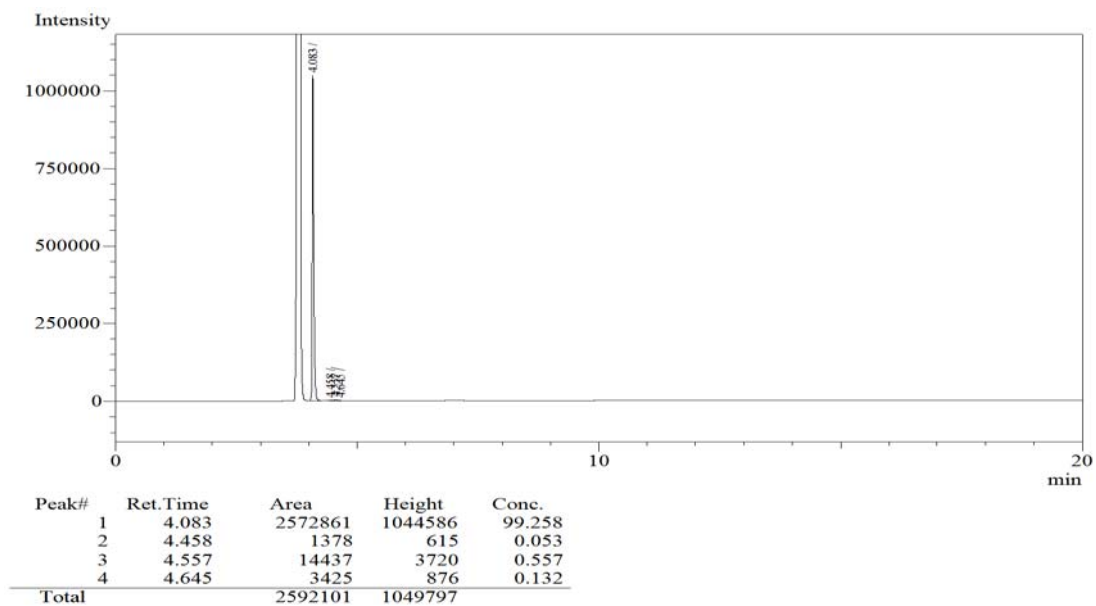


Fig. S14 GC Chromatogram for entry 10 in **Table 5**

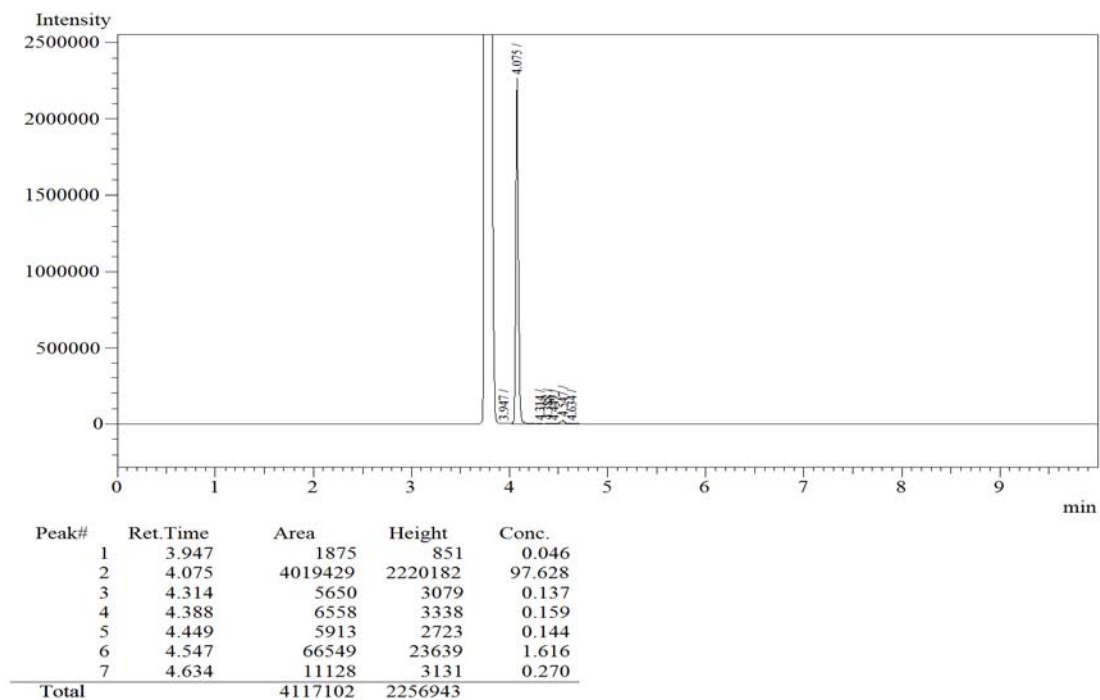


