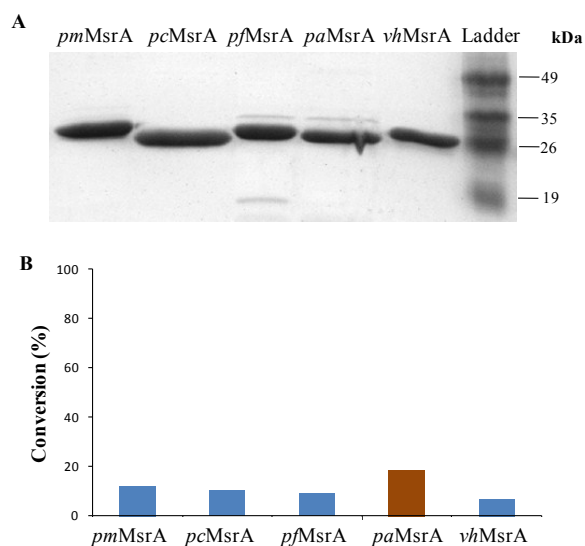


Supporting Information

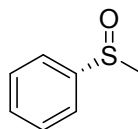
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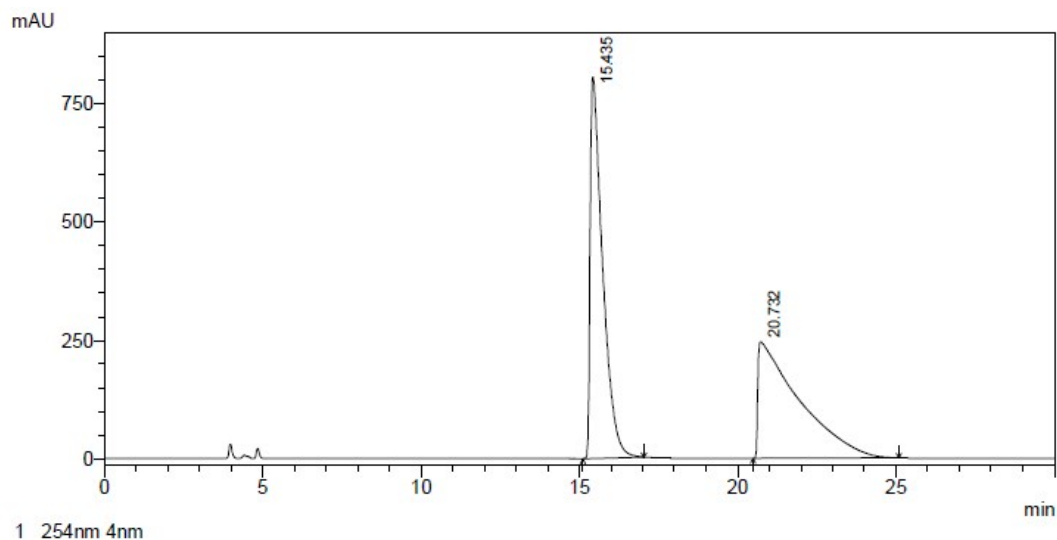
1. Catalytic analysis of MsrA pure recombinant enzymes. A) Gel electrophoresis of 5 recombinant MsrA enzymes after purification. B) Compare of conversions of 5 recombinant MsrA enzymes on substrate *rac-1a* at the enzyme concentration of 5 μ M, $t=1$ h.



2. HPLC and NMR spectra for compound (*R*)-1a



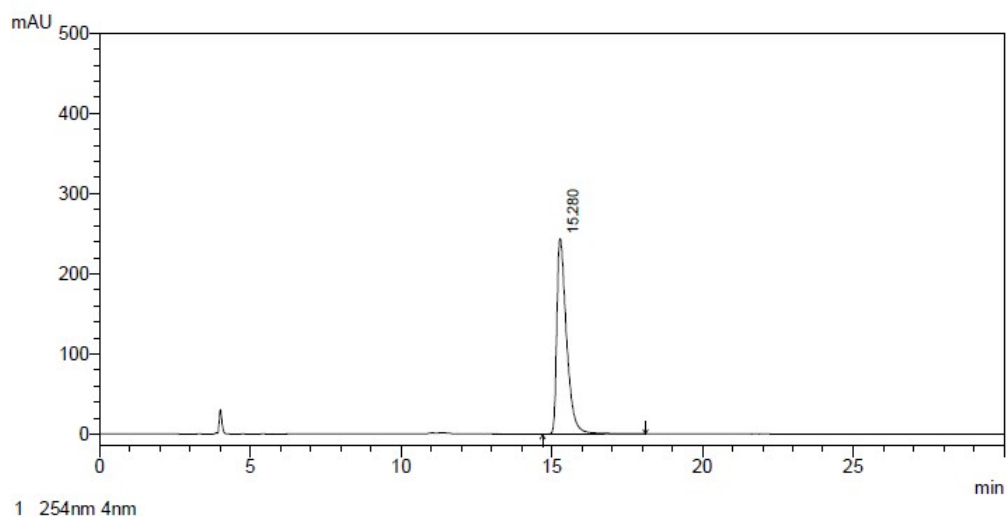
HPLC spectra for *rac*-1a



PDA

ID#	Rt. Time	Area	Height	Area %
1	15.435	22036816	805545	49.709
2	20.732	22295245	246023	50.291

HPLC spectra for (*R*)-1a

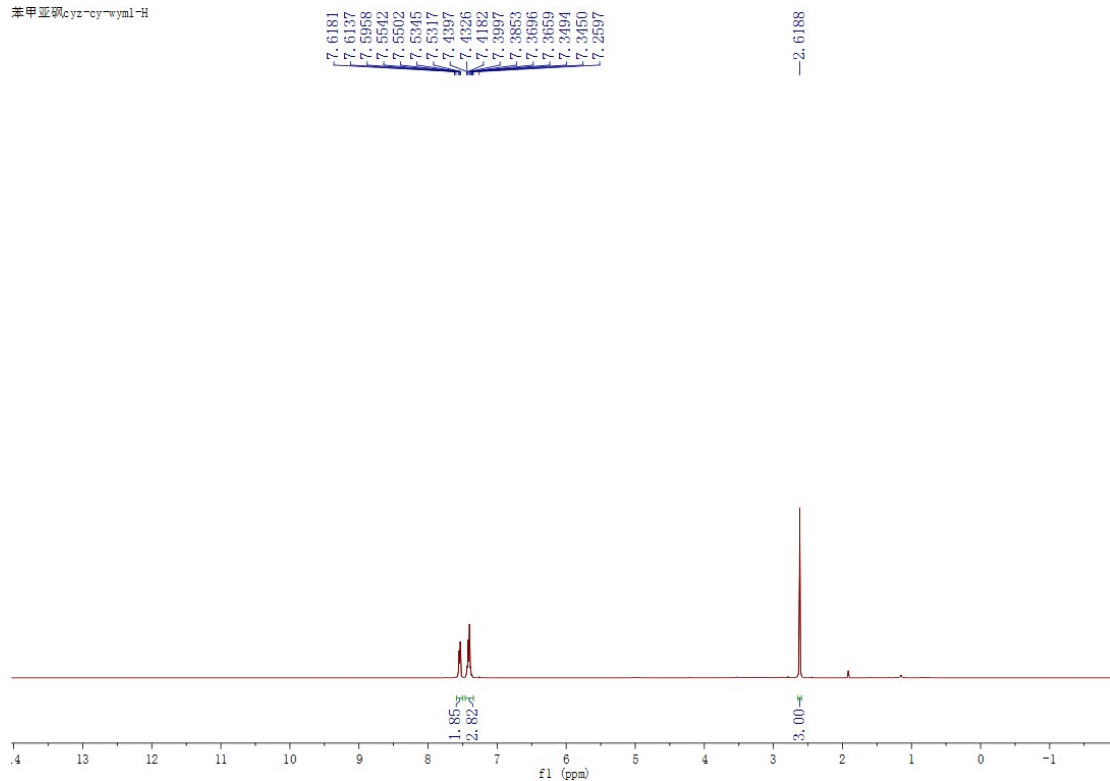


PDA

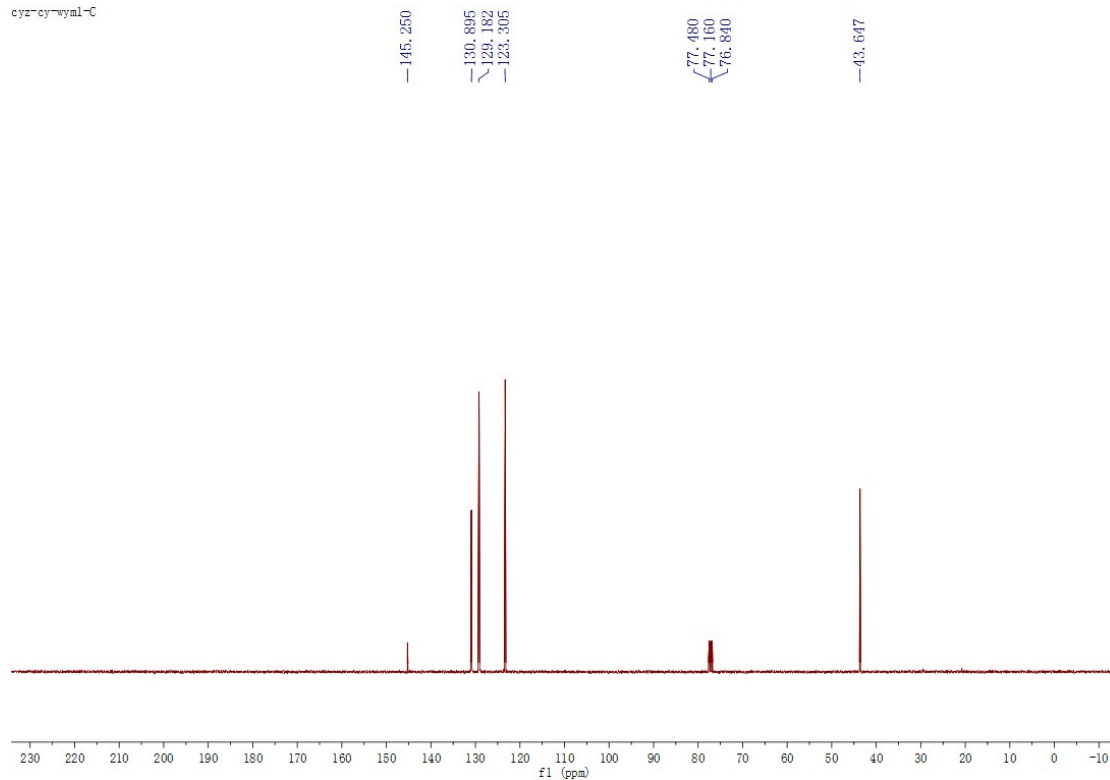
ID#	Rt. Time	Area	Height	Area %
1	15.280	5482547	244101	100.000

