Supplementary Information

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1. General Information and Experimental Section

General Information: Unless otherwise noted, all commercially available reagents were used without further purification. The contents of Co in the catalysts were measured by inductively coupled plasma-atomic emission spectrometry (ICP-AES), using Iris advantage Thermo Jarrel Ash device. Fourier transform infrared (FT-IR) spectrum were recorded with a Bruker VERTEX 70FTIR spectrometer. The liquid nuclear magnetic resonance spectra (NMR) were recorded on a Bruker AvanceTM III 400 MHz in deuterated chloroform unless otherwise noted. Powder X-ray diffraction (PXRD) measurements were conducted by a STADIP automated transmission diffractometer (STOE) equipped with an incident beam curved germanium monochromator selecting CuKa1 radiation and a 6° position sensitive detector (PSD) (step size: 0.014°, step time: 25.05 s). The XRD patterns were scanned in the 2h range of 10–80°. Nitrogen adsorption–desorption isotherms were measured at 77 K using an American Quantachrome iQ2 automated gas sorption analyzer. The samples were outgassed at 120 °C for 12 h before the measurements. Surface areas were calculated from the adsorption data using Langmuir and Brunauer-Emmett-Teller (BET) methods. The pore-size-distribution curves were obtained from the adsorption branches using the Barrett, Joyner, and Halenda (BJH) method. X-ray photoelectron spectroscopy (XPS) measurements were carried out by a VG ESCALAB 210 instrument equipped with a dual Mg/Al anode X-ray source, a hemispherical capacitor analyzer, and a 5 keV Ar^+ ion gun. All spectra were recorded by using AlKa (1361 eV) radiation. The electron binding energy was referenced to the C1s peak at 284.8 eV. The thermal properties of catalysts were evaluated using a METTLER TOLEDO simultaneous thermal analyzer over the temperature range from 30 to 800 °C under nitrogen atmosphere (20 mL/min) with a heating rate of 10 °C/min. Field emission scanning electron microscopy (SEM) observations were performed on a Hitachi S-4800 microscope operated at an accelerating voltage of 5.0 kV. High-resolution transmission electron microscope (HR-TEM) analysis was carried out on a Talos F200S operating at 200 kV. The abreaction-corrected HAADF-STEM images were obtained on a FEI-Titan Cubed Themis G2 300 equipped with a probe corrector, with a guaranteed resolution of 80 pm and accelerating voltage of 200 kV.

Experimental Section: All solvents and chemicals were obtained commercially and used as received.

p-3v-PPh_3 monomers (340.0 mg, 1.0 mmol) were fully complexed with $Co_2(CO)_8$ (34.1 mg, 0.1 mmol) in tetrahydrofuran (THF, 10.0 mL) under an argon atmosphere, which stirred for 2 h at room temperature. Then transfer the above solution to a hydrothermal reaction kettle, in which the above solution copolymerized at 100 °C for 24 h under an argon atmosphere in the presence of azobisisobutyronitrile (AIBN, 12.0 mg). After washing with THF (10.0 mL) three times and drying under vacuum at 60 °C for 6 h, brown powdered catalyst named $Co_2(CO)_8$@PPh_3-1/10 were obtained. The other Co@PPh_3 (1/X ratio means molar ratio of Co/3v-PPh_3) were prepared under the same conditions as $Co_2(CO)_8$@PPh_3-1/10.

$Co_2(CO)_8$/PPh_3-1/10 was made by impregnation method. First, p-3v-PPh_3 (340.0 mg) and AIBN (12.0 mg) were dissolved in 10 mL of THF, the solution was transferred into a kettle which was heated to 100 °C for 24 h under an argon atmosphere. The resulting solid was washed by THF (10.0 mL) three times and dried under vacuum at 60 °C for 6 h; a white solid was obtained which named PPh_3. $Co_2(CO)_8$ (34.1 mg,0.1 mmol) was dissolved in 8 mL of THF under an argon

atmosphere, followed by the addition of 340 mg PPh_3. After stirring at room temperature for 24 h, the brown $Co_2(CO)_8/PPh_3$ catalyst was obtained after filtering, washing with THF and drying under vacuum.

As a typical hydroformylation recipe, the as-prepared $Co_2(CO)_8@PPh_3$-1/10 catalysts (50 mg), 1-octene (56 mg, 0.5 mmol), and THF (3.0 mL) were added into a stainless-steel autoclave (100 mL) with a magnetic stir bar. After the autoclave was sealed and purged with CO for three times, the pressure of syngas (H_2/CO = 1:1) was adjusted to 4 MPa and the autoclave was put into a preheated reactor, stirring at 170 °C for 12 h. After the reaction, the autoclave was cooled to room temperature and the pressure was carefully released. Subsequently, the reaction mixture was diluted with THF (6.0 mL), and the catalyst was removed from the system by centrifugation and analyzed by gas chromatography (Shimadzu GC-2014C equipped with a HP-5 capillary column with 5 wt% phenyl groups and the FID detector). Finally, the yield and regioselectivity were obtained by GC analysis using biphenyl as the internal standard.

For recycling, a mixture of $Co_2(CO)_8@PPh_3$-1/10 catalyst (50 mg), 1-octene (0.5 mmol), and THF (3.0mL) were added into a stainless-steel autoclave (100 ml) with a magnetic stir bar. After the autoclave was sealed and purged with CO for three times, the pressure of syngas (CO/H_2 = 1:1) was adjusted to 4.0 MPa. Then the reaction mixture was stirred at 170 °C for 12 h or 1 h. The autoclave was cooled to room temperature and the pressure was carefully released. The reaction mixture (~ 0.2 mL) was taken out from the glass tube for analysis by gas chromatography. The catalyst was separated by centrifugation, washed with THF (10.0 mL × 3), dried under vacuum at 60 °C for 6 h and used directly for the next run.

For Hot Filtration, a mixture of $Co_2(CO)_8@PPh_3$-1/10 catalyst (50 mg), 1-octene (0.5 mmol), and THF (3.0mL) were added into a stainless-steel autoclave (100 ml) with a magnetic stir bar. After the autoclave was sealed and purged with CO for three times, the pressure of syngas (CO/H_2 = 1:1) was adjusted to 4.0 MPa. Then the reaction mixture was stirred at 170 °C for 1 h. The autoclave was cooled to room temperature and the pressure was carefully released. The reaction mixture (~ 0.2 mL) was taken out from the glass tube for analysis by gas chromatography. After sealing and purging with CO for 3 times, the pressure of syngas (CO/H_2 = 1:1) was adjusted to 4.0 MPa. Next, the reaction mixture was stirred at 170 °C for another 11 h. The autoclave was cooled to room temperature and the pressure was carefully released. Subsequently, the reaction mixture was diluted with THF (6 mL), and the catalyst was removed from the system by centrifugation and analyzed by gas chromatography. The Co contents of the used catalyst and filtrate after each run were analyzed by inductively coupled plasma-atomic emission spectrometry (ICP-AES).

2. Optimization of the reaction conditions

Table S1. Catalysts used in reductive hydroformylation

Entry	Catalyst	Condition		Catalytic Performance		Reference
		Pressure (Mpa)	Temperature (°C)	Fresh Calatlyst	The third cycle	
1	fibrous Co_3O_4	5.5	150	Con. 93.0% Sel. 93.0%	Con. 60.0% Sel. 55.0%	Catal. Today **2018,** *309*, 147-152.
2	FeCu-Co_3O_4	7	150	Con. 99.8% Sel. 67.9%	-	FPT **2023**, 107721-107729.
3	Co_3O_4-g-C_3N_4	7	150	Con. 99.9% Sel. 77.8%	-	Fuel **2024**, 365, 131192-131200.
4	CoZrP	4	190	Con. 99.9% Sel. 94.5%	Con. 99.9% Sel. 94.5%	J. Catal. **2022**, 408, 245-260
5	$Co_2(CO)_8$@PPh_3	4	170	Con. 99.0% Sel. 94.0%	Con. 99.0% Sel. 93.5%	This work

Table S2. Screening of Temperature for the Reductive Hydroformylation of 1-octene[a], [c]

Entry	T (°C)	Con. (%) [b]	Sel. (%) [b]			
			Octane	Iso-octene	Nonanal (L/B)	Nonanol (L/B)
1	110	-	-	-	-	-
2	130	21	26	4	70 (53/47)	-
3	140	98	4	1	91 (61/39)	4 (51/49)
4	150	97	4	5	80 (55/45)	11 (65/35)
5	160	99	5	2	3 (62/38)	90 (56/44)
6	170	>99	4	<1	2 (54/46)	94 (63/37)
8	180	>99	6	3	23 (61/39)	68 (56/44)

[a] Reaction conditions: 1-octene (0.5 mmol), CO/H_2 = 2/2 MPa, $Co_2(CO)_8$@PPh_3-1/10 (50 mg), THF (3 mL), 12 h.

[b] Determined by GC analysis using biphenyl as the internal standard for GC yield.

[c] The value for the branched isomers is based on the mixture of all iso-isomers.

Table S3. Screening of the pressure and the ratio of CO/H_2 for the Reductive Hydroformylation of 1-octene[a], [c]

Entry	H_2/CO (MPa)	Con. (%) [b]	Sel. (%) [b]			
			Octane	Iso-octene	Nonanal (L/B)	Nonanol (L/B)
1	1/1	97	8	3	1 (56/44)	88 (58/42)
2	2/2	>99	4	<1	1 (54/46)	94 (63/37)
3	1/3	>99	5	<1	2 (61/39)	92 (59/41)
4	3/1	>99	9	<1	1 (60/40)	88 (51/49)
5	3/3	>99	4	<1	1 (48/52)	94 (53/47)

[a] Reaction conditions: 1-octene (0.5 mmol), $Co_2(CO)_8$@PPh_3-1/10 (50 mg), THF (3 mL), 170 °C for 12 h.

[b] Determined by GC analysis using biphenyl as the internal standard for GC yield.9).

[c] The value for the branched isomers is based on the mixture of all iso-isomers.

Table S4. Screening of Solvent for the Reductive Hydroformylation of 1-octene[a], [c]

Entry	Solvent	Con. (%) [b]	Sel. (%) [b]			
			Octane	Iso-octene	Nonanal (L+B)	Nonanol (L+B)
1	Toluene	90	10	5	26	51
2	Anisole	75	6	4	69	21
3	THF	>99	4	<1	1	94
4	ACN	83	9	7	57	27
5	NMP	8	45	55	-	-

[a] Reaction conditions: 1-octene (0.5 mmol), CO/H_2 = 2/2 MPa, $Co_2(CO)_8$@PPh_3-1/10 (50 mg), 170 °C for 12 h.

[b] Determined by GC analysis using biphenyl as the internal standard for GC yield.

[c] The value for the branched isomers is based on the mixture of all iso-isomers.

Table S5. Screening of Time for the Reductive Hydroformylation of 1-octene[a], [c]

Entry	Time (h)	Con. (%) [b]	Sel. (%) [b]			
			Octane	Iso-octene	Nonanal (L/B)	Nonanol (L/B)
1	1	59	7	15	70 (63/37)	8 (60/40)
2	2	88	5	12	66 (54/46)	17 (63/37)
3	3	96	4	10	54 (49/51)	32 (59/41)
4	6	98	4	6	45 (44/56)	45 (53/48)
5	9	99	4	1	7 (43/57)	88 (51/49)
6	12	>99	4	<1	1 (54/46)	94 (63/37)

7	24	>99	4	<1	1 (50/50)	94 (66/34)

[a] Reaction conditions: 1-octene (0.5 mmol), CO/H_2 = 2/2 MPa, $Co_2(CO)_8$@PPh_3-1/10 (50 mg), THF (3 mL), 170 °C.

[b] Determined by GC analysis using biphenyl as the internal standard for GC yield.

[c] The value for the branched isomers is based on the mixture of all iso-isomers.

Table S6. Catalyst Screening for the Hydroformylation of 1-octene [a], [c]

Entry	Catalysts	Con. (%) [b]	Sel. (%) [b]			
			Octane	Iso-octene	Nonanal (L/B)	Nonanol (L/B)
1	$Co_2(CO)_8$@PPh_3-1/10	96	4	1	91 (61/39)	4 (51/49)
2	$Co_2(CO)_8$/PPh_3-1/10	89	11	2	36 (44/56)	51 (52/48)
3	$Co(acac)_2$@PPh_3-1/10	9	9	5	29 (38/62)	57 (66/34)
4	$CoCl_2$@PPh_3-1/10	n. r.	-	-	-	-
5	$Co(NO_3)_2$@PPh_3-1/10	n. r.	-	-	-	-
	$Co_2(CO)_8$@PPh_3-1/5	96	8	1	84 (45/55)	7 (64/36)
6	$Co_2(CO)_8$@PPh_3-1/15	89	10	4	74 (48/52)	12 (55/45)

[a] Reaction conditions: 1-octene (0.5 mmol), CO/H_2 = 3/3 MPa, Catalyst (50 mg), THF (3 mL), 140 °C for 12 h.

[b] Determined by GC analysis using biphenyl as the internal standard for GC yield.

[c] The value for the branched isomers is based on the mixture of all iso-isomers.