Fig. S15 GC Chromatogram for entry 11 in **Table 5**

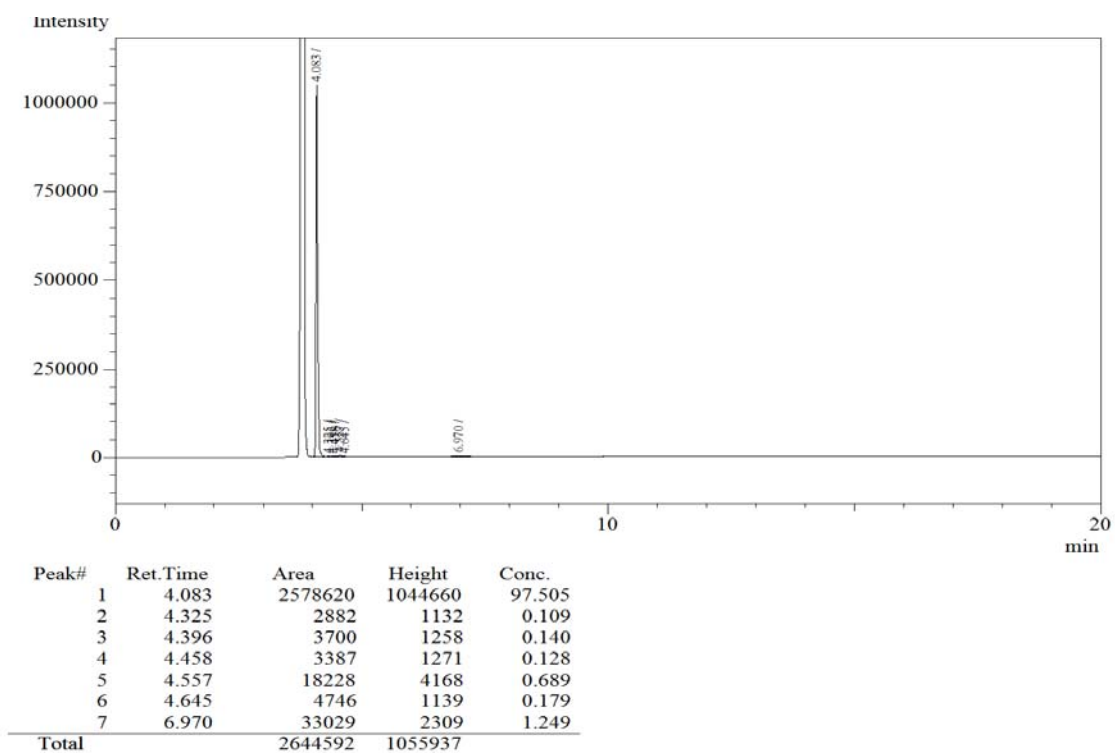


Fig. S16 GC Chromatogram for entry 12 in **Table 5**