NMR spectra for (R)-1a

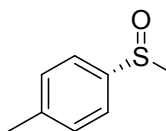
苯甲亚砷^{cyz-cy-wym}l-H



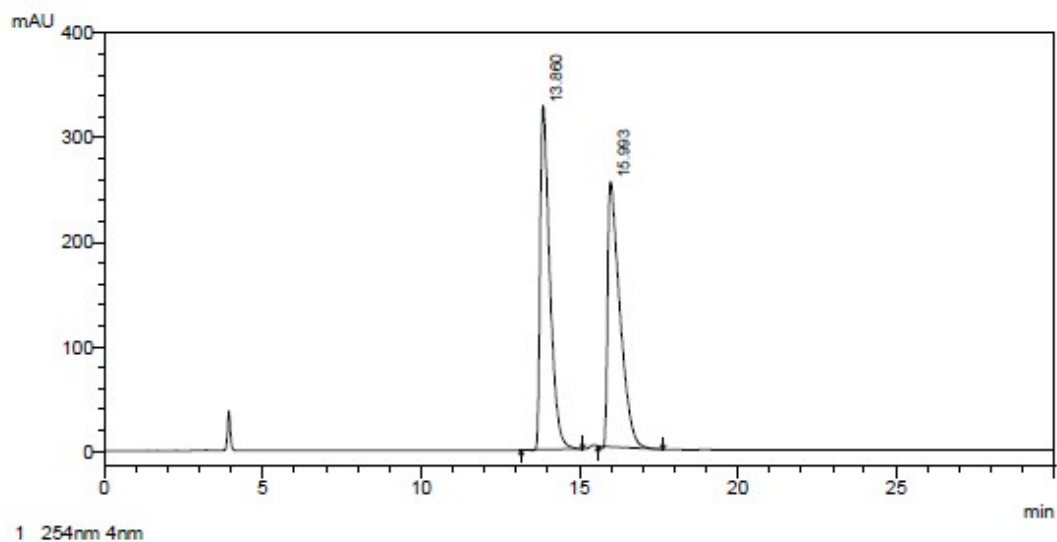
^{cyz-cy-wym}l-C



3. HPLC and NMR spectra data for compound (*R*)-1b

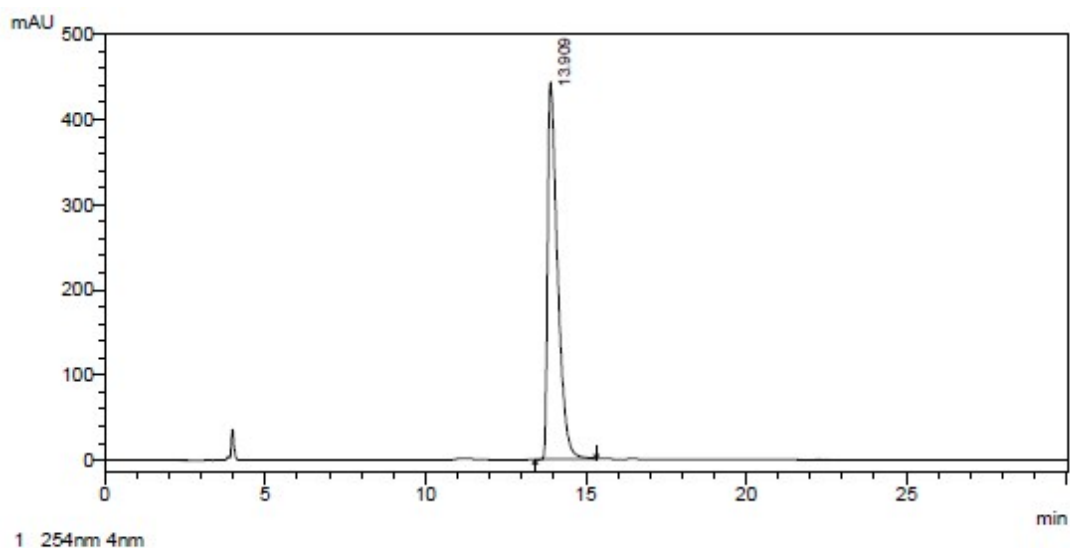


HPLC spectra for *rac*-1b



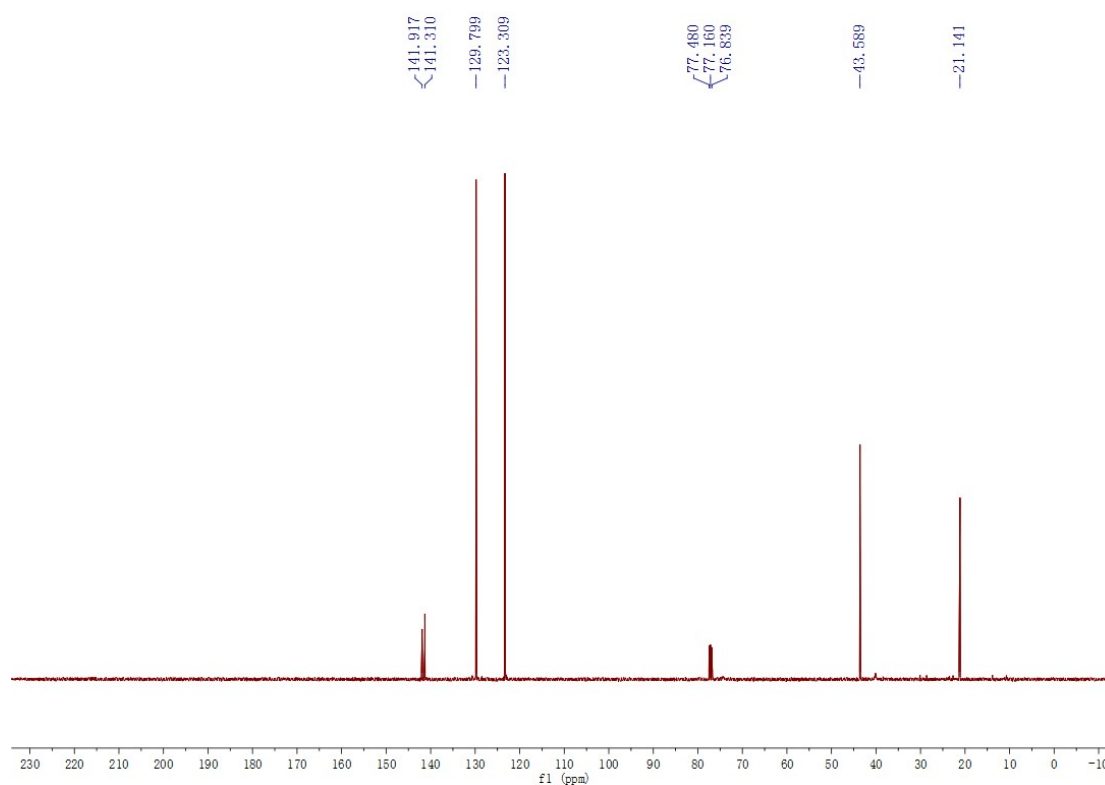
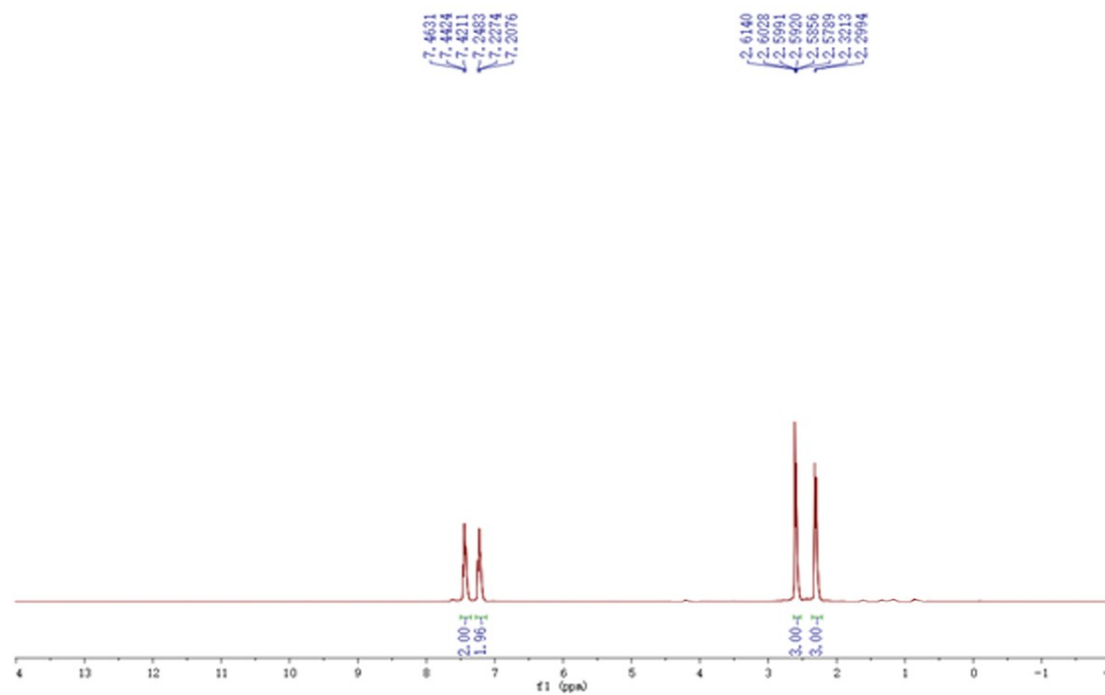
PDA				
ID#	Rt. Time	Area	Height	Area %
1	13.860	6953183	329115	50.620
2	15.993	6782923	253871	49.380

HPLC spectra for (*R*)-1b

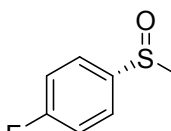


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ID#	Rt. Time	Area	Height	Area %
1	13.909	9524815	443114	100.000