Table S7. Screening of the Pressure and the Ratio of CO/H_2 for the Hydroformylation of 1-octene[a], [c]

Entry	H_2/CO (MPa)	Con. (%) [b]	Sel. (%) [b]			
			Octane	Iso-octene	Nonanal (L/B)	Nonanol (L/B)
1	1/1	91	7	8	82 (34/66)	3 (35/65)
2	2/2	95	5	4	83 (62/38)	8 (41/59)
3	1/3	93	5	6	87 (53/47)	7 (58/42)
4	3/1	96	9	-	81 (55/45)	10 (43/57)
5	3/3	96	4	1	91 (61/39)	4 (51/49)
6	1/5	95	4	1	91 (58/42)	4 (46/54)

[a] Reaction conditions: 1-octene (0.5 mmol), $Co_2(CO)_8$@PPh_3-1/10 (50 mg), THF (3 mL), 140 °C for 12 h.

[b] Determined by GC analysis using biphenyl as the internal standard for GC yield.

[c] The value for the branched isomers is based on the mixture of all iso-isomers.

Table S8. Screening of Solvent for the Hydroformylation of 1-octene[a], [c]

Entry	Solvent	Con. (%) [b]	Sel. (%) [b]			
			Octane	Iso-octene	Nonanal	Nonanol
1	Toluene	81	12	7	53	28
2	Anisole	69	9	4	81	6
3	THF	96	4	1	91	4
4	CH_3CN	75	10	5	62	23
5	NMP	n. r.	-	-	-	-

[a] Reaction conditions: 1-octene (0.5 mmol), CO/H_2 = 3/3 MPa, $Co_2(CO)_8$@PPh_3-1/10 (50 mg), 140 °C for 12 h.

[b] Determined by GC analysis using biphenyl as the internal standard for GC yield.

[c] The value for the branched isomers is based on the mixture of all iso-isomers.

Table S9. Screening of Time for the Hydroformylation of 1-octene[a], [c]

Entry	Time (h)	Con. (%) [b]	Sel. (%) [b]			
			Alkanes	Iso- olefins	Aldehydes	Alcohols
1	3	17	22	28	50 (62/38)	-
2	6	72	5	12	80 (56/44)	3 (48/52)
3	9	84	4	11	81 (51/49)	4 (38/62)
4	12	96	4	1	91 (61/39)	4 (51/49)
5	24	>99	4	<1	75 (54/55)	20 (57/43)

[a] Reaction conditions: 1-octene (0.5 mmol), CO/H_2 = 3/3 MPa, Catalyst (50 mg), THF (3 mL), 140 °C.

[b] Determined by GC analysis using biphenyl as the internal standard for GC yield.

[c] The value for the branched isomers is based on the mixture of all iso-isomers.

3. Characterization Result of Catalyst

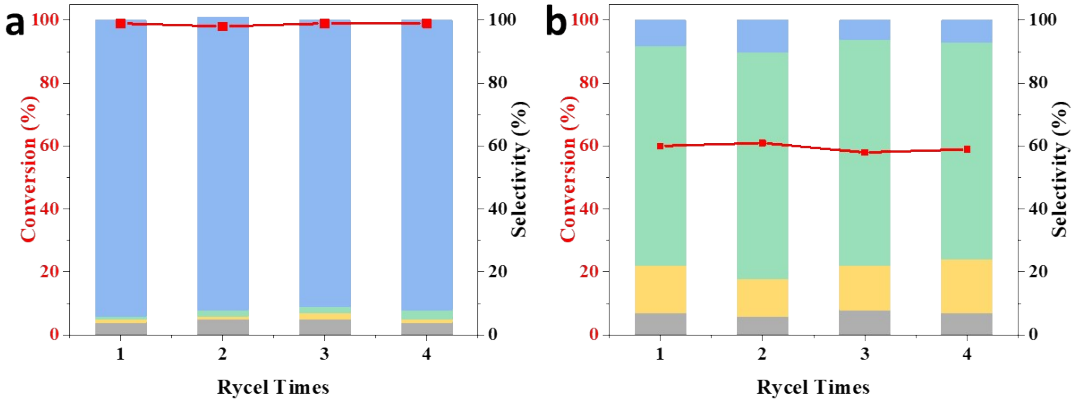


Figure S1. Stability tests of the 1-octene reductive hydroformylation reaction over $Co_2(CO)_8$@PPh_3-1/10 catalyst. (a) at full conversion of 1-octene; (b) at relatively low conversions (59%-61%) of 1-octene.

Table S10. Co Contents in the Fresh and Recycled Catalysts, and in the Filtration after Each Cycle.

Entry	Co contents in the catalysts (wt.%)	Co contents in the filtration (wt.%)
The fresh $Co_2(CO)_8$@PPh_3-1/10	3.27	-
The 1st recycled $Co_2(CO)_8$@PPh_3-1/10	3.23	1.24
The 2nd recycled $Co_2(CO)_8$@PPh_3-1/10	3.19	1.21
The 3rd recycled $Co_2(CO)_8$@PPh_3-1/10	3.16	0.93
The 4th recycled $Co_2(CO)_8$@PPh_3-1/10	3.15	0.13

[a] Co contents were determined by ICP-AES.

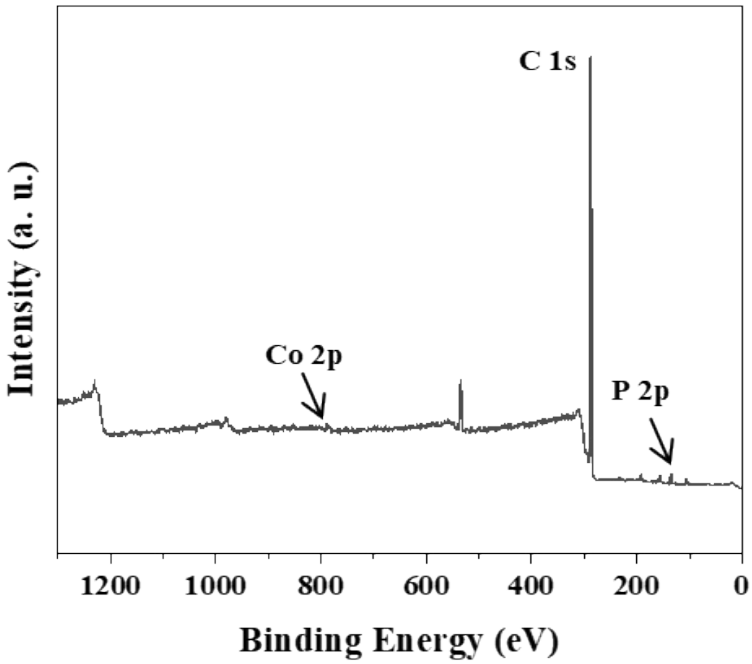


Figure S2. XPS wide-scan spectra of $Co_2(CO)_8$@PPh_3-1/10.

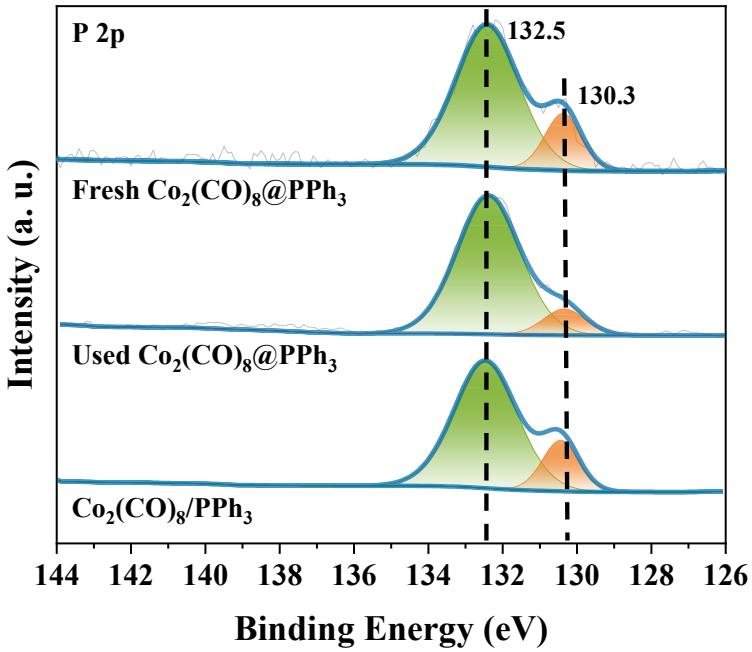


Figure S3. P 2p XPS spectra of fresh $Co_2(CO)_8$@PPh_3-1/10 and used $Co_2(CO)_8$@PPh_3-1/10.

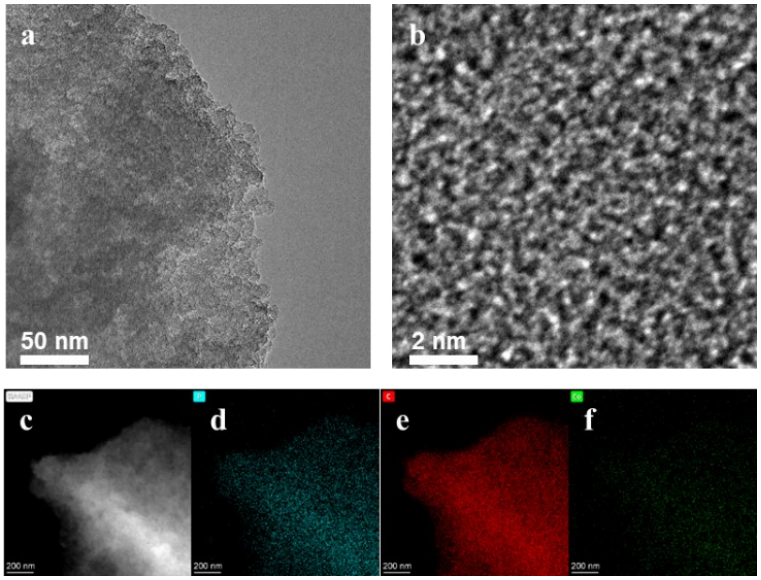


Figure S4. Morphology of used $Co_2(CO)_8$@PPh_3-1/10. (a) TEM. (b) HRTEM, (c-f) EDS mapping.

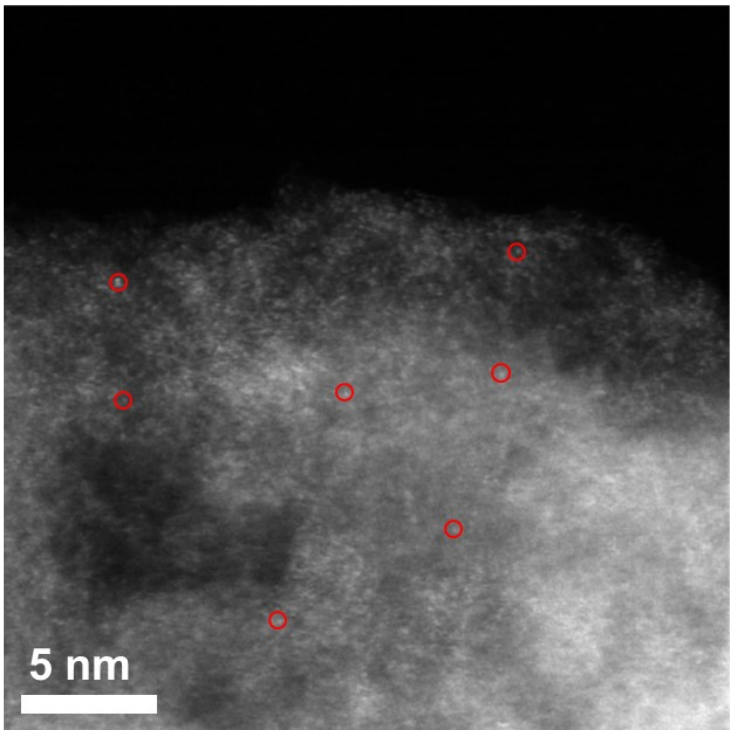


Figure S5. HAADF-STEM image of used $Co_2(CO)_8$@PPh_3-1/10.

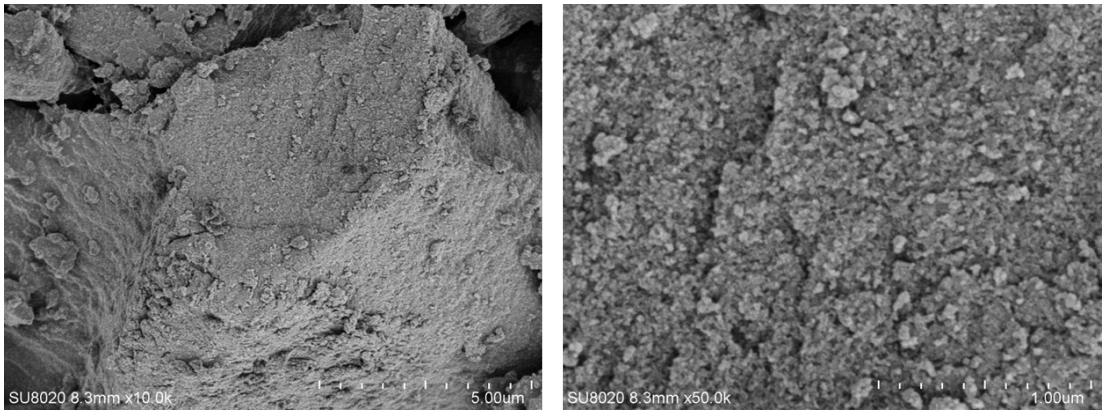


Figure S6. SEM images of fresh $Co_2(CO)_8$@PPh_3-1/10.