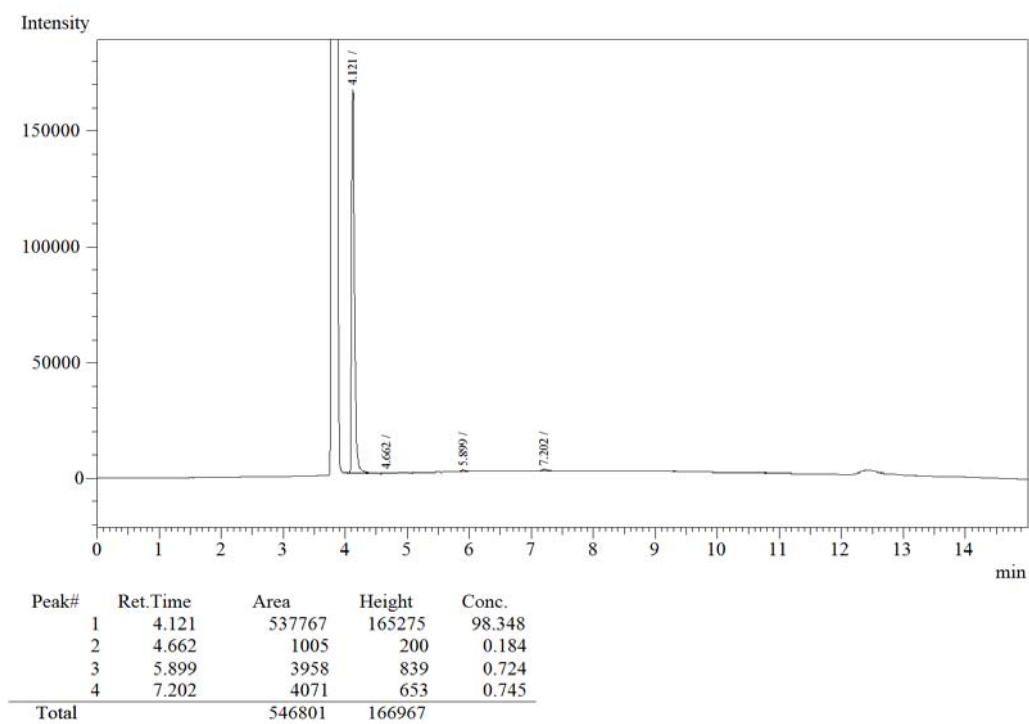


Fig. S17 GC Chromatogram for entry 13 in **Table 5**