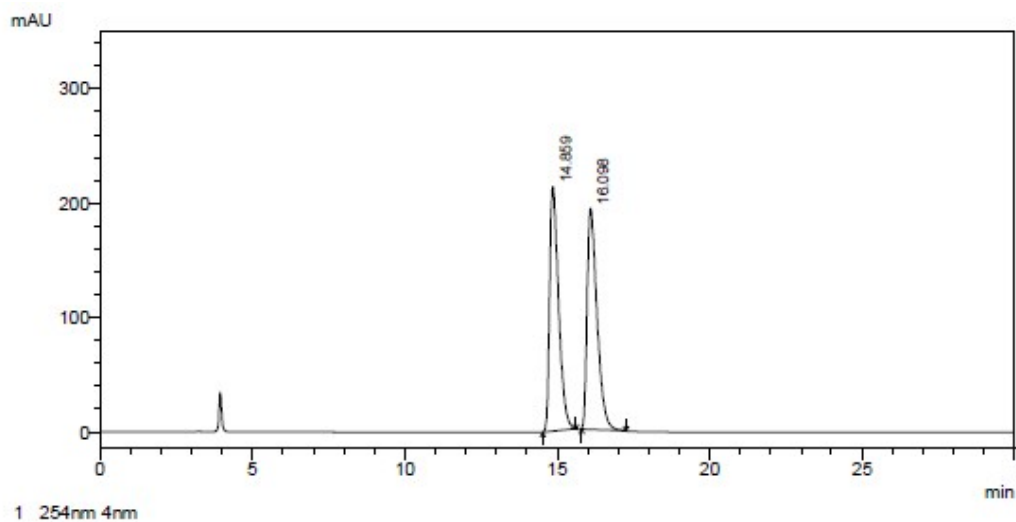
NMR spectra for (R)-1b



4. HPLC and NMR spectra data for compound (*R*)-1c

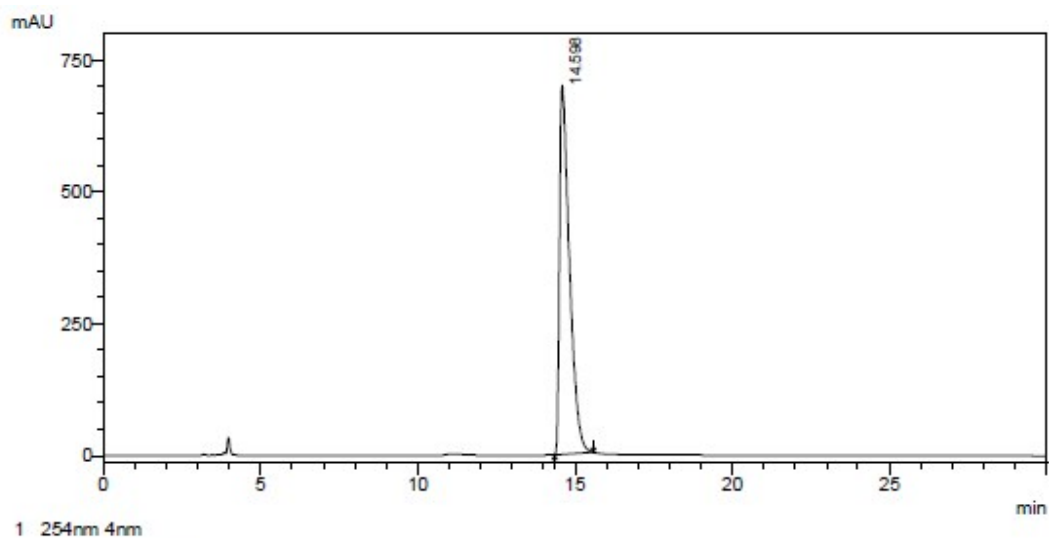


HPLC spectra for *rac*-1c



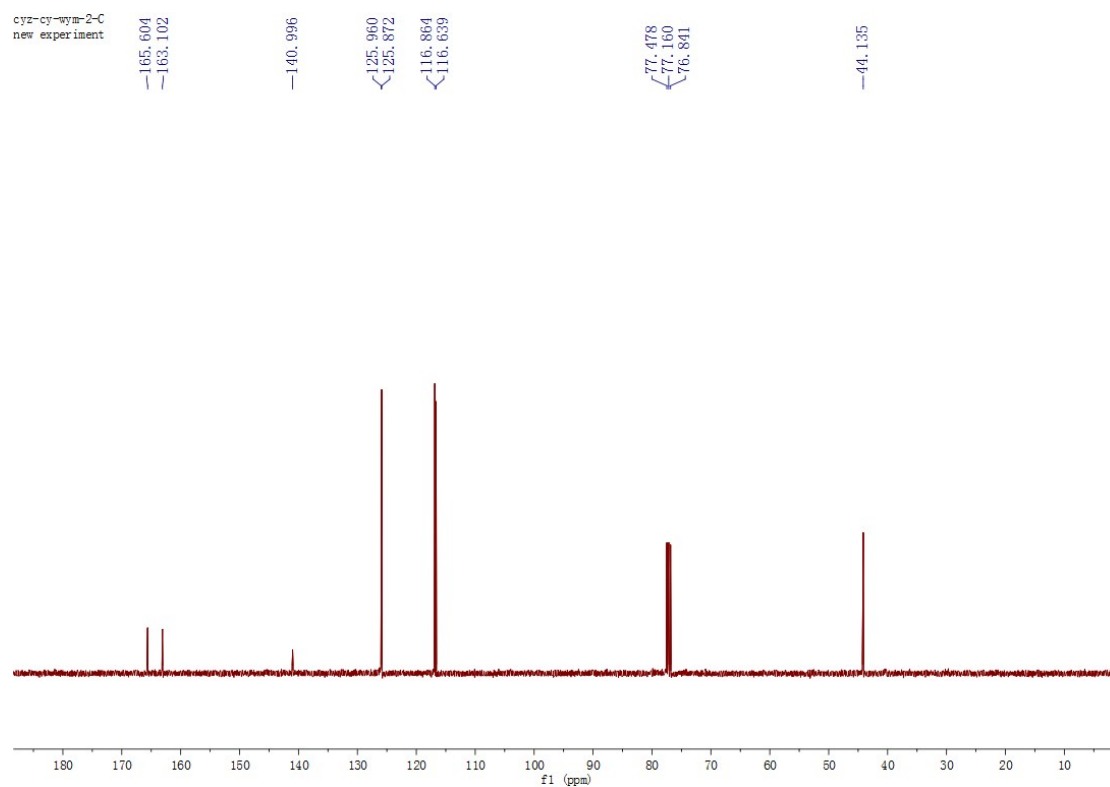
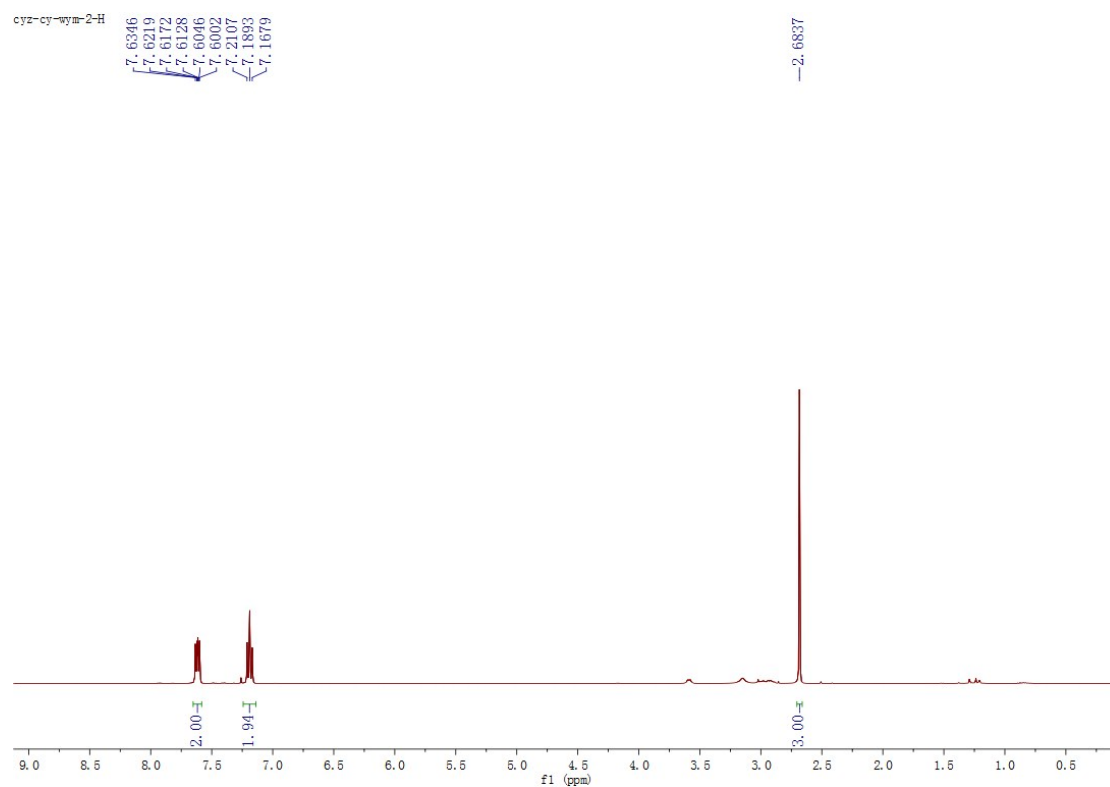
PDA				
ID#	Rt. Time	Area	Height	Area %
1	14.859	4361548	214229	49.917
2	16.098	4375993	193483	50.083