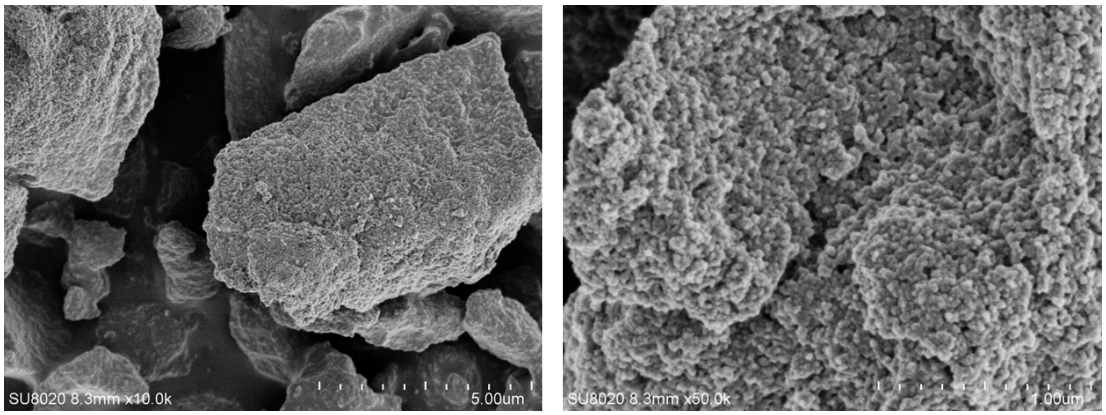


Figure S7. SEM images of used $Co_2(CO)_8$@PPh_3-1/10.

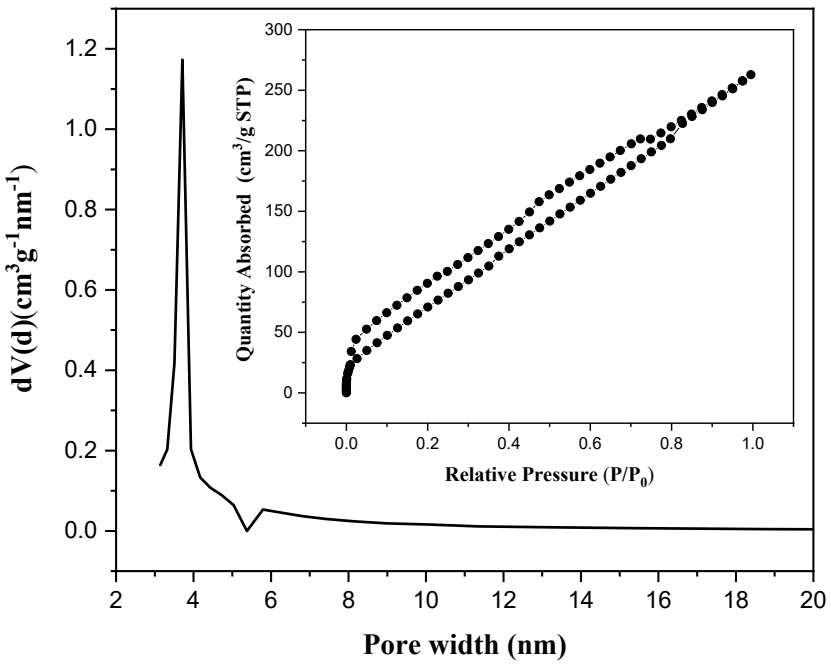


Figure S8. N_2 adsorption–desorption analysis of fresh $Co_2(CO)_8$@PPh_3-1/10.

Table S11. The information of BET of Catalysts

Samples	Surface area (m^2 g^{-1})	Pore volume (cm^3 g^{-1})	Average pore Radius (nm)
$Co_2(CO)_8$@PPh_3-1/10	355.270	0.4066	4.578
$Co_2(CO)_8$/PPh_3-1/10	364.359	0.3760	4.128
Used $Co_2(CO)_8$@PPh_3-1/10	411.581	0.4698	4.566
PPh_3	345.615	0.4240	4.866

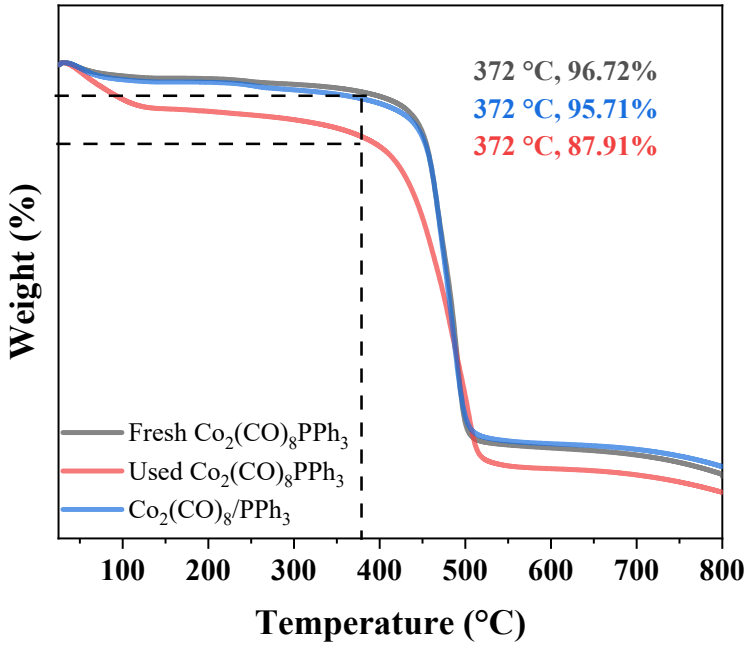


Figure S9. TG analysis of catalysts.

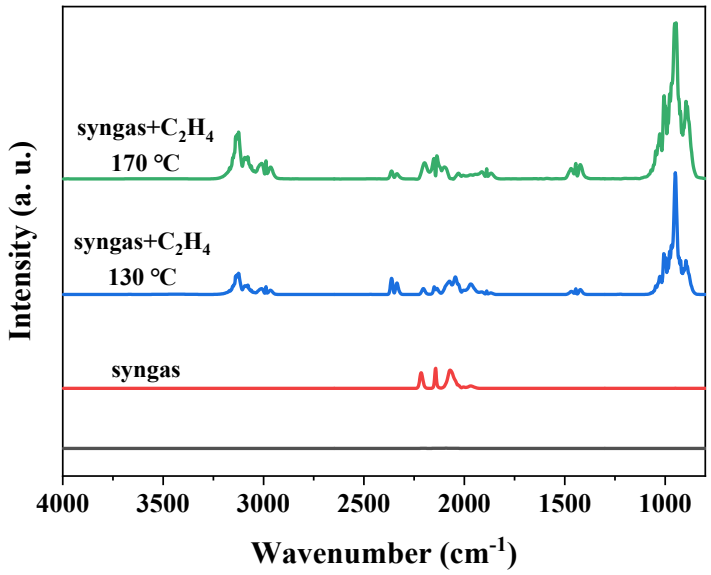


Figure S10. In situ DRIFTS spectra of $Co_2(CO)_8$@PPh_3-1/10 by introducing 1 MPa syngas and ethylene at 130 and 170 °C.

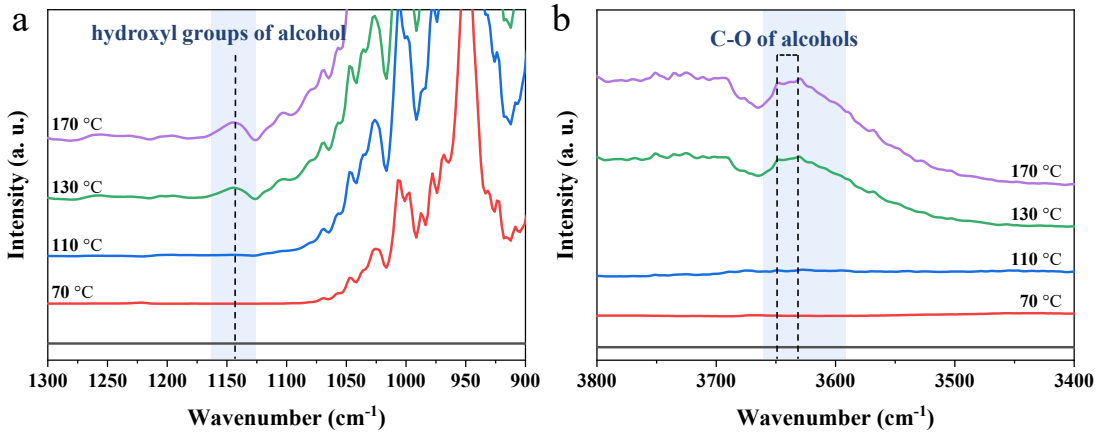
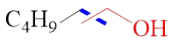
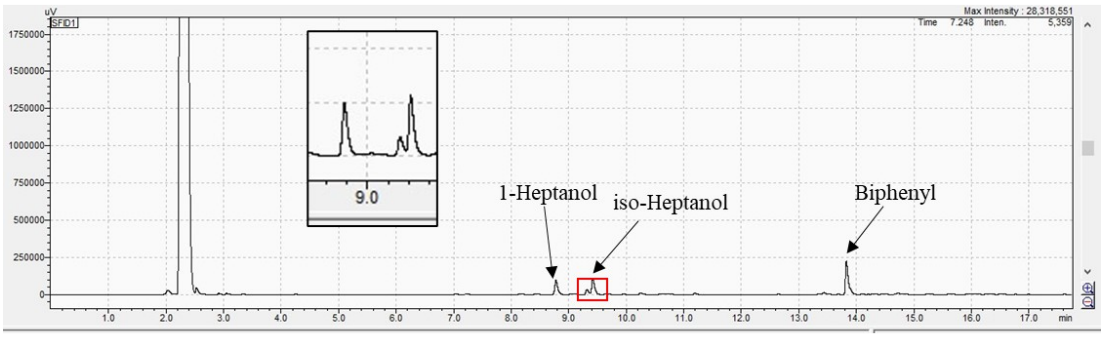


Figure S11. In situ DRIFTS spectra of $Co_2(CO)_8$@PPh_3-1/10 by introducing 1 MPa syngas and ethylene as the reaction gas at different temperature.

4. Representative GC Data and NMR data of the Products





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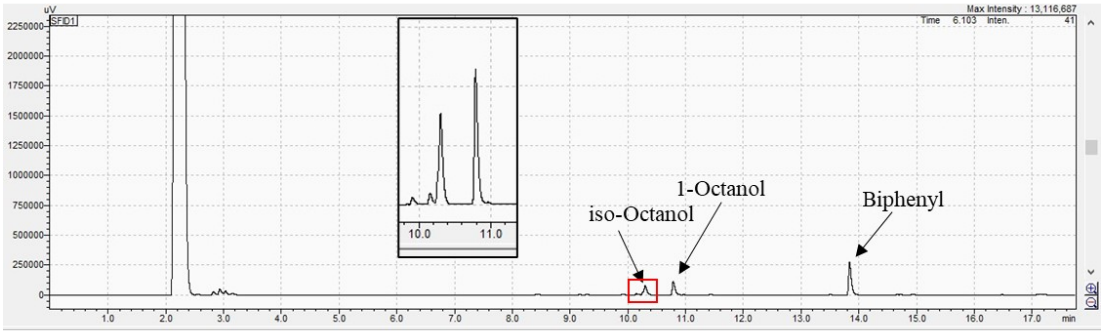
1	8.779	345729	96559	M	0.000			21.555	0
2	9.419	481835	110067	M	0.000			30.041	0
3	13.828	776343	220270	M	0.000	mg		48.403	1.00000



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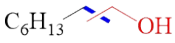
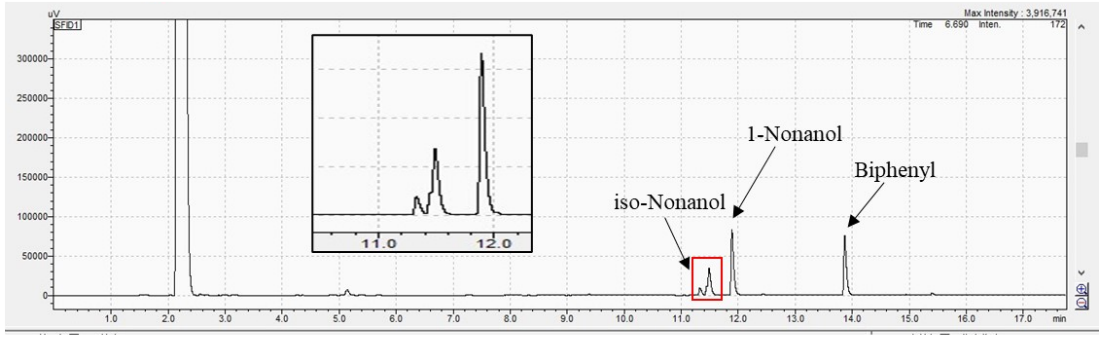
3	13.840	895736	276674	M	0.000	mg	6	56.241