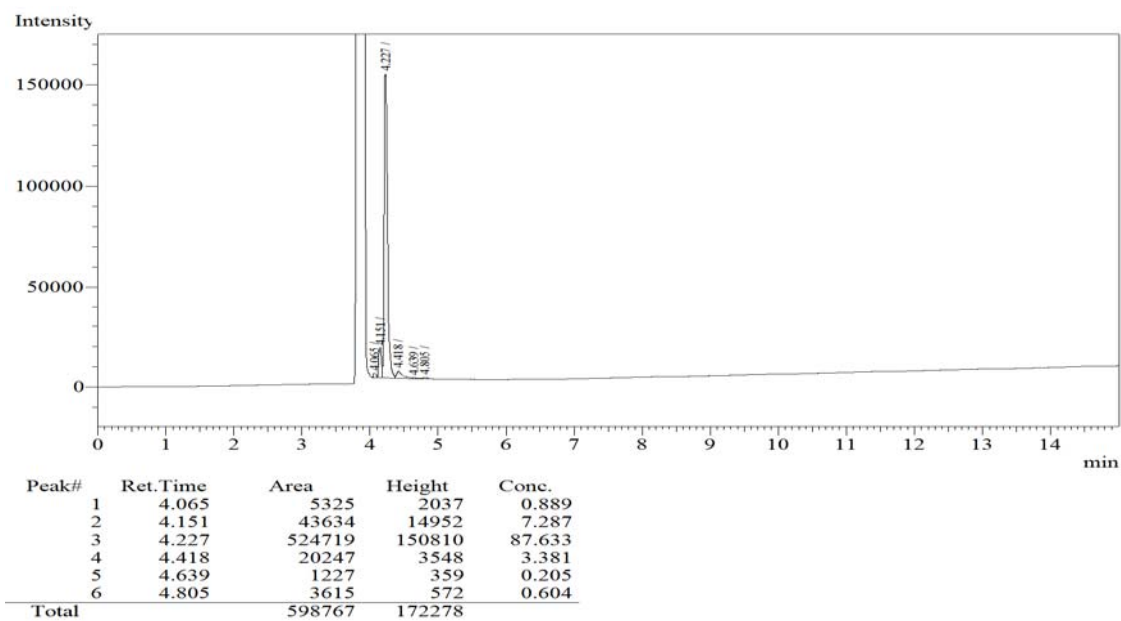


Fig. S13 GC Chromatogram for entry 1 in **Table 6**

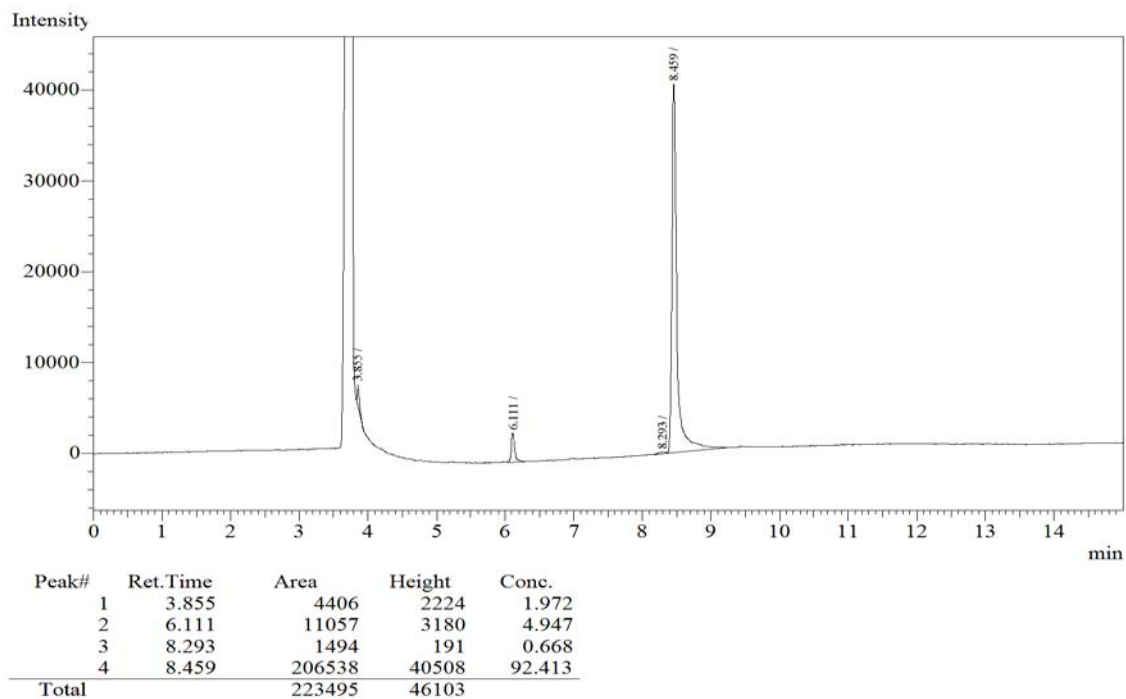