HPLC spectra for (*R*)-1c

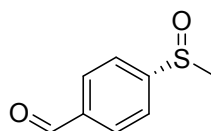


PDA				
ID#	Rt. Time	Area	Height	Area %
1	14.598	15454315	699972	100.000

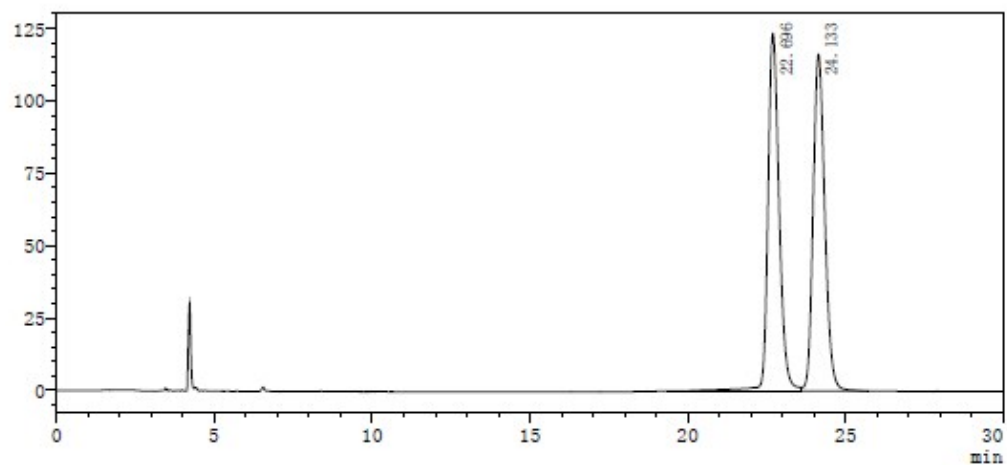
NMR spectra for (R)-1c



5. HPLC and NMR spectra for compound (*R*)-1d

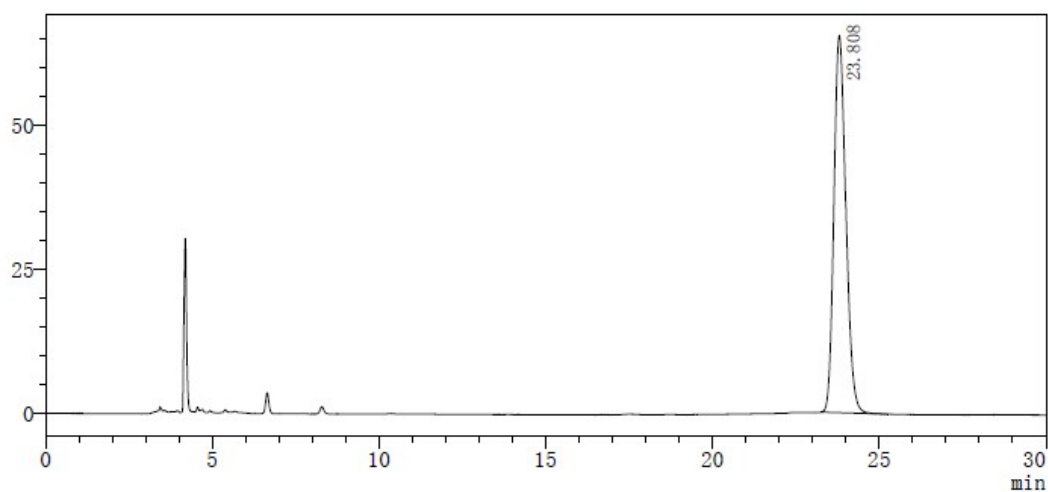


HPLC spectra for *rac*-1d



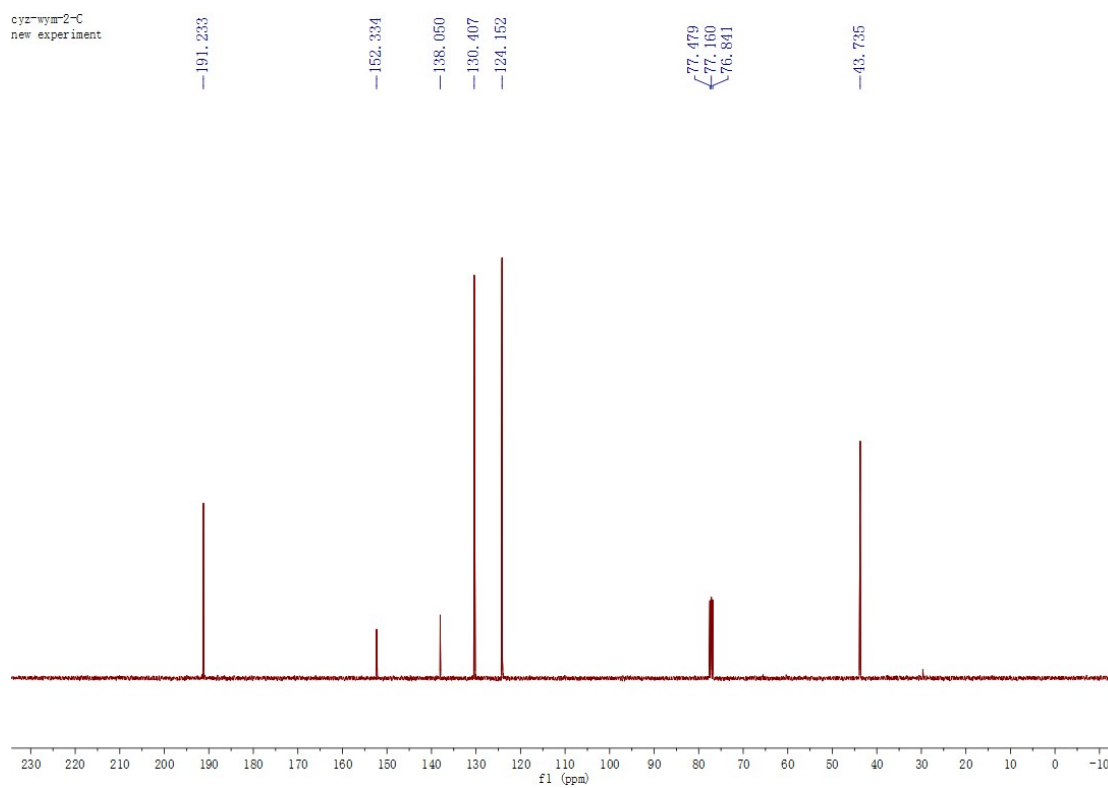
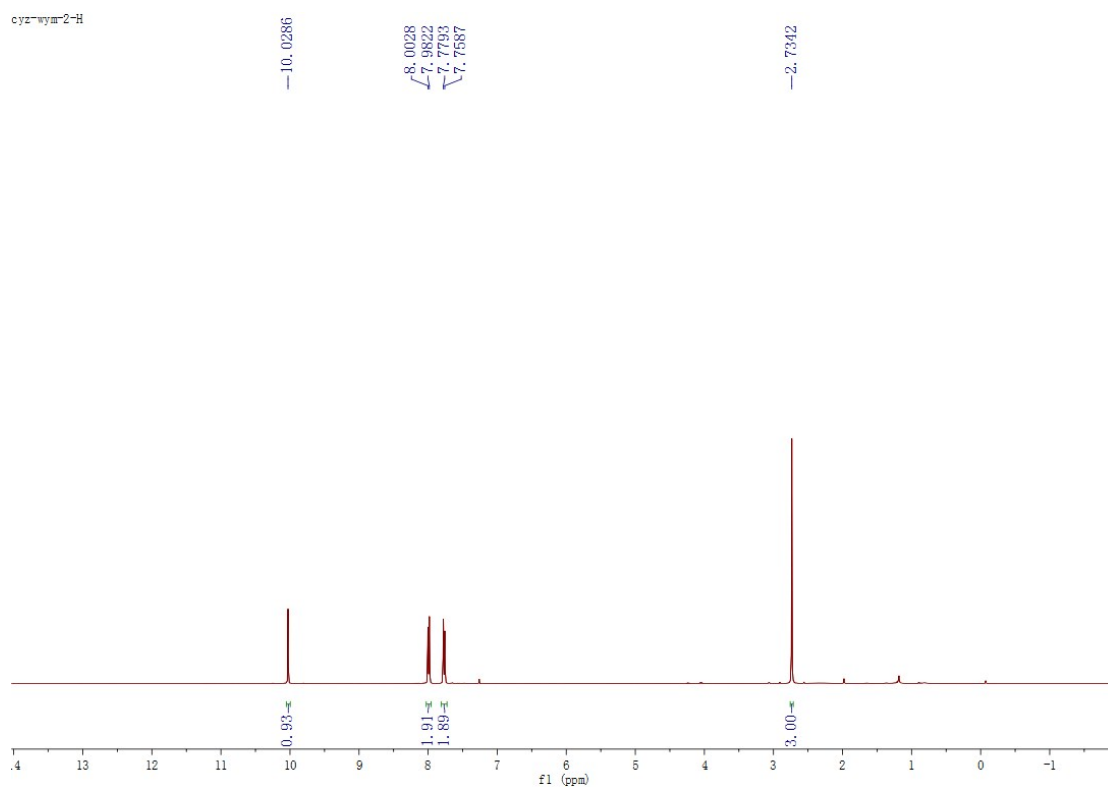
ID#	Rt. Time	Area	Height	Area %
1	22.696	3051392	123375	50.934
2	24.133	2939440	116052	49.066

HPLC spectra for (*R*)-1d

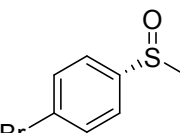


ID#	Rt. Time	Area	Height	Area %
1	23.808	1619568	65492	100.000

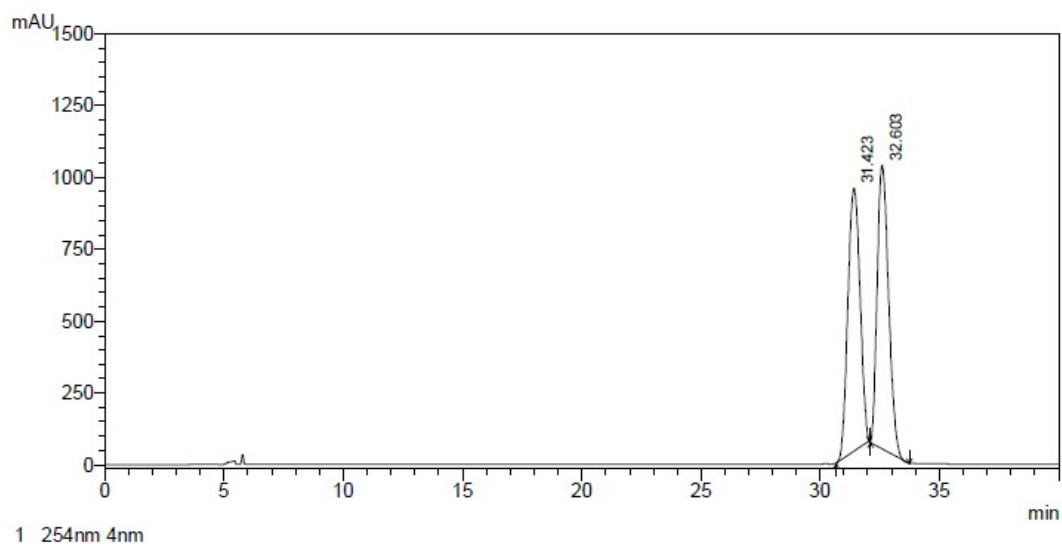
NMR spectra for (R)-1d



6. HPLC and NMR spectra data for compound (*R*)-1e



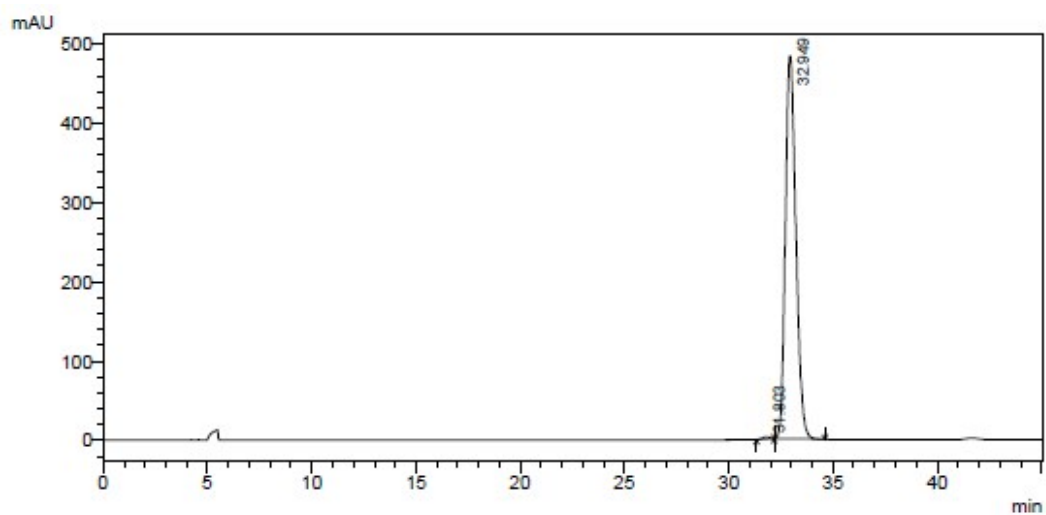
HPLC spectra for *rac*-1e



PDA

ID#	Rt. Time	Area	Height	Area %
1	31.423	32356330	915344	49.747
2	32.603	32684961	987848	50.253

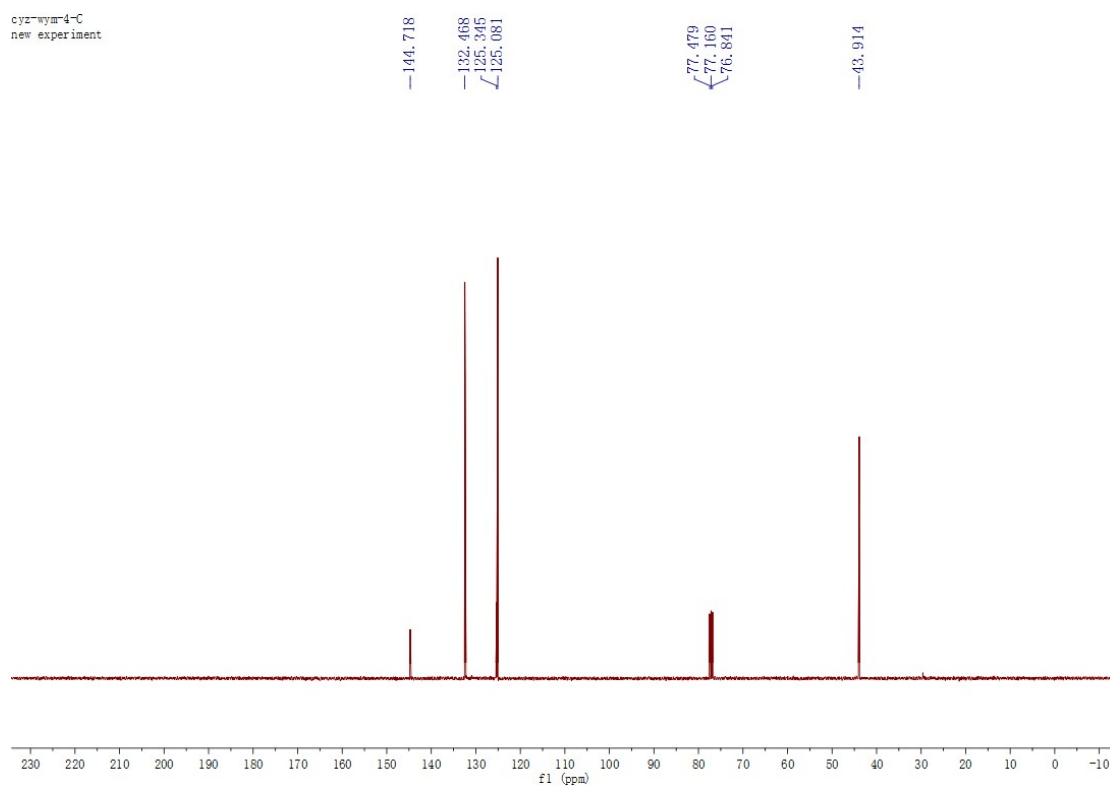
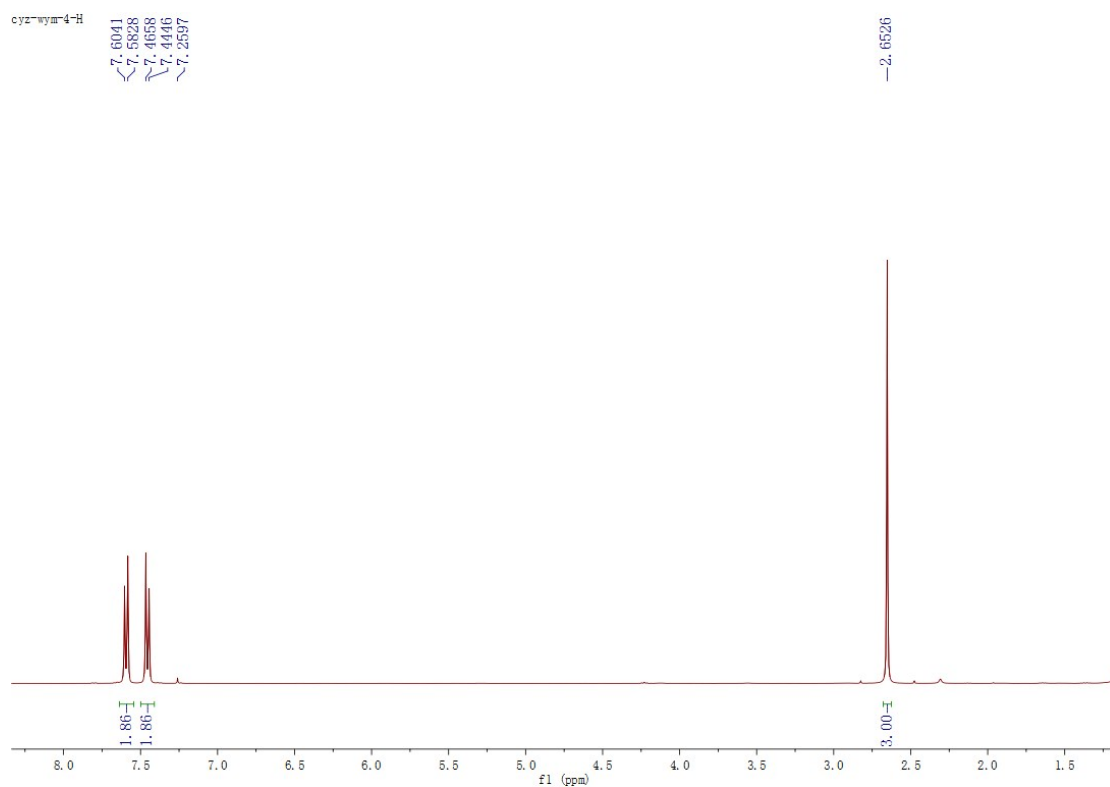
HPLC spectra for (*R*)-1e