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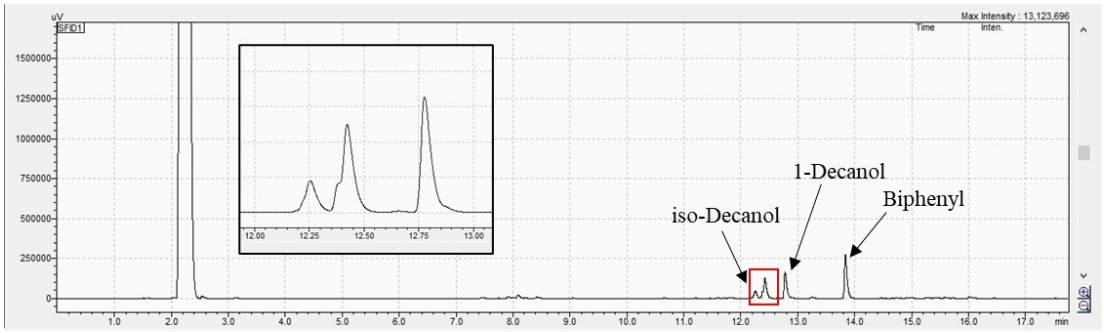
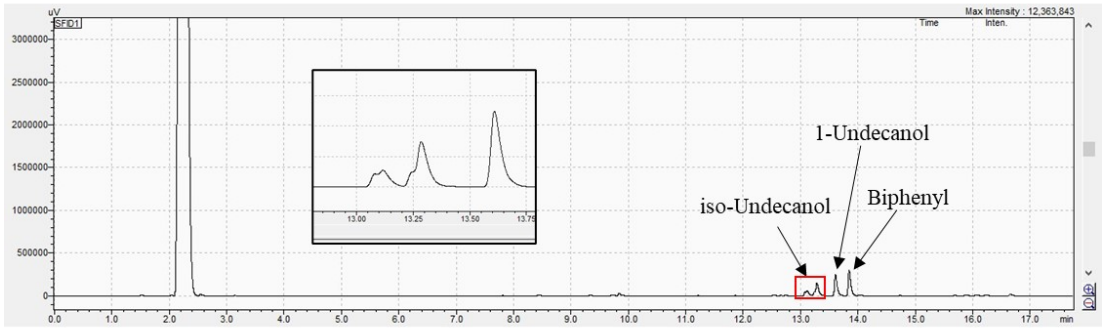
2	11.890	268296	82681	M	49.778	mg	5	40.221
3	13.868	239212	75534	M	0.000	mg	6	35.861

$C_7H_{15}OH$



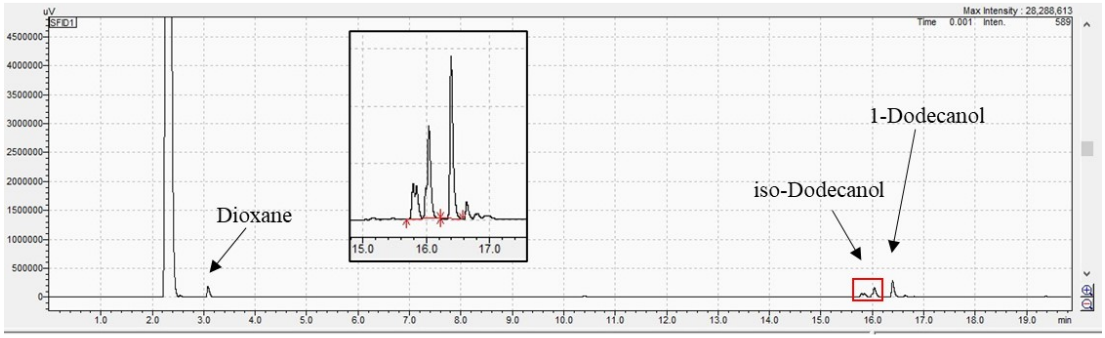
峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%
1	12.423	649413	122921	M	120.487	mg	5	31.506
2	12.777	535858	162357	M	0.000			25.997
3	13.838	875996	271617	M	0.000	mg	6	42.498

$C_8H_{17}OH$

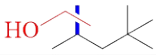


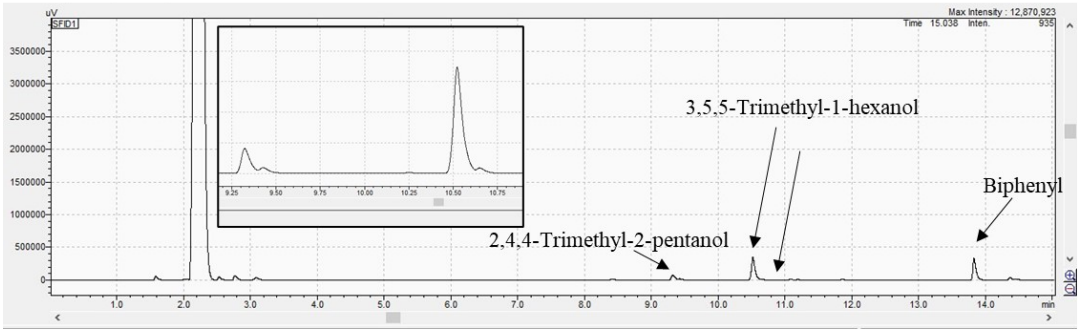
峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%
1	13.286	823826	146379	M	0.000	mg	6	32.641
2	13.609	793631	245070	M	0.000	mg	6	31.445
3	13.847	906453	291992	M	0.000	mg	6	35.915

$C_9H_{19}OH$

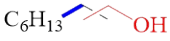


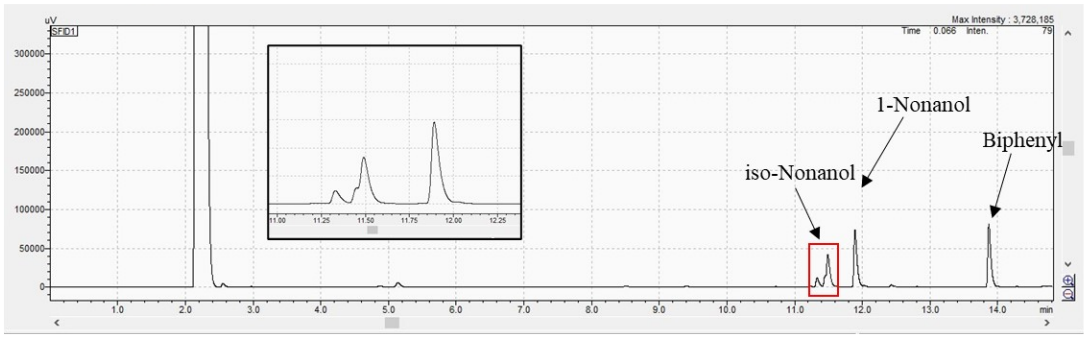
峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%
1	3.082	579985	181086	M	0.000			22.765
2	16.040	1028536	160994	M	0.000			40.371
3	16.393	939204	283650	M	0.000			36.864



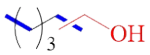


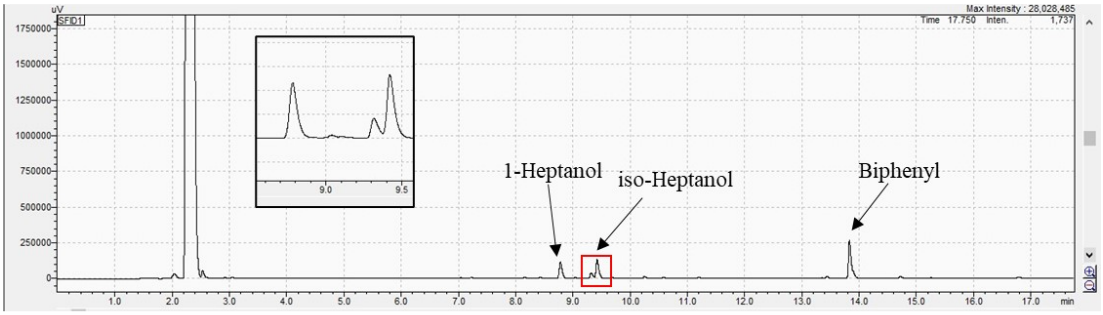
峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%
1	9.323	349529	80537	M	0.000			13.096
2	10.523	1288978	344540	M	0.000			48.295
3	13.832	1030480	327186	M	0.000	mg	6	38.609



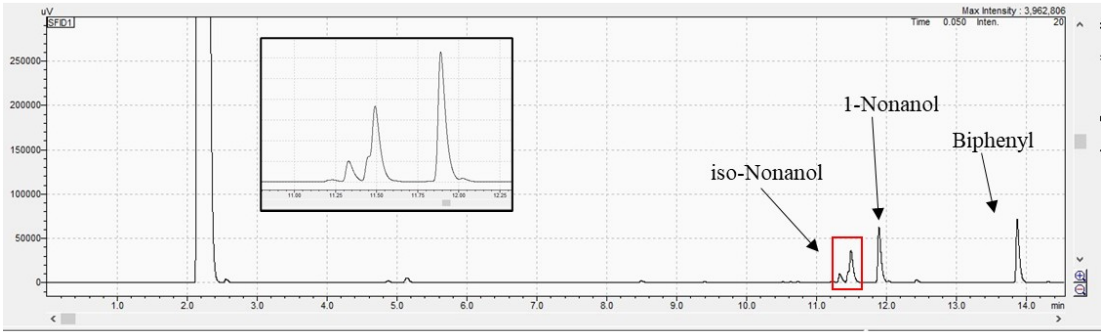


峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%
1	11.491	194801	40875	M	43.321	mg	4	28.750
2	11.891	229663	71937	M	42.610	mg	5	33.896
3	13.869	253093	80388	M	0.000	mg	6	37.354

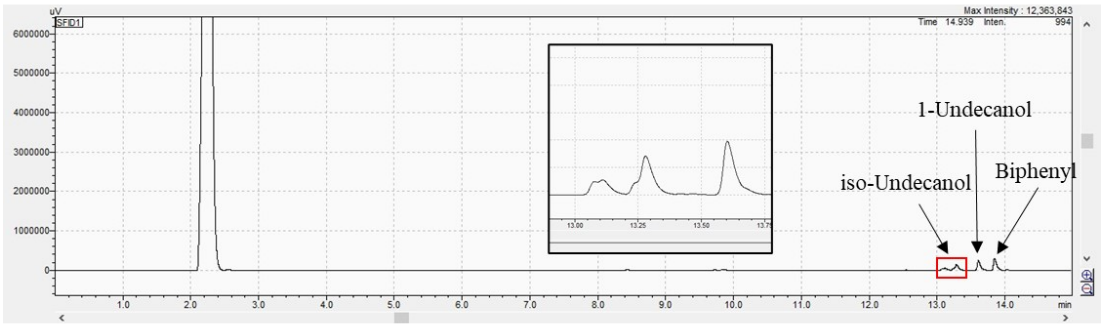




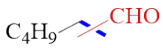
峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%	面积比
1	8.781	408647	115401	M	0.000			21.072	0
2	9.422	593106	132458	M	0.000			30.584	0
3	13.830	937534	265536	M	0.000	mg	6	48.344	1.00000

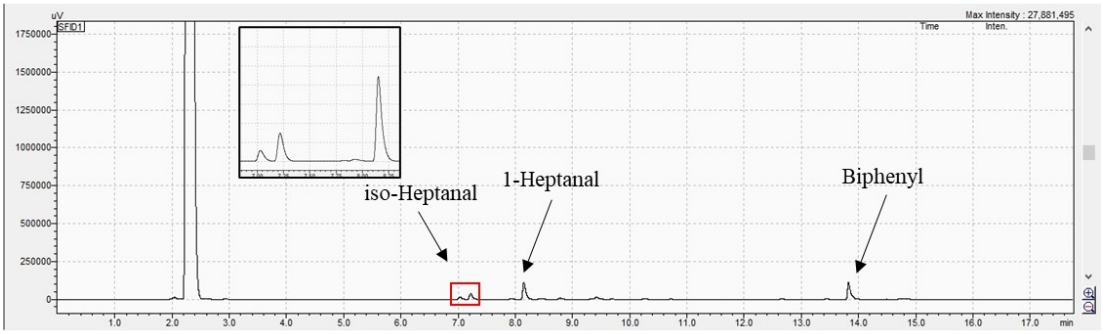


峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%
1	11.490	171411	35938	M	38.119	mg	4	28.585
2	11.890	203818	62223	M	37.815	mg	5	33.990
3	13.868	224416	70731	M	0.000	mg	6	37.425