Fig. S14 GC Chromatogram for entry 2 in **Table 6**

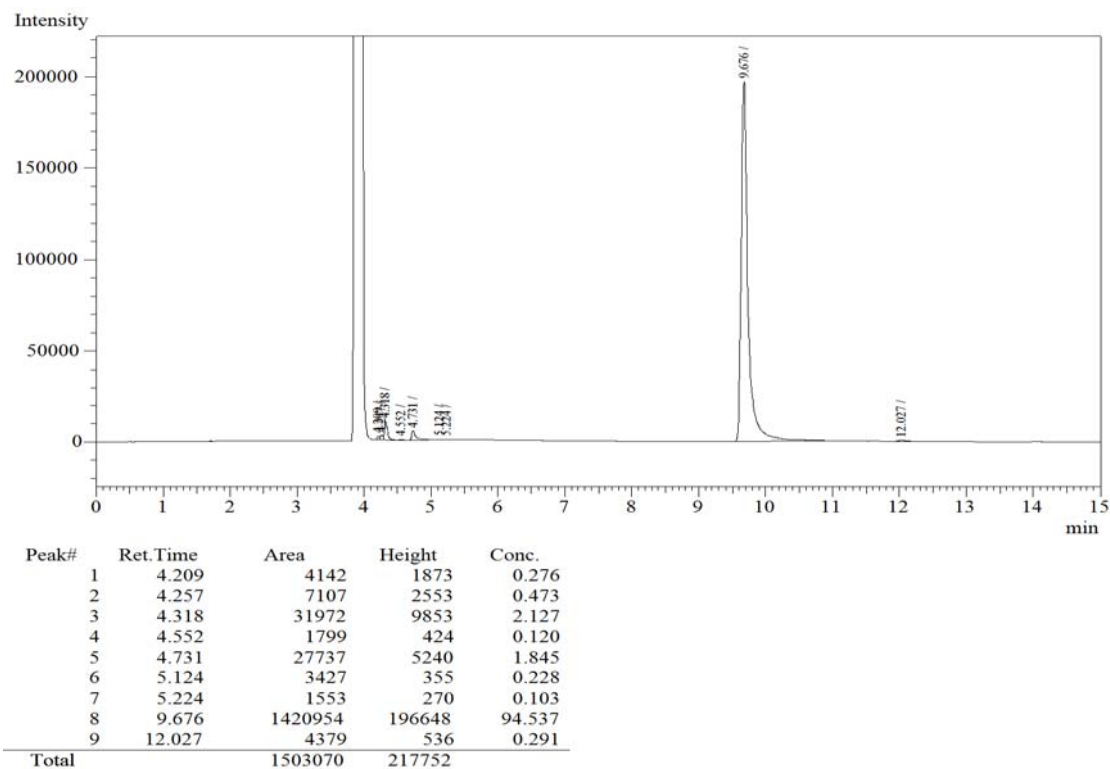


Fig. S15 GC Chromatogram for entry 5 in **Table 6**