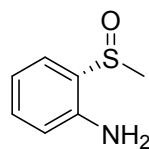
PDA

ID#	Rt. Time	Area	Height	Area %
1	31.803	60516	2403	0.356
2	32.949	16925585	483281	99.644

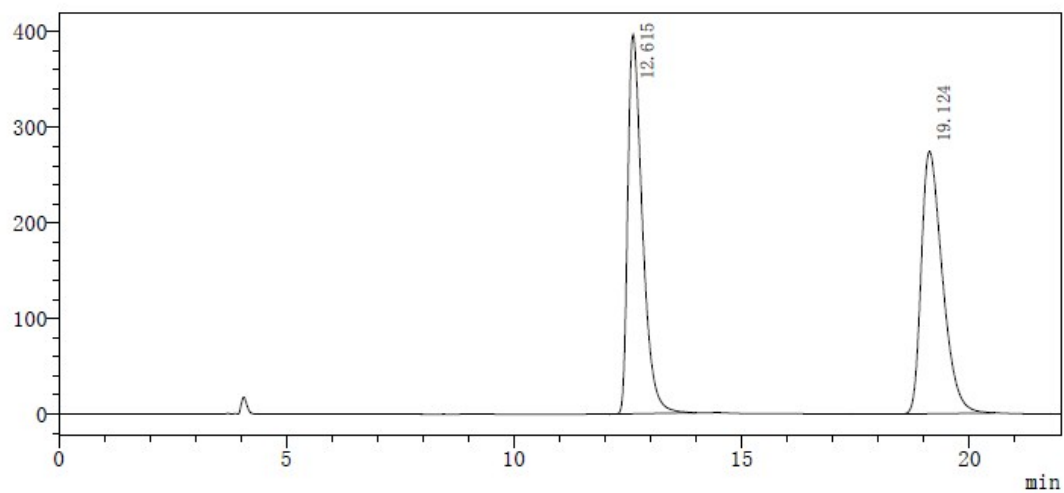
NMR spectra for (R)-1e



7. HPLC and NMR spectra data for compound (*R*)-1f

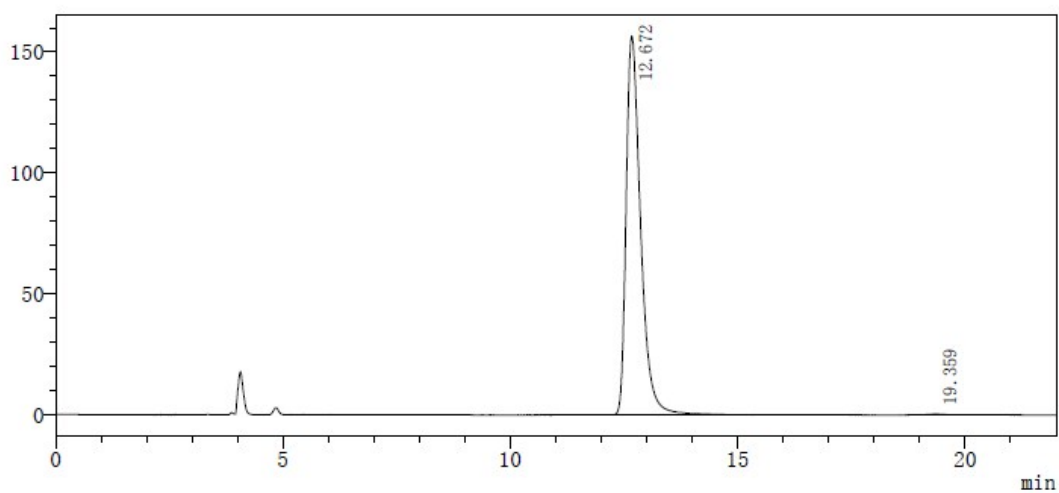


HPLC spectra for *rac*-1f



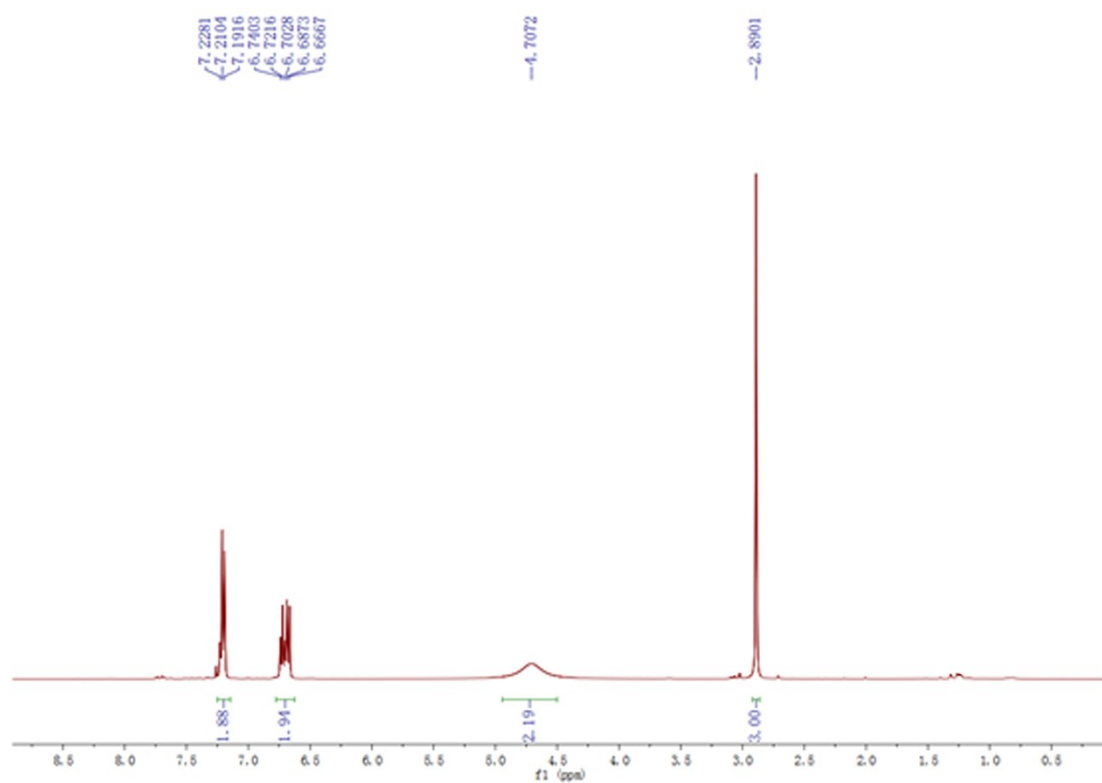
ID#	Rt. Time	Area	Height	Area %
1	12.615	8858510	397039	49.999
2	19.124	8858778	274547	50.001

HPLC spectra for (*R*)-1f

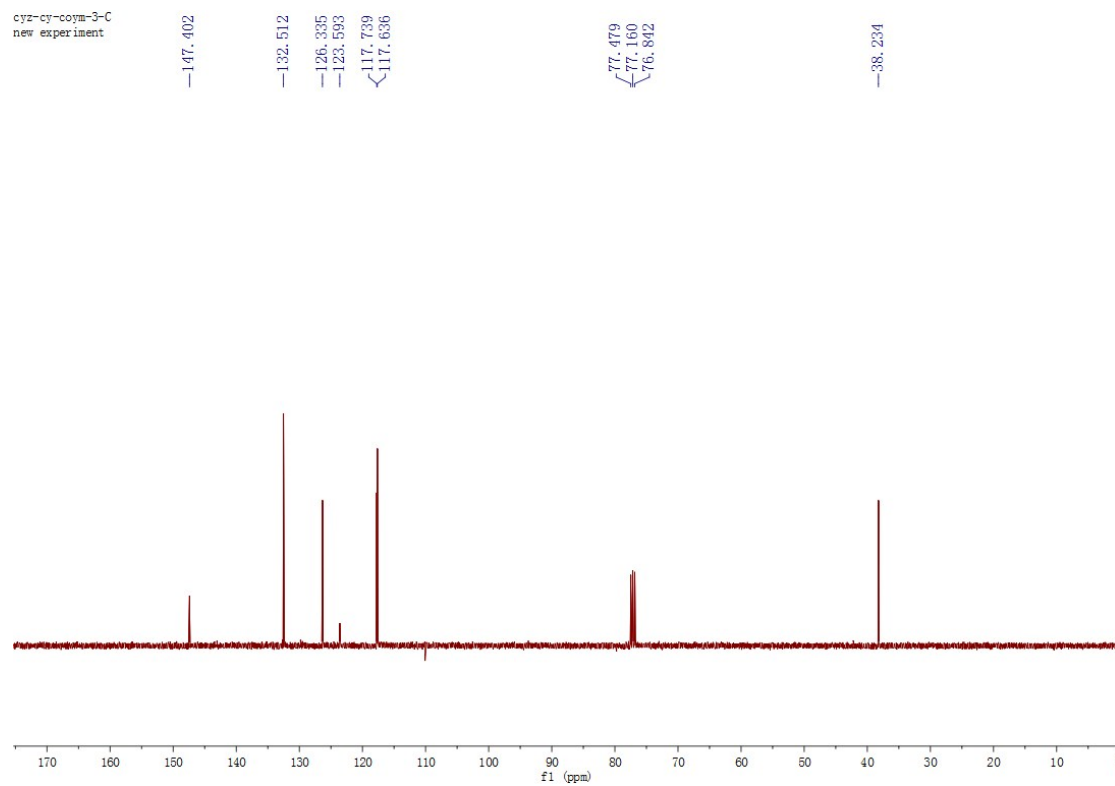


ID#	Rt. Time	Area	Height	Area %
1	12.672	3476163	156819	99.700
2	19.359	10458	334	0.300