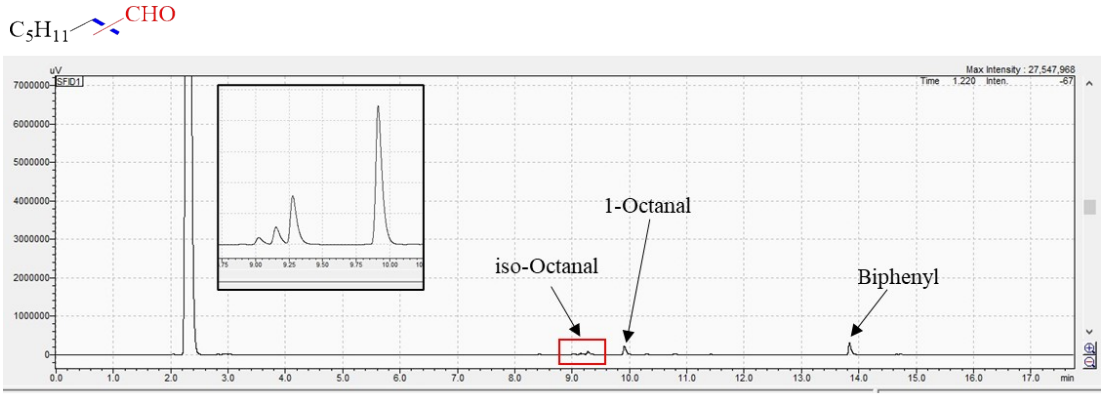


峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%
1	13.280	778857	138749	M	0.000	mg	6	33.087
2	13.603	631711	191956	M	0.000	mg	6	26.836
3	13.842	943382	296602	M	0.000	mg	6	40.077

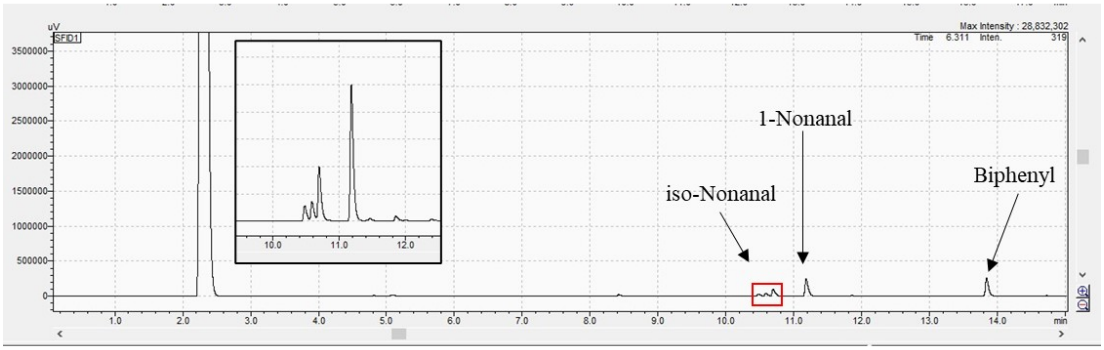




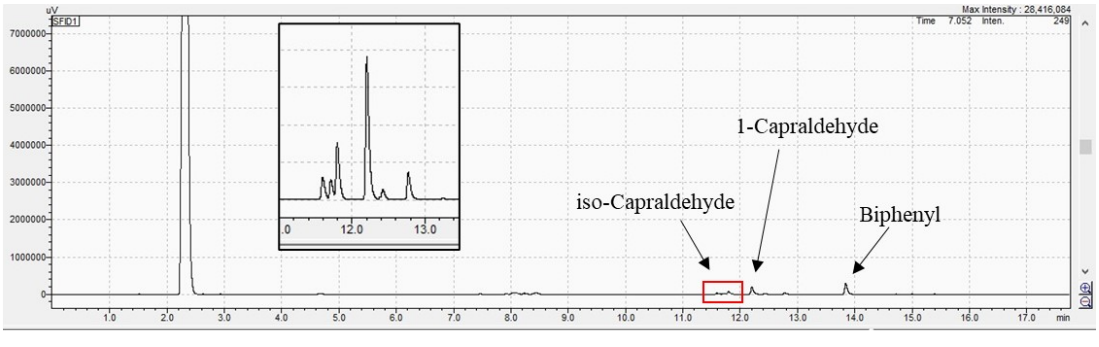
峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%	面积比
1	7.218	198179	36812	M	0.000			19.417	0
2	8.151	408769	110553	M	0.000			40.051	0
3	13.826	413676	110305	M	0.000	mg	6	40.532	1.00000



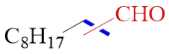
峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%
1	9.277	404819	77957	M	0.000			19.165
2	9.912	735170	221695	M	0.000			34.805
3	13.837	972258	301682	M	0.000	mg	6	46.030

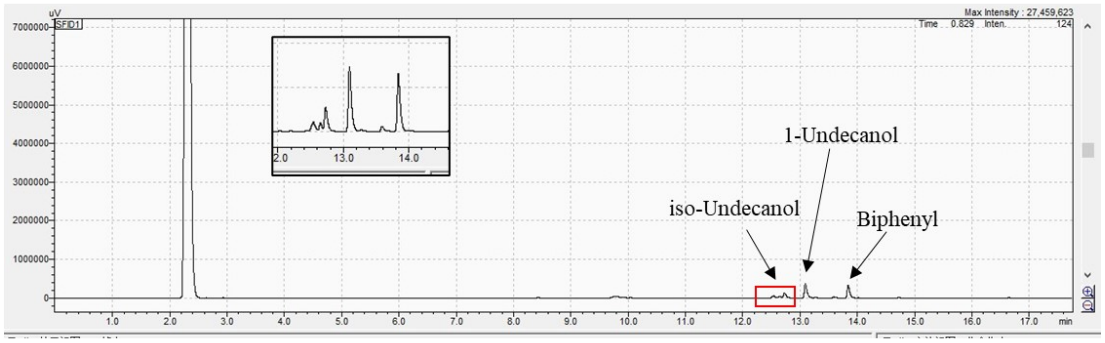


峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%
1	10.696	526519	98852	M	117.090	mg	4	24.301
2	11.181	805300	248530	M	179.087	mg	4	37.169
3	13.837	834798	258872	M	0.000	mg	6	38.530

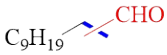


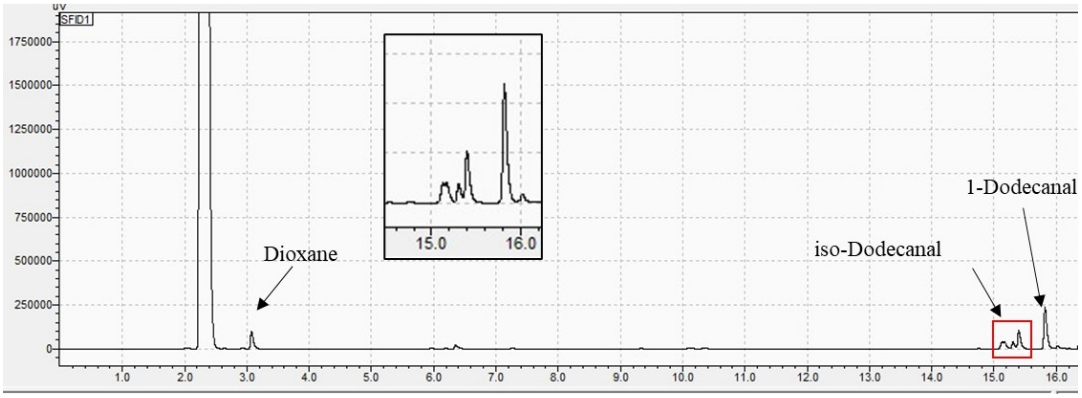
峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%	面积比
1	11.797	423257	75293	M	78.528	mg	5	21.103	0.434756
2	12.203	608875	189295	M	112.966	mg	5	30.357	0.625417
3	13.842	973550	300884	M	0.000	mg	6	48.540	1.00000



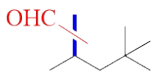


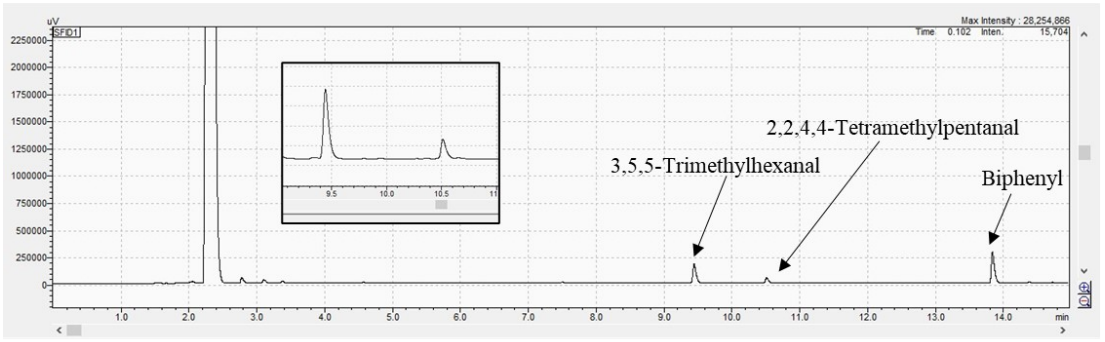
峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%
1	12.728	767074	133860	M	0.000			25.643
2	13.093	1184373	367869	M	0.000			39.593
3	13.839	1039955	325647	M	0.000	mg	6	34.765



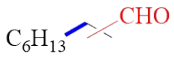


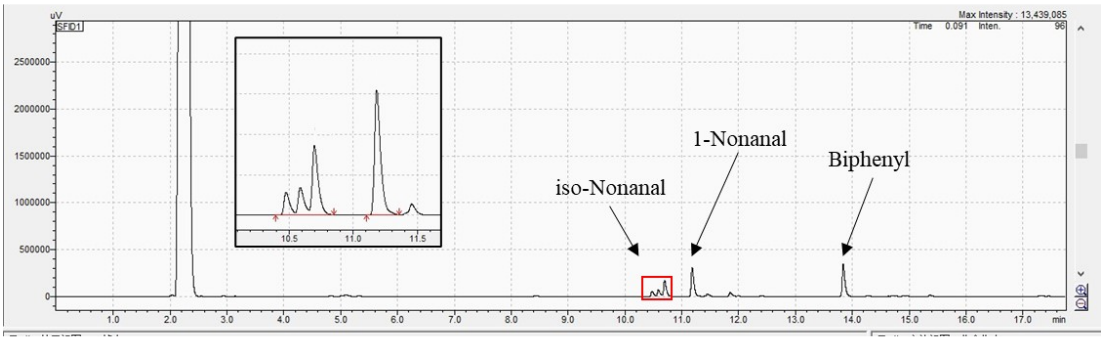
峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%	面积比
1	3.073	312331	97693	M	0.000			16.779	0
2	15.399	707311	104080	M	0.000			37.999	0
3	15.820	841775	236255	M	0.000			45.222	0



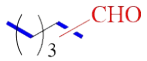


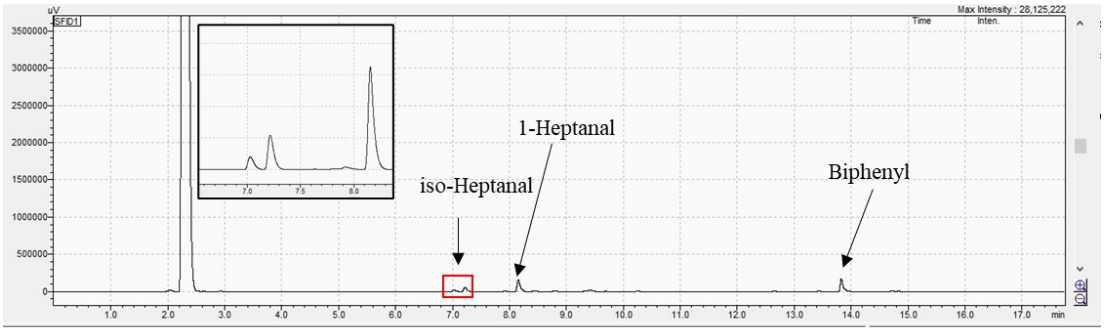
峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%
1	9.444	582052	172966	M	0.000			35.267
2	10.513	154038	48591	M	0.000			9.333
3	13.841	913064	285850	M	0.000	mg	6	55.324



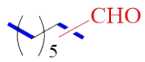


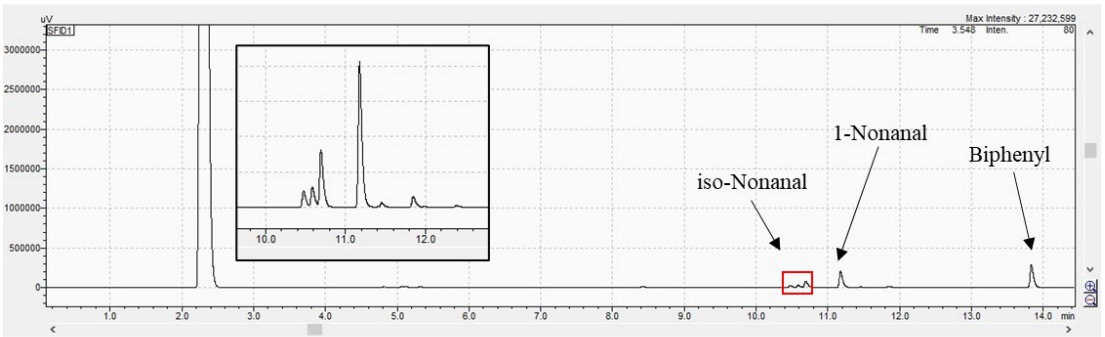
峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%	面积比
1	10.698	961565	171407	M	213.837	mg	4	30.968	0.856414
2	11.183	1020725	308381	M	226.994	mg	4	32.873	0.909106
3	13.840	1122780	346997	M	0.000	mg	6	36.160	1.00000