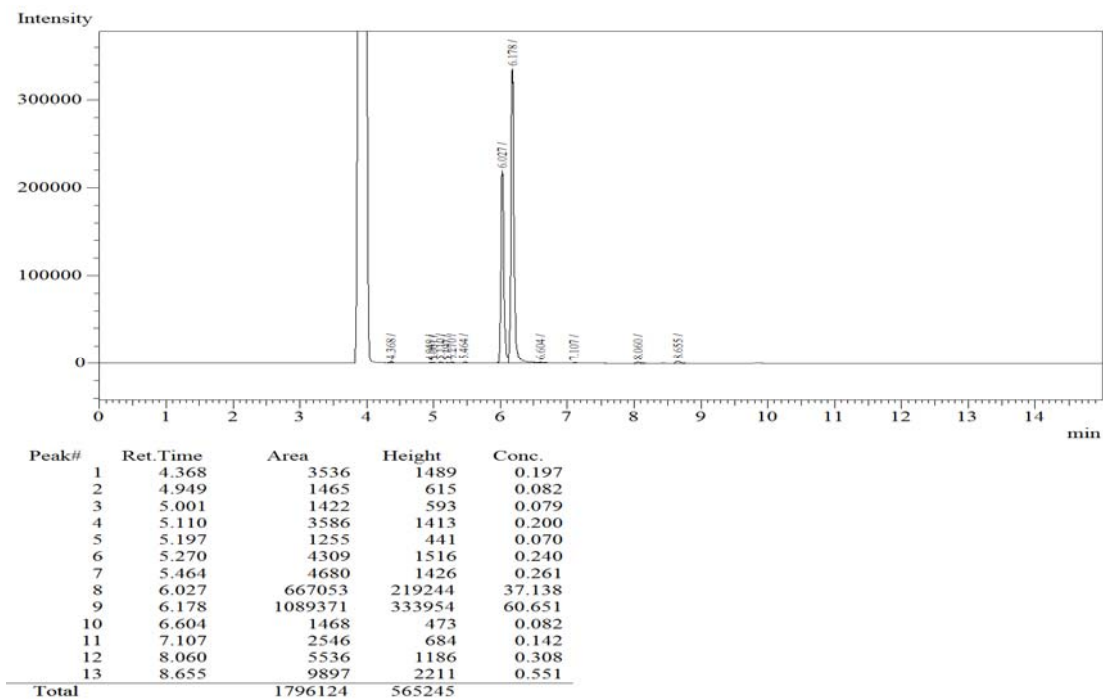


Fig. S16 GC Chromatogram for entry 6 in **Table 6**

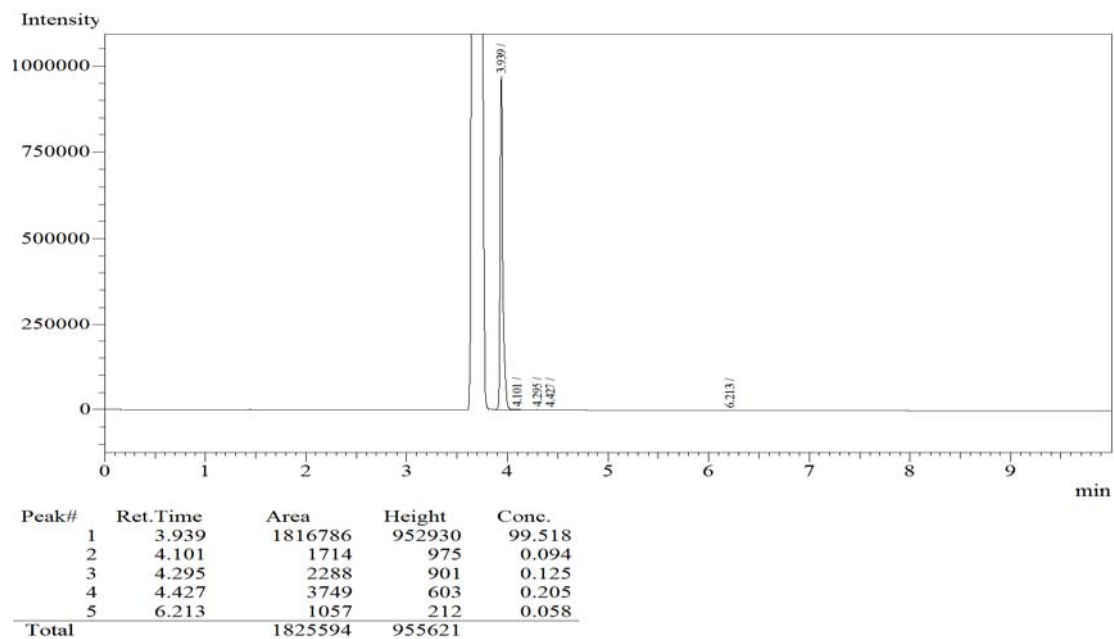