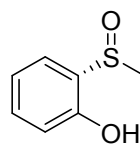
NMR spectra for (*R*)-1f



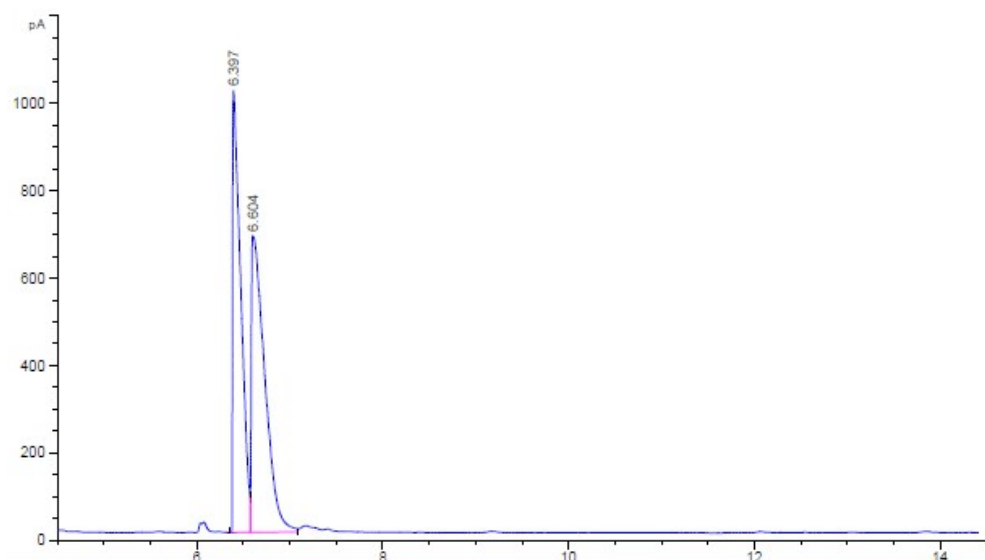
cys-cy-coym-3-C
new experiment



8. GC and NMR spectra for data compound (*R*)-1g

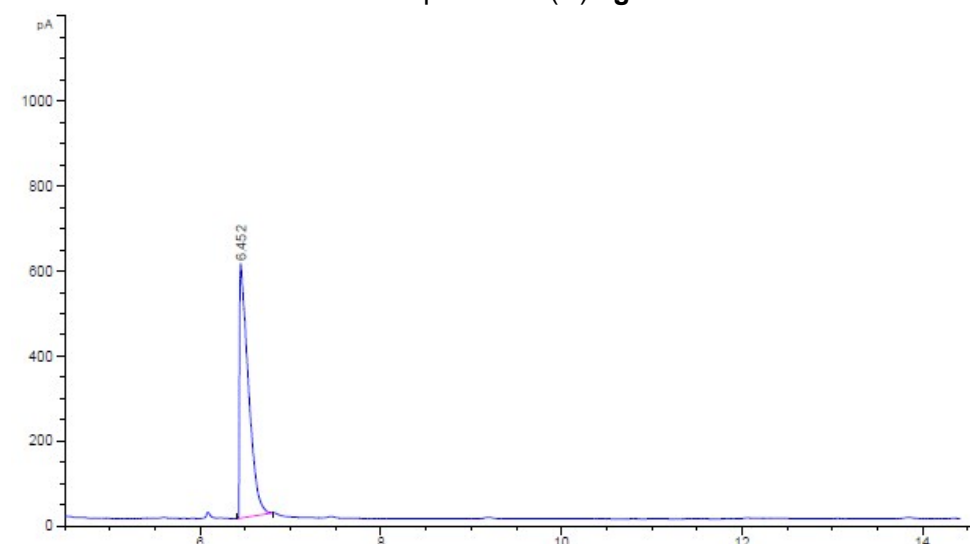


GC spectra for *rac*-1g



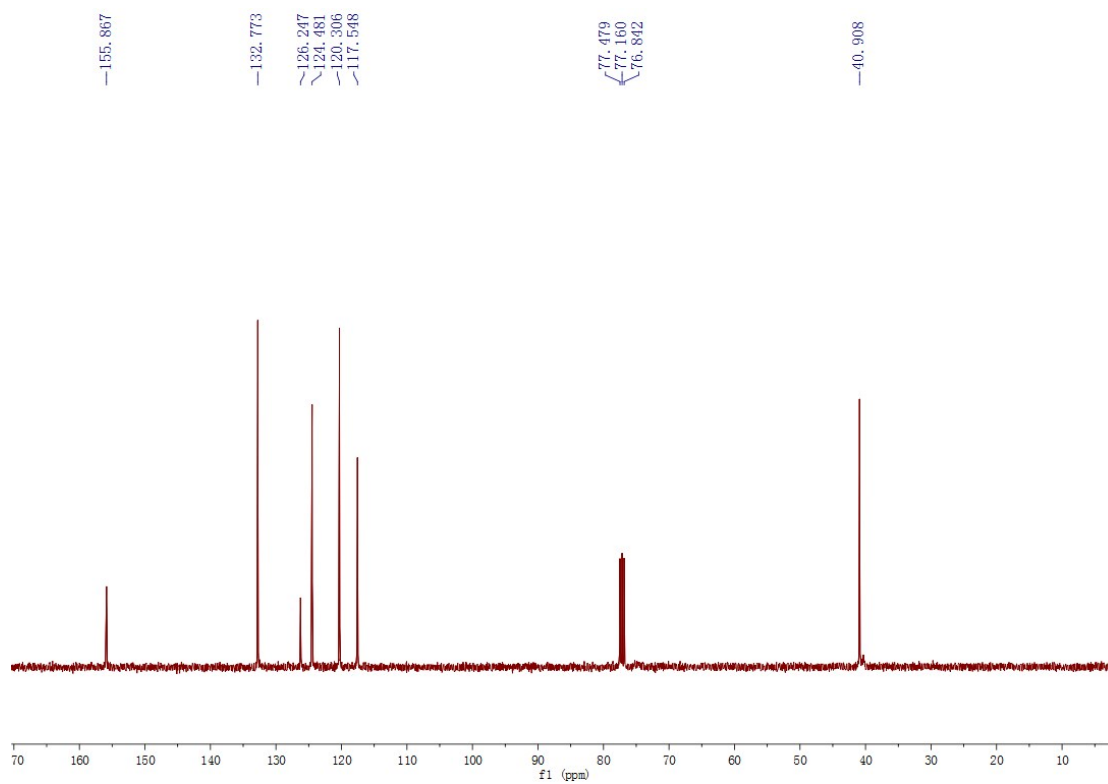
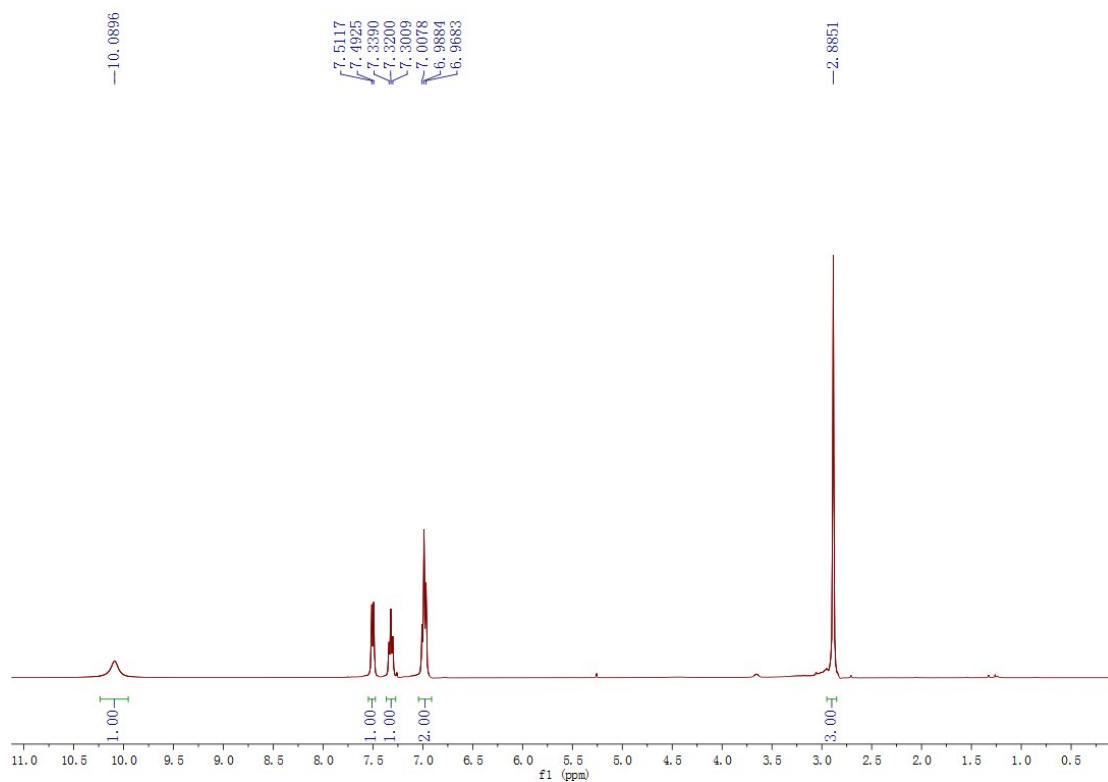
峰 #	保留时间 [min]	类型	峰宽 [min]	峰面积 [pA*s]	峰高 [pA]	峰面积 %
1	6.397	BV	0.0794	6117.68799	1011.41205	47.37368
2	6.604	VB	0.1225	6795.99805	677.99457	52.62632

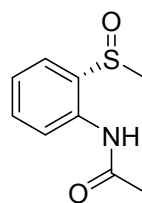
GC spectra for (*R*)-1g



峰 #	保留时间 [min]	类型	峰宽 [min]	峰面积 [pA*s]	峰高 [pA]	峰面积 %
1	6.452	BB	0.0875	4052.55835	594.98383	1.000e2

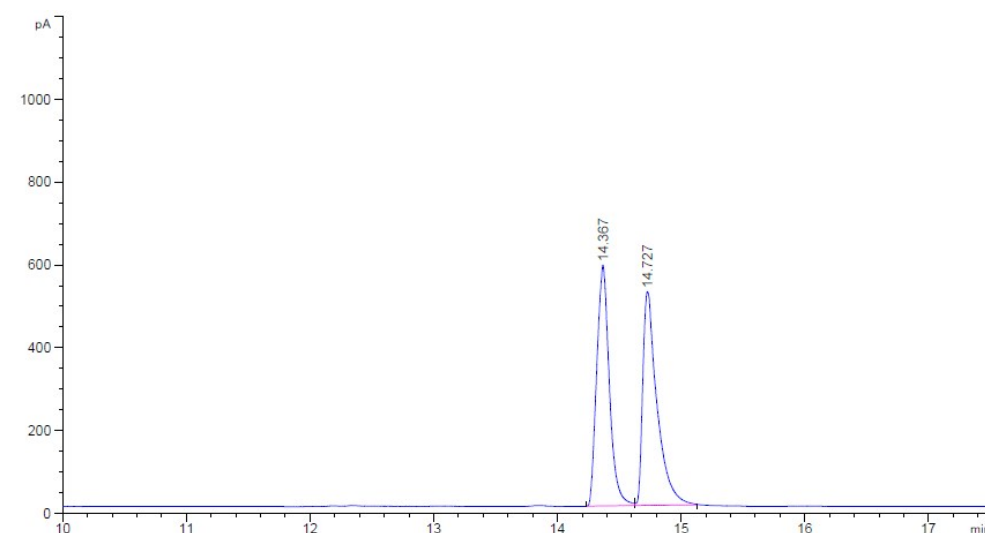
NMR spectra for (R)-1g





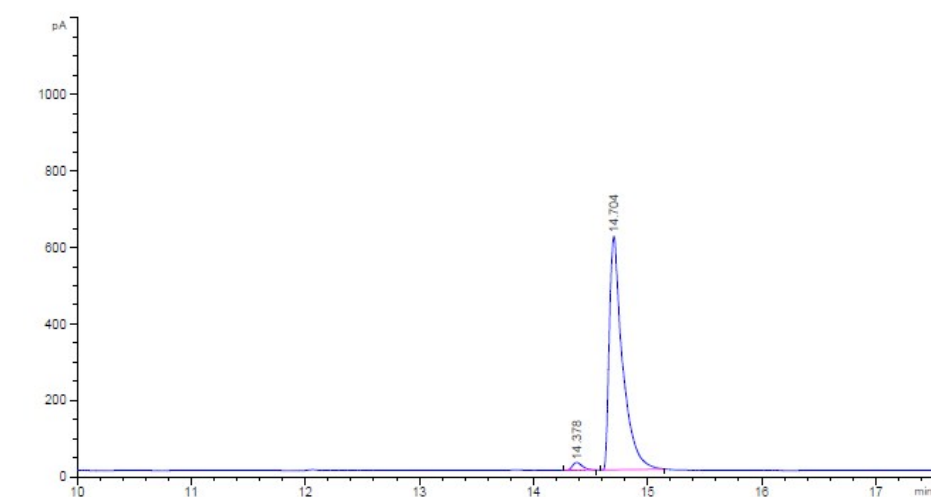
9. HPLC and NMR spectra data for compound (R)-1h