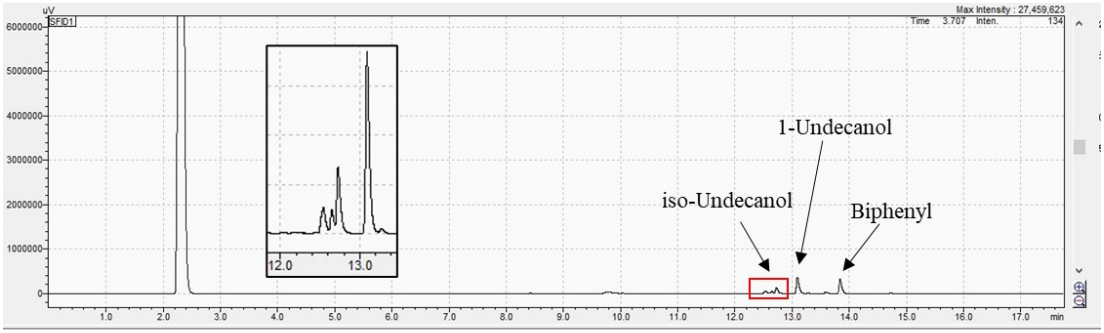


峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%	面积比
1	7.218	291567	54123	M	0.000			19.558	0
2	8.154	593991	161389	M	0.000			39.845	0
3	13.827	605187	168431	M	0.000	mg	6	40.596	1.00000

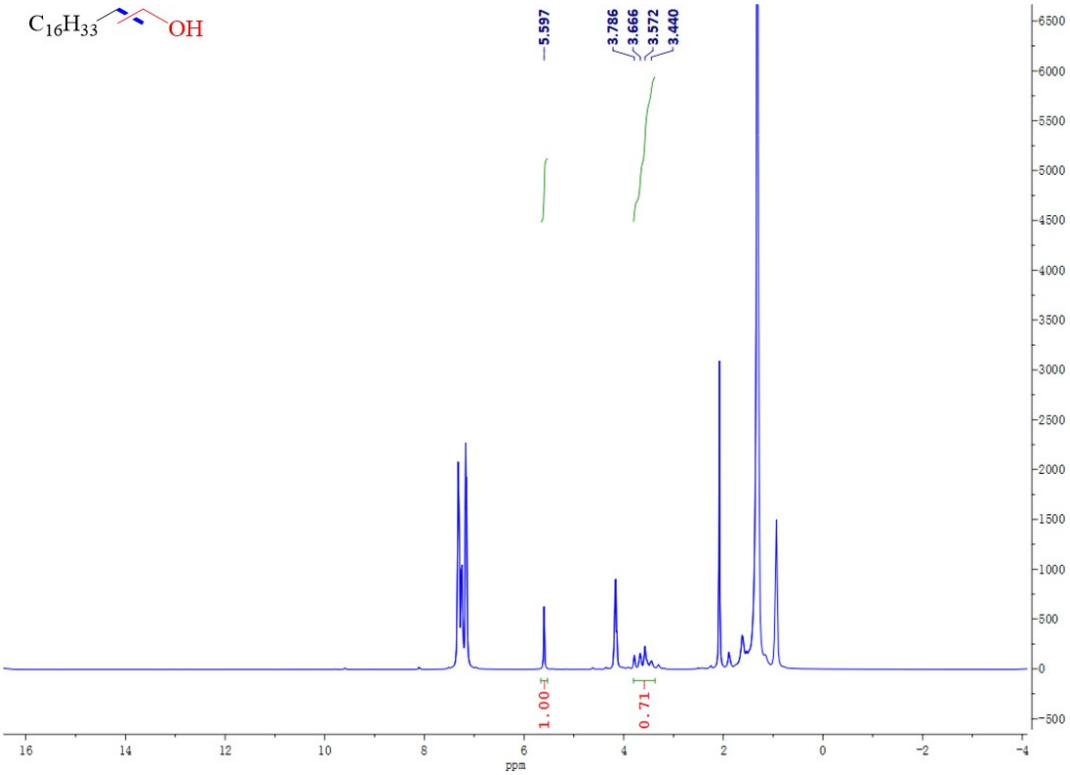


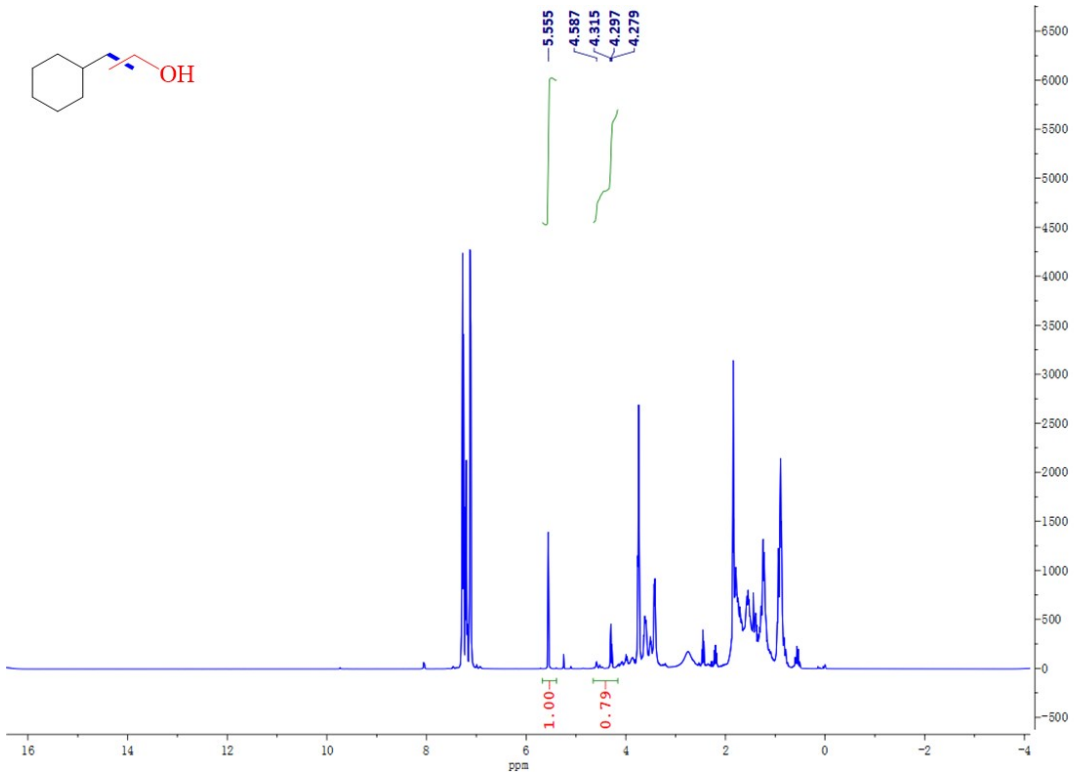


峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%	面积比
1	10.692	427975	80372	M	95.175	mg	4	21.036	0.455921
2	11.177	667826	205762	M	148.514	mg	4	32.825	0.711432
3	13.836	938706	289812	M	0.000	mg	6	46.139	1.00000



峰号	保留时间	面积	高度	标记	浓度	浓度单位	化合物ID号	面积%	面积比
1	12.728	786904	134277	M	0.000			25.663	0
2	13.093	1236725	369132	M	0.000			40.333	0
3	13.839	1042655	325899	M	0.000	mg	6	34.004	1.00000