Fig. S17 GC Chromatogram for entry 7 in **Table 6**

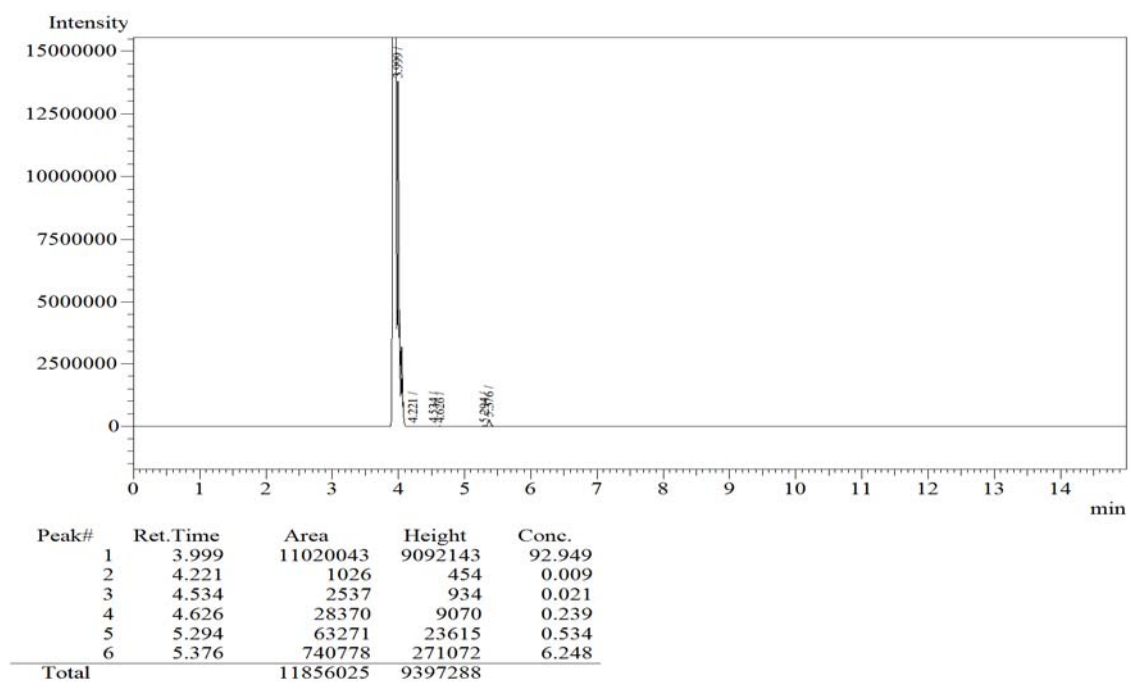
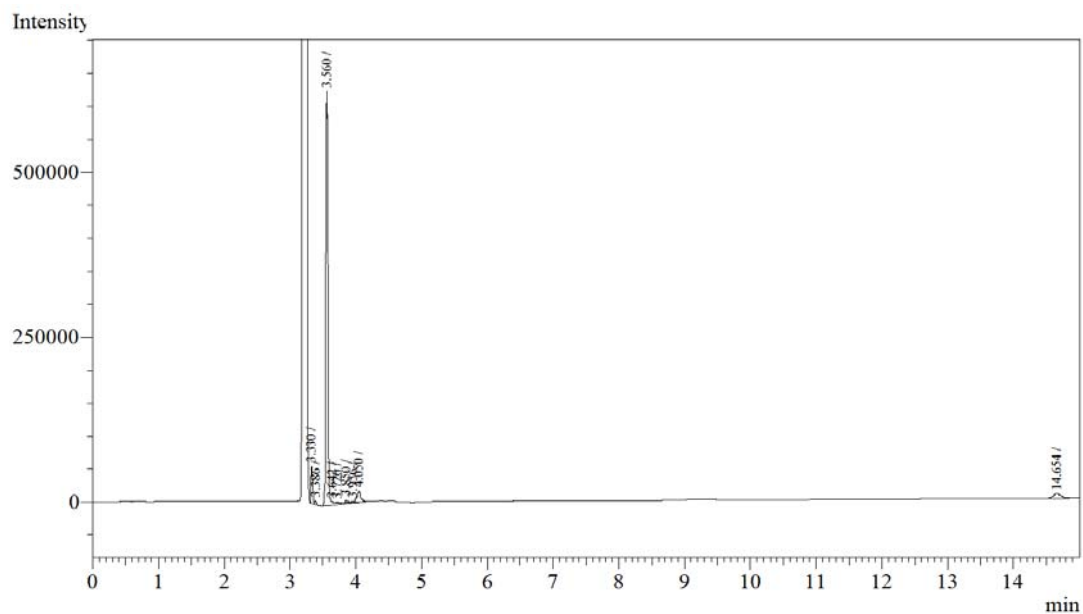