GC spectra for *rac*-1h



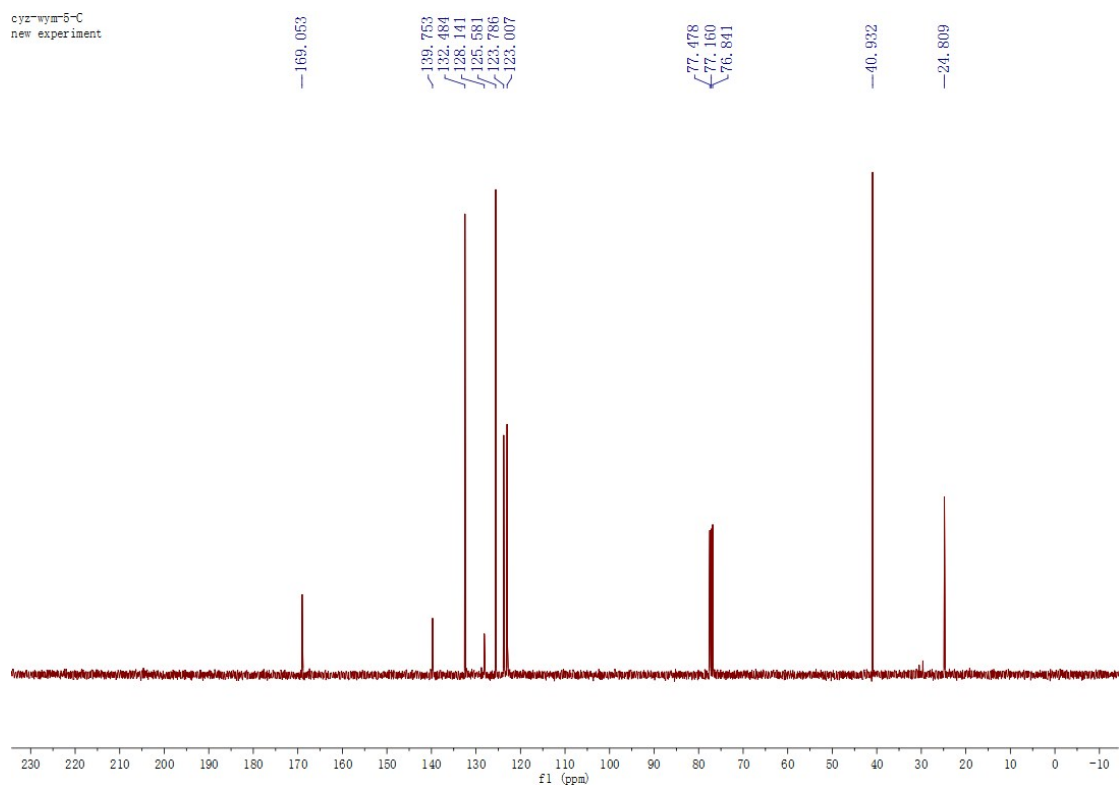
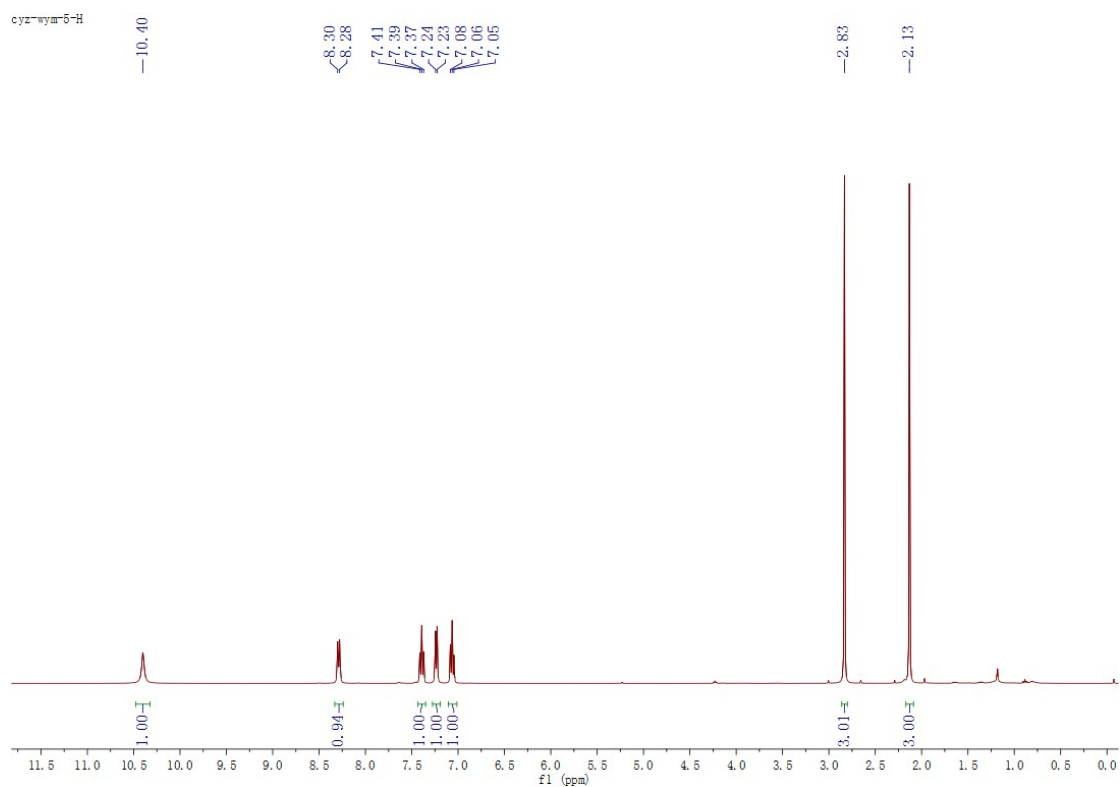
峰 #	保留时间 [min]	类型	峰宽 [min]	峰面积 [pA*s]	峰高 [pA]	峰面积 %
1	14.367	BV	0.0952	4109.05664	581.48865	49.85535
2	14.727	VB	0.1118	4132.89990	515.97479	50.14465

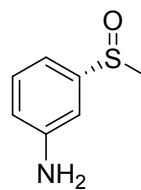
GC spectra for (R)-1h



峰 #	保留时间 [min]	类型	峰宽 [min]	峰面积 [pA*s]	峰高 [pA]	峰面积 %
1	14.378	BB	0.0941	124.46075	20.25585	2.46937
2	14.704	BB	0.1148	4915.72461	609.83362	97.53063

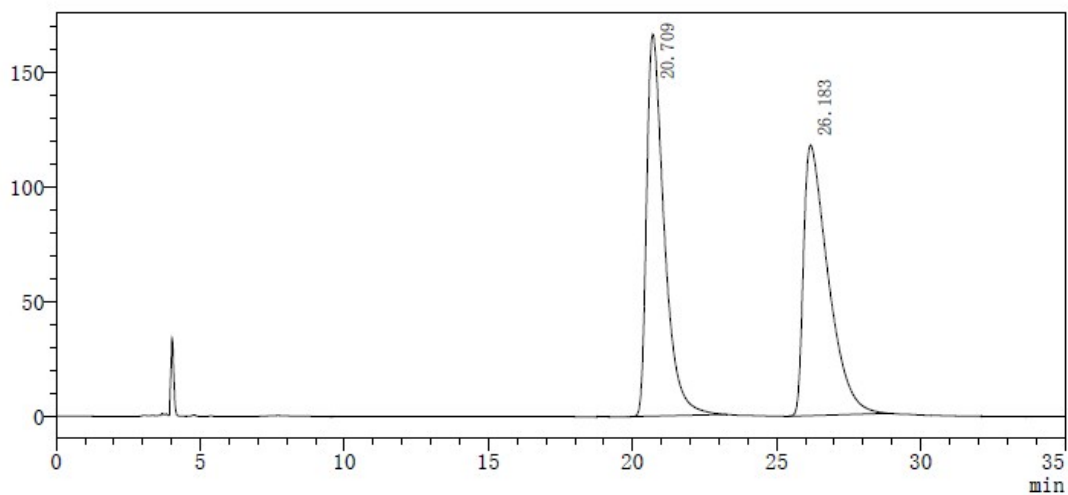
NMR spectra for (*R*)-1h





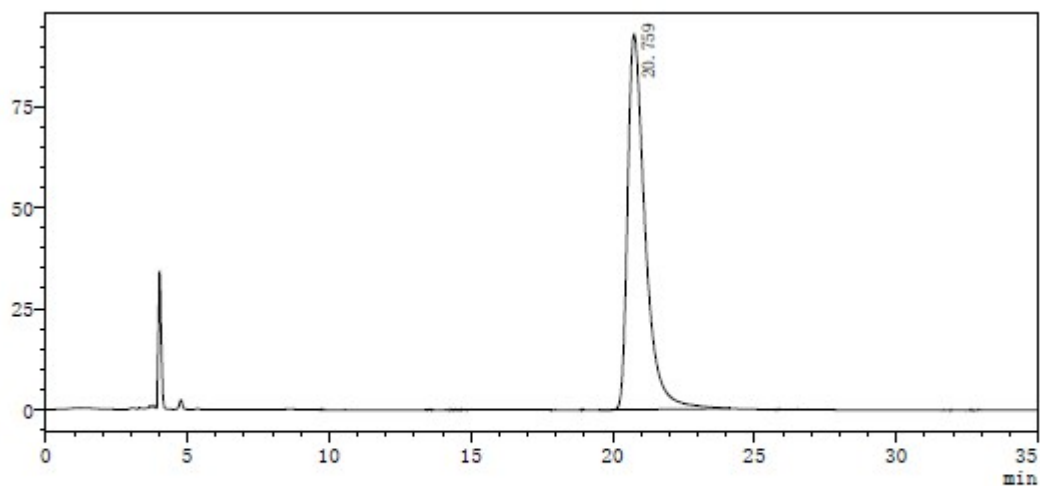
10. HPLC and NMR spectra for compound (*R*)-1i

HPLC spectra for *rac*-1i



ID#	Rt. Time	Area	Height	Area %
1	20.709	7065833	166493	50.225
2	26.183	7002586	117773	49.775