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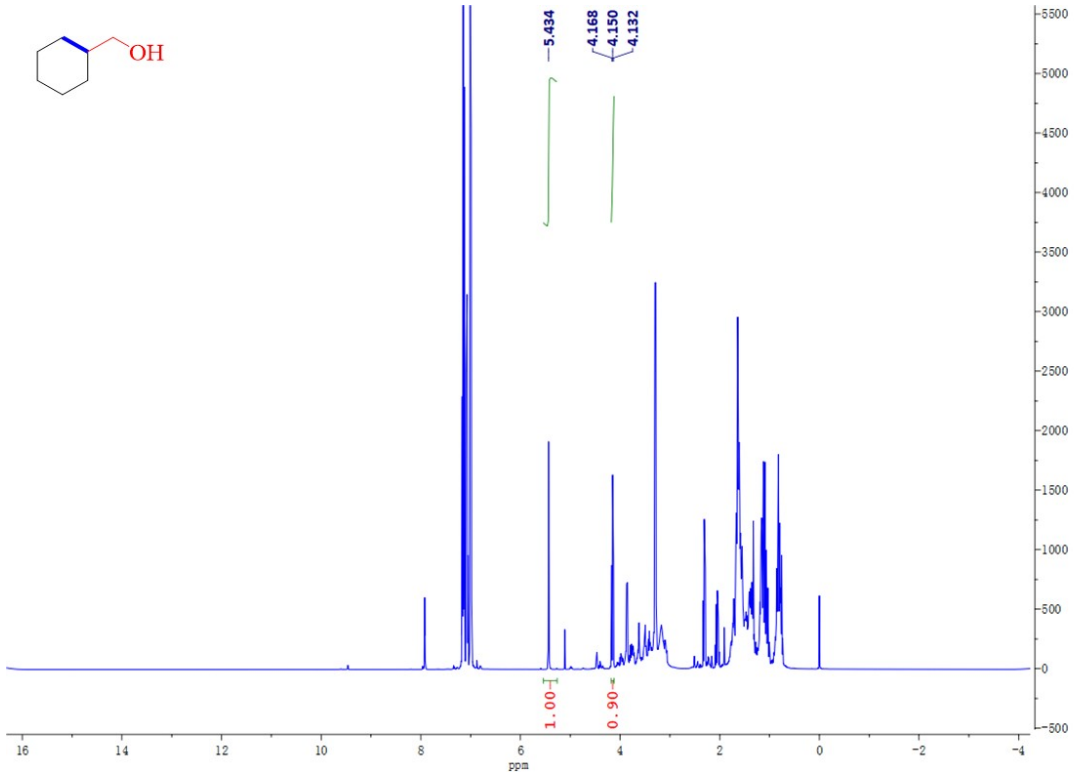
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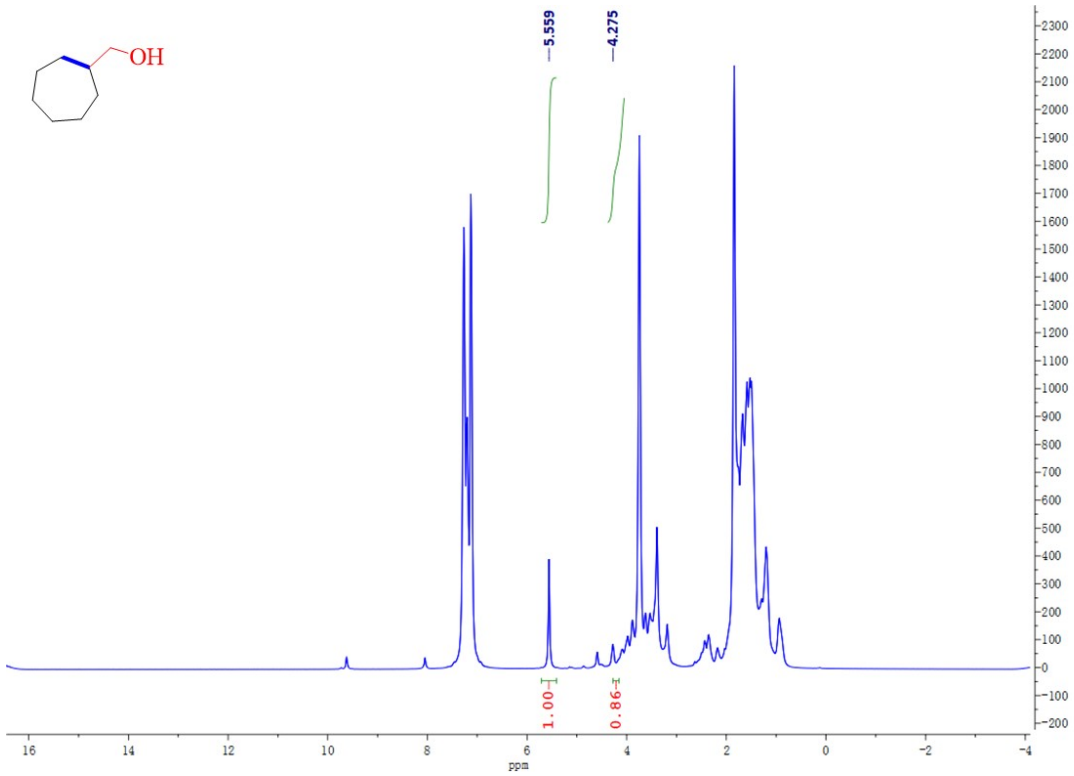
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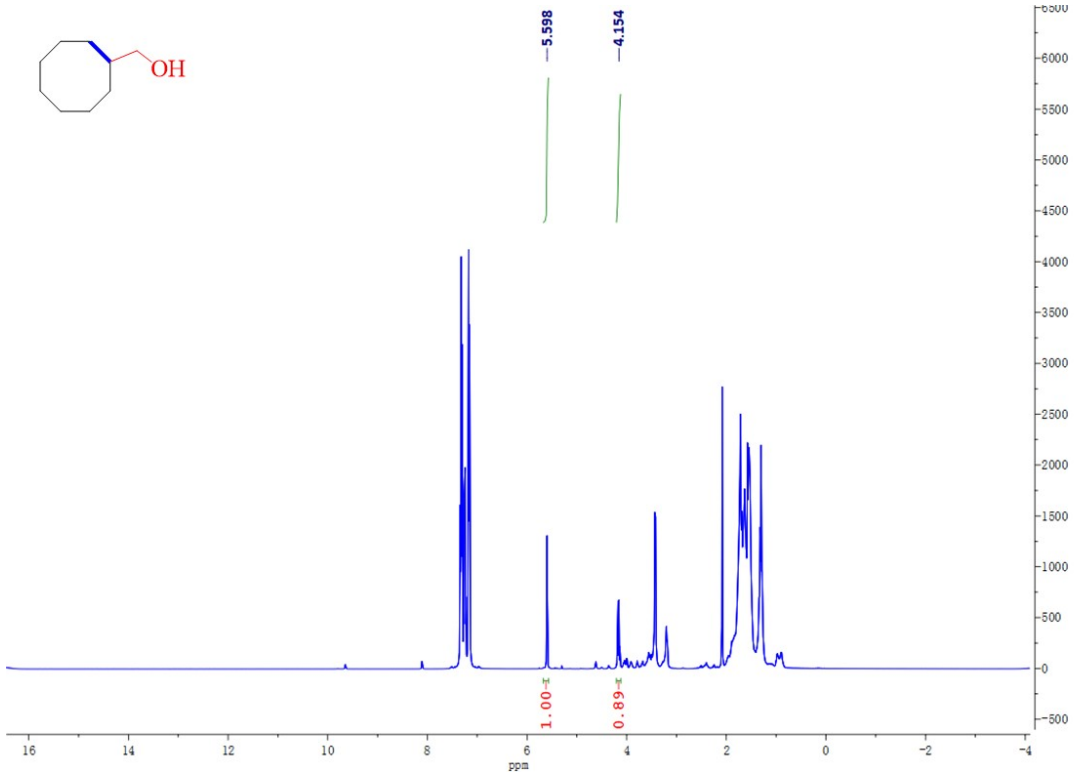
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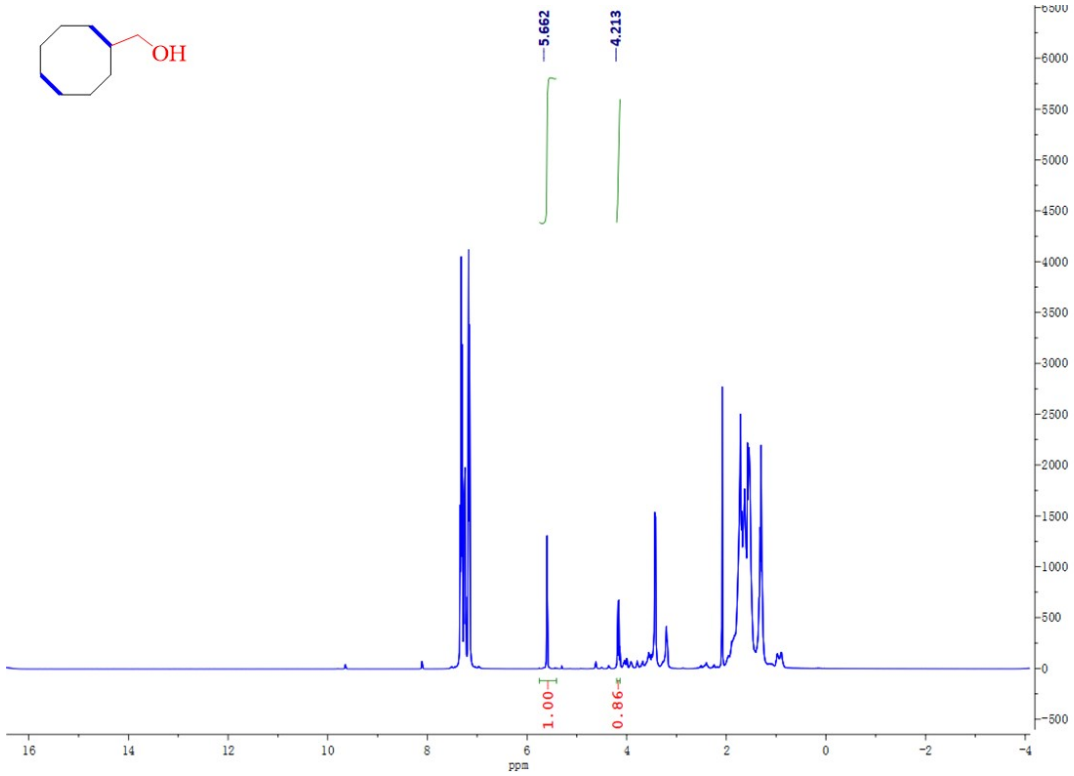
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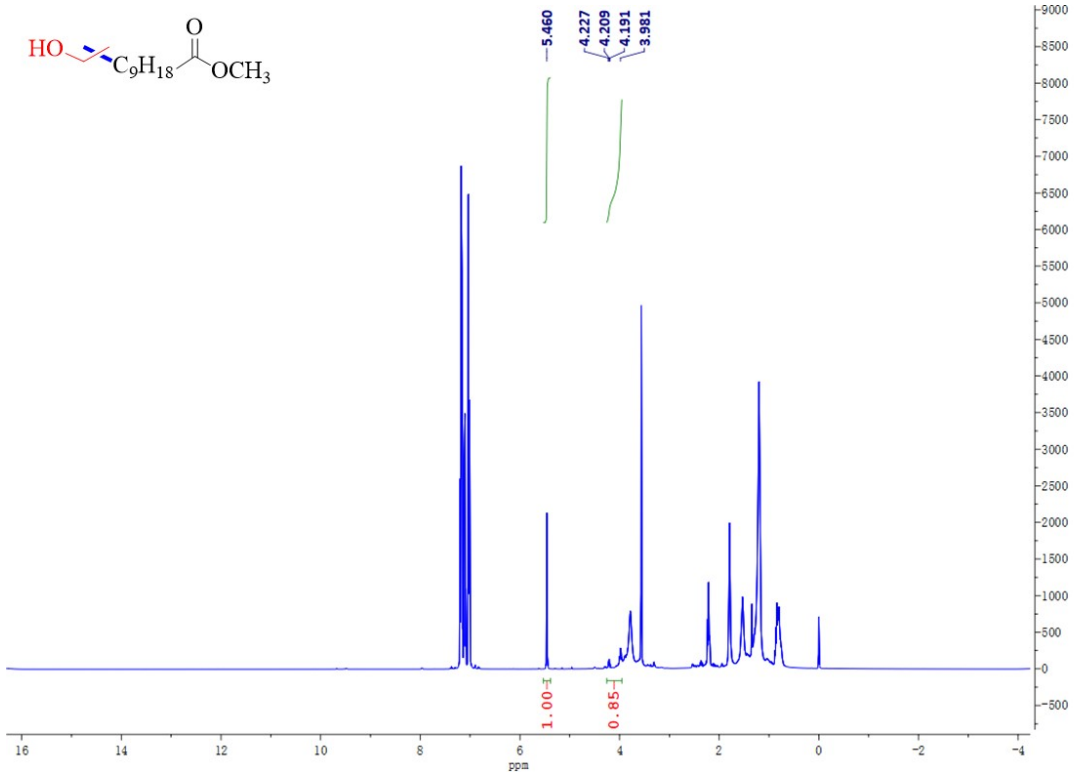
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O
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1.00
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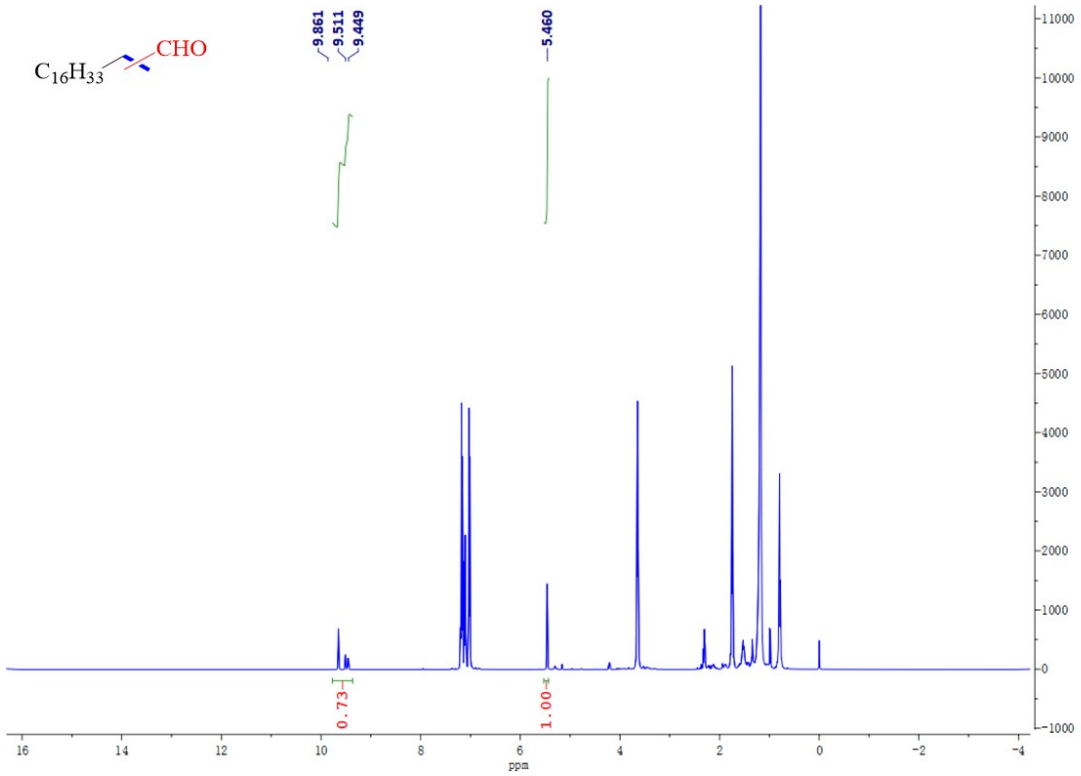
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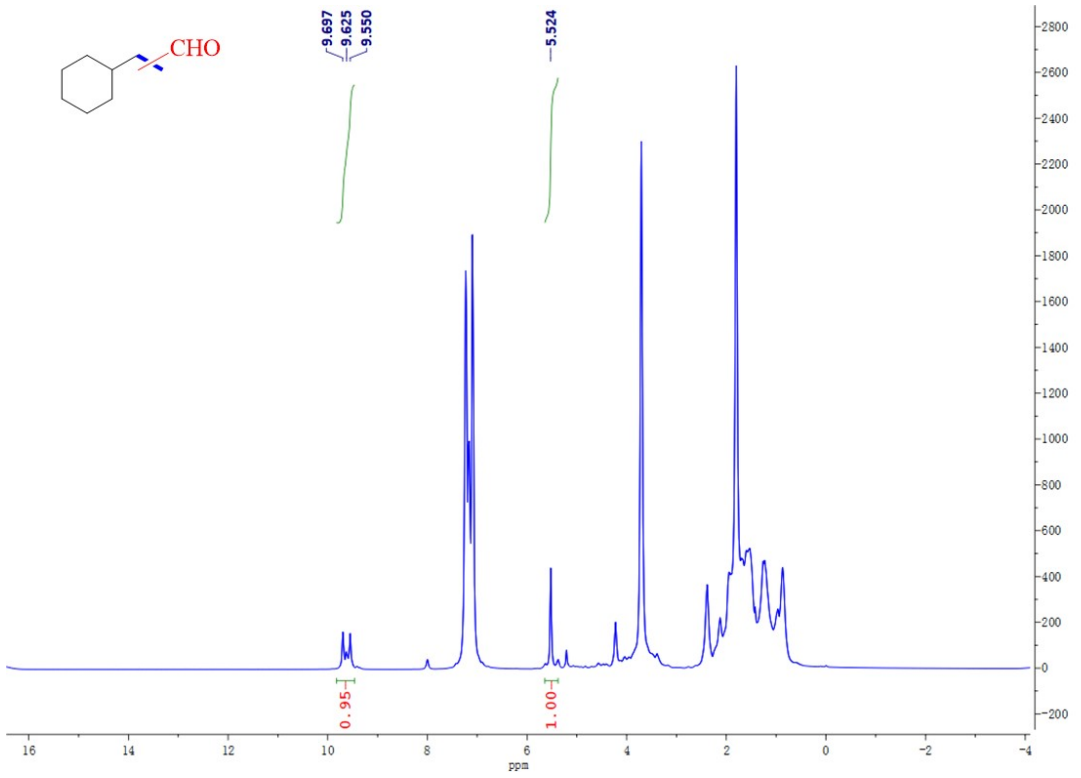