Fig. S18 GC Chromatogram for entry 8 in **Table 6**



Peak#	Ret.Time	Area	Height	Conc.
1	3.330	95379	55903	5.917
2	3.386	7200	4956	0.447
3	3.560	1361101	624429	84.437
4	3.642	1164	1048	0.072
5	3.720	2287	780	0.142
6	3.850	10984	3962	0.681
7	3.956	3702	1251	0.230
8	4.050	64310	16195	3.990
9	14.654	65843	7584	4.085
Total		1611970	716108	

Fig. S19 GC Chromatogram for entry 10 in **Table 6**

II. GC conditions for oxidation of alcohols: (Table 6)

The GC conditions for monitoring oxidation of various primary and secondary alcohols are given below.

Entry 1: RTX-5 Column, 60 m × 0.32 mm, 230 °C; FID detector, 250 °C; Injector, 220 °C; Carrier Gas: N₂; Rate: 1.42 mL/min.

Entry 2: RTX-5 Column, 60 m × 0.32 mm, 200 °C; FID detector, 220 °C; Injector, 190 °C; Carrier Gas: N₂; Rate: 1.58 mL/min.

Entry 3: RTX-5 Column, 60 m × 0.32 mm, initial column temperature was increased from 250 to 275 °C at the rate of 2 °C/min; FID detector, 290 °C; Injector, 265 °C; Carrier Gas: N₂; Rate: 1.37 mL/min.

Entry 4: RTX-5 Column, 60 m × 0.32 mm, 250 °C; FID detector, 280 °C; Injector, 250 °C; Carrier Gas: N₂; Rate: 1.39 mL/min.

Entry 5: RTX-5 Column, 60 m × 0.32 mm, 210 °C; FID detector, 230 °C; Injector, 200 °C; Carrier Gas: N₂; Rate: 1.44 mL/min.

Entry 6: RTX-5 Column, 60 m × 0.32 mm, 190 °C; FID detector, 210 °C; Injector, 180 °C; Carrier Gas: N₂; Rate: 1.48 mL/min.

Entry 7: RTX-5 Column, 60 m × 0.32 mm, 210 °C; FID detector, 230 °C; Injector, 200 °C; Carrier Gas: N₂; Rate: 1.56 mL/min.

Entry 8: RTX-5 Column, 60 m × 0.32 mm, 170 °C; FID detector, 190 °C; Injector, 160 °C; Carrier Gas: N₂; Rate: 1.53 mL/min.

Entry 9: RTX-5 Column, 60 m × 0.32 mm, 170 °C; FID detector, 190 °C; Injector, 160 °C; Carrier Gas: N₂; Rate: 1.53 mL/min.

Entry 10: RTX-5 Column, 60 m × 0.32 mm, 270 °C; FID detector, 290 °C; Injector, 260 °C; Carrier Gas: N₂; Rate: 1.77 mL/min.

Entry 11: RTX-5 Column, 60 m × 0.32 mm, 160 °C; FID detector, 180 °C; Injector, 150 °C; Carrier Gas: N₂; Rate: 2.00 mL/min.