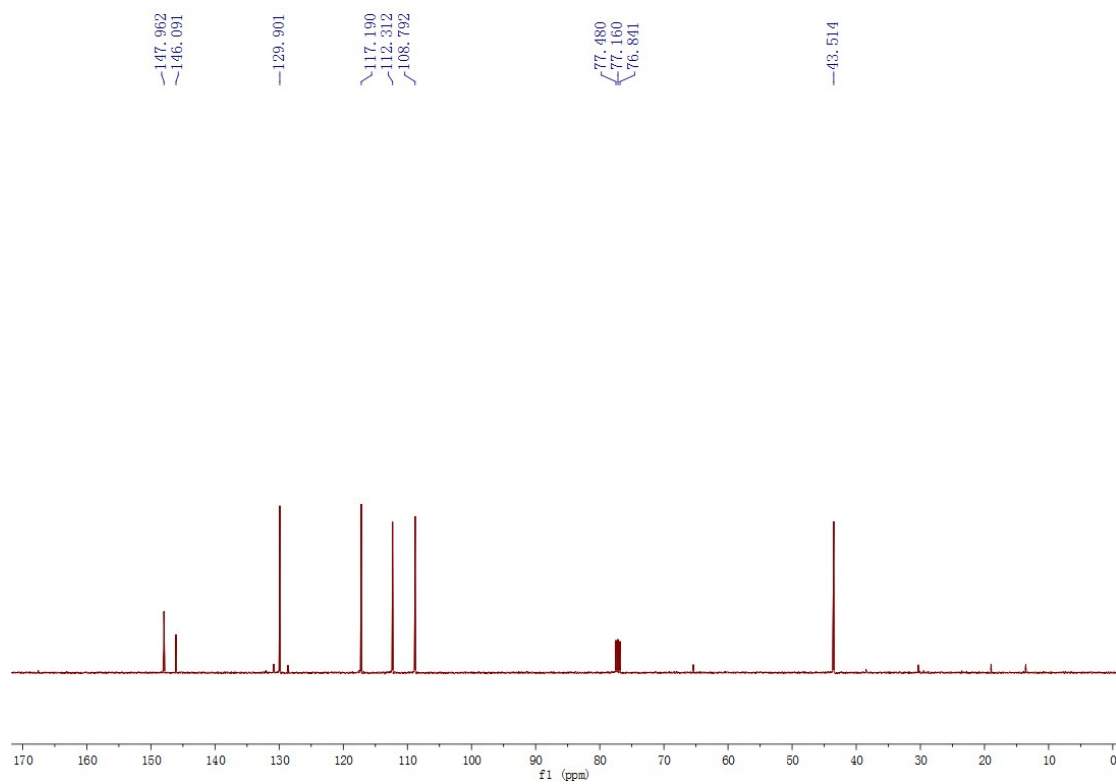
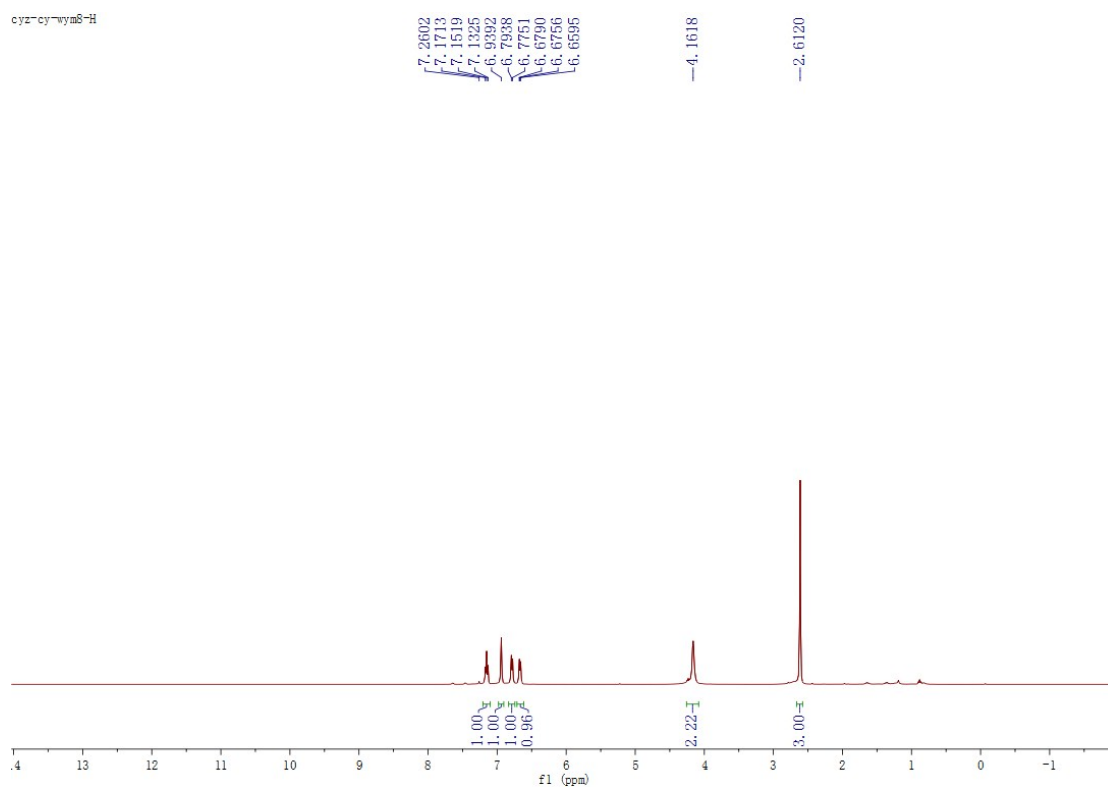
HPLC spectra for (*R*)-1i



ID#	Rt. Time	Area	Height	Area %
1	20.759	4001483	93011	100.000

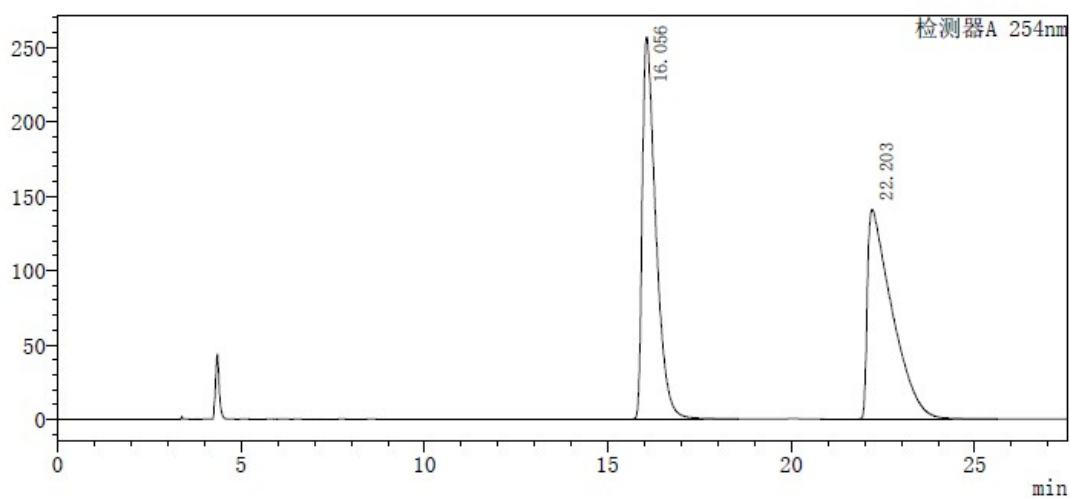
NMR spectra for (R)-1i

cyz-cywyms-H



11. HPLC and NMR spectra data for compound (R)-1j

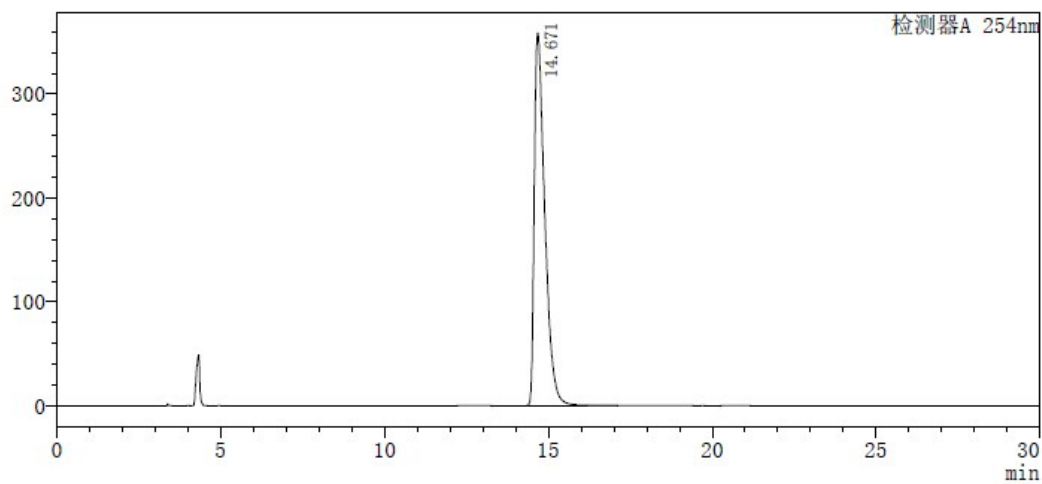
HPLC spectra for rac-1j



检测器A 254nm

ID#	Rt. Time	Area	Height	Area %
1	16.056	6612219	257124	49.934
2	22.203	6629649	140886	50.066

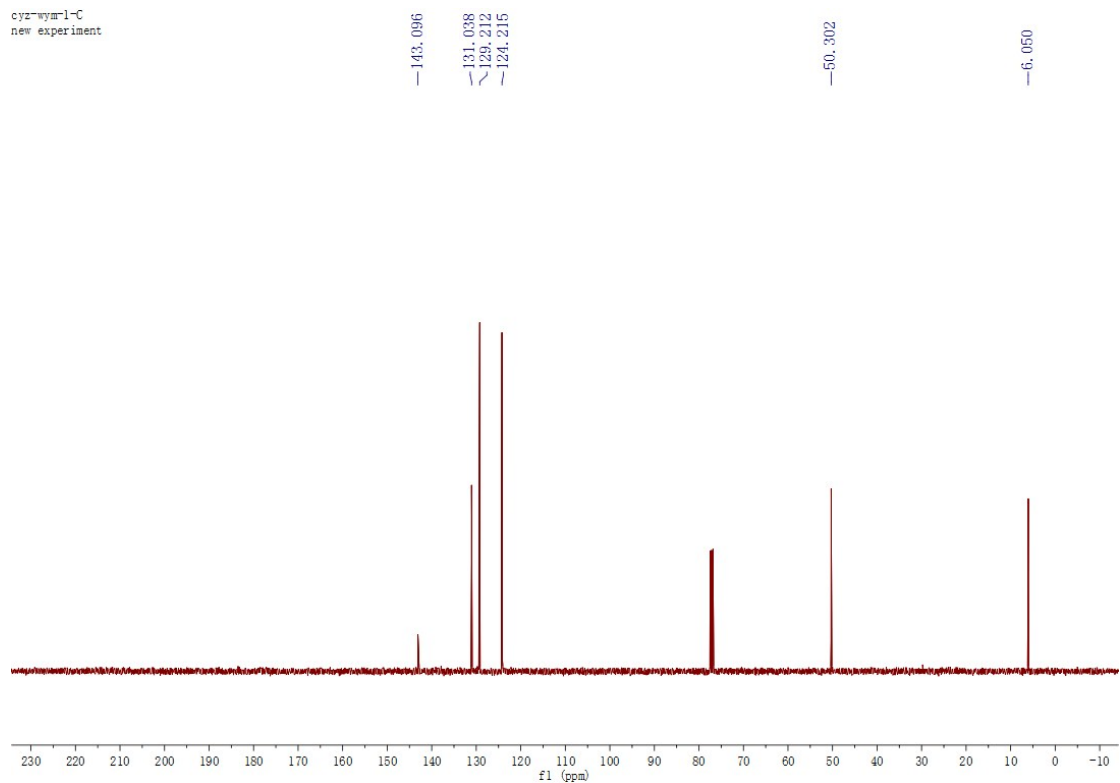