1.00
ppm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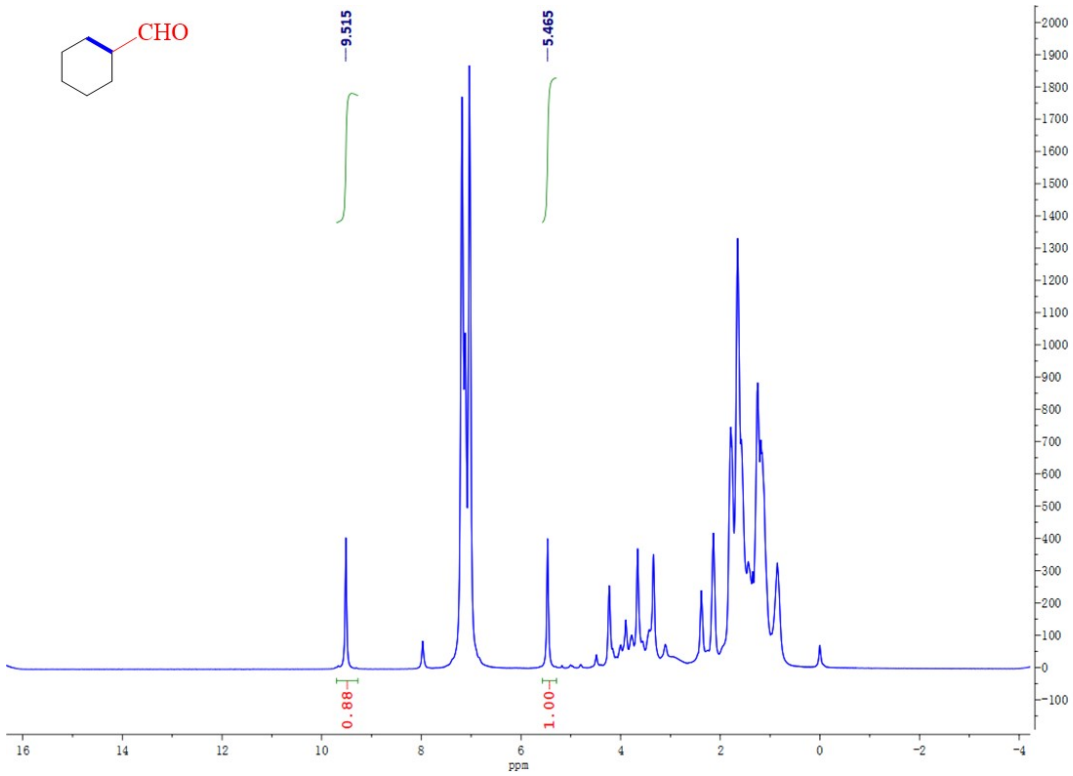
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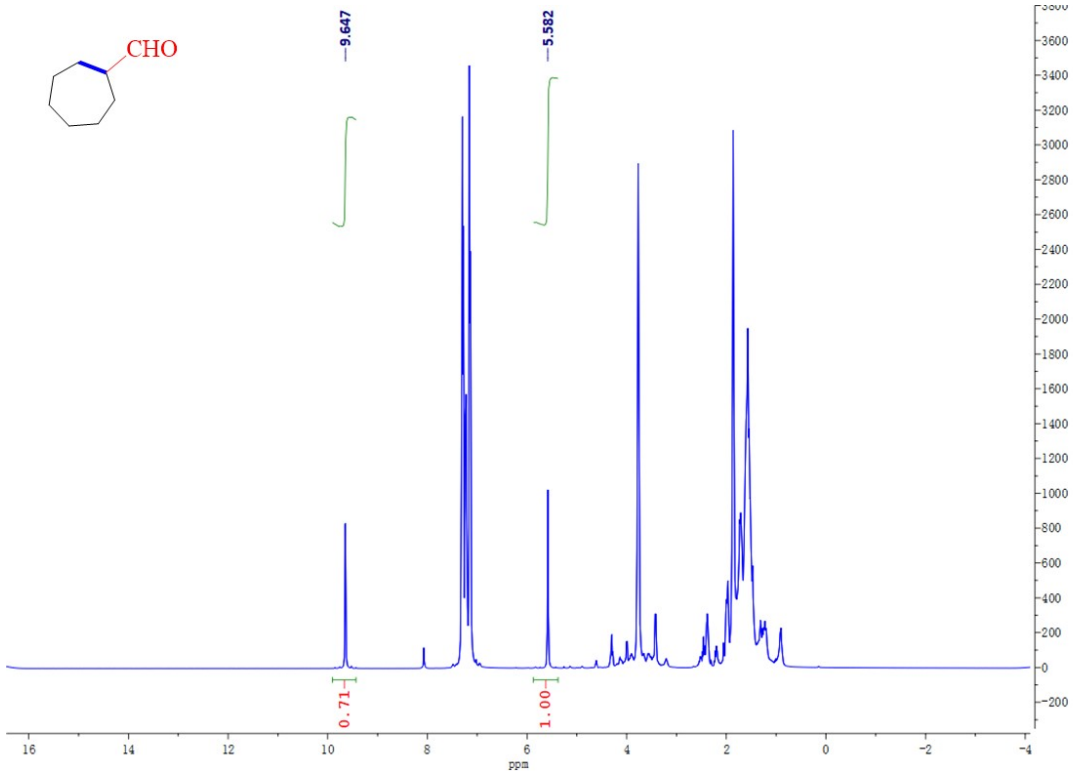
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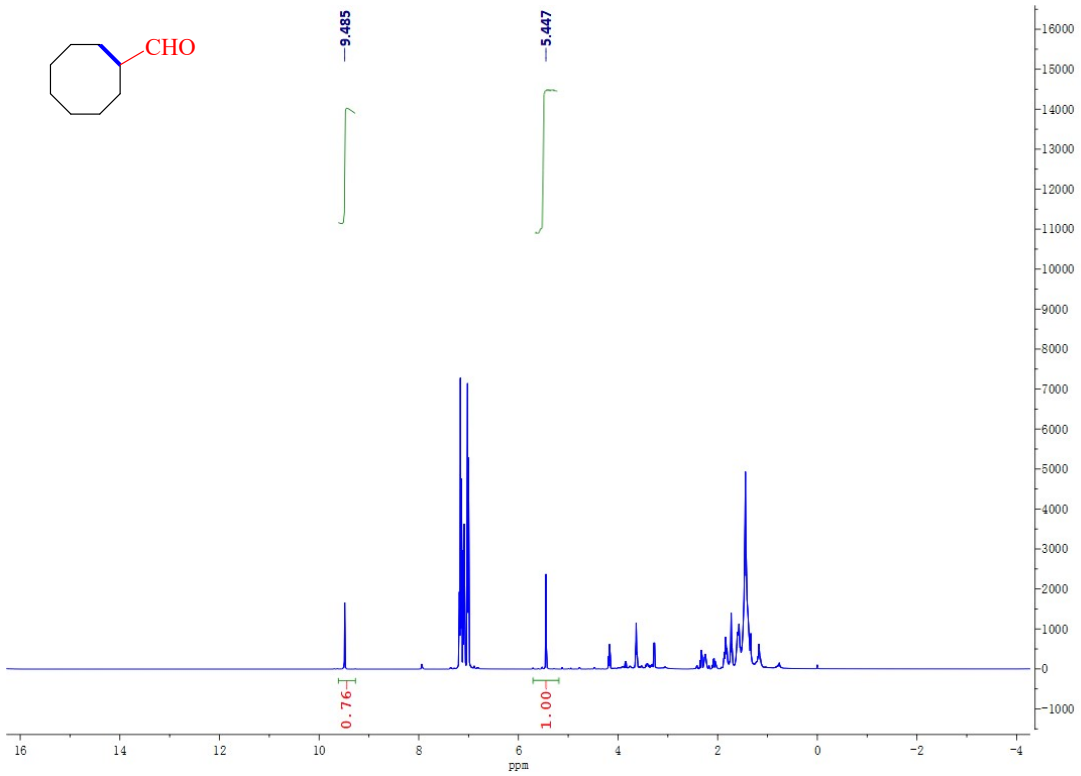
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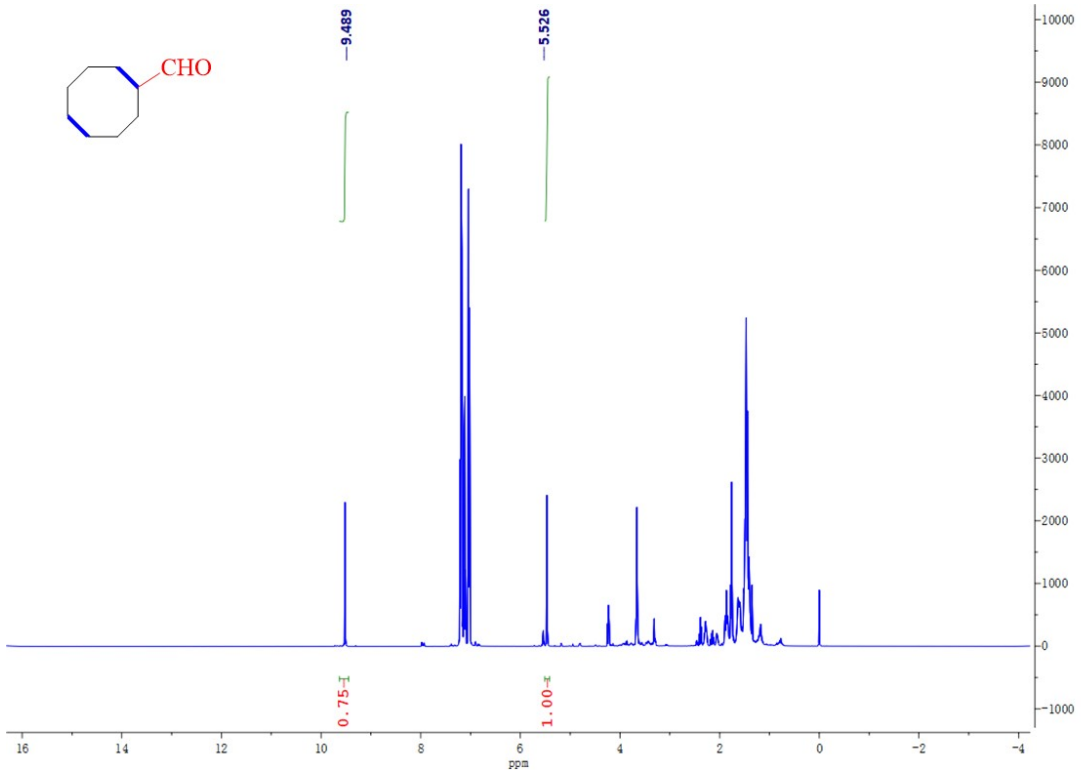
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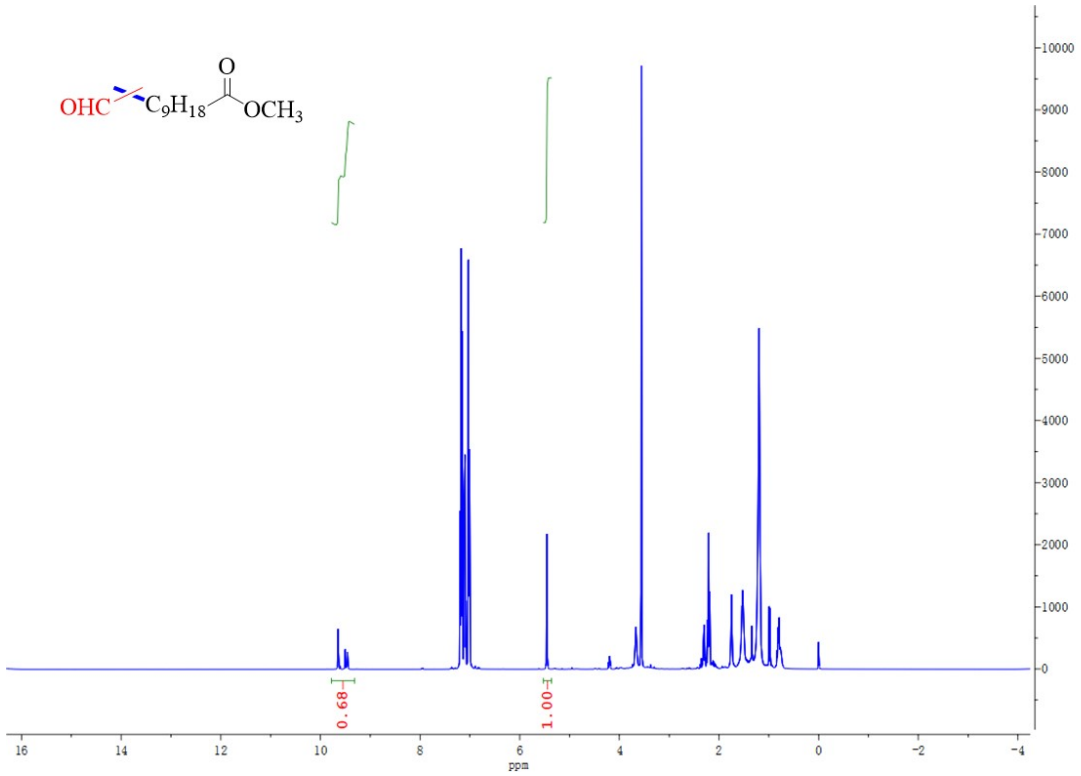
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14
12
10
8
6
4
2
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-2
-4
ppm
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9000
8000
7000
6000
5000
4000
3000
2000
1000
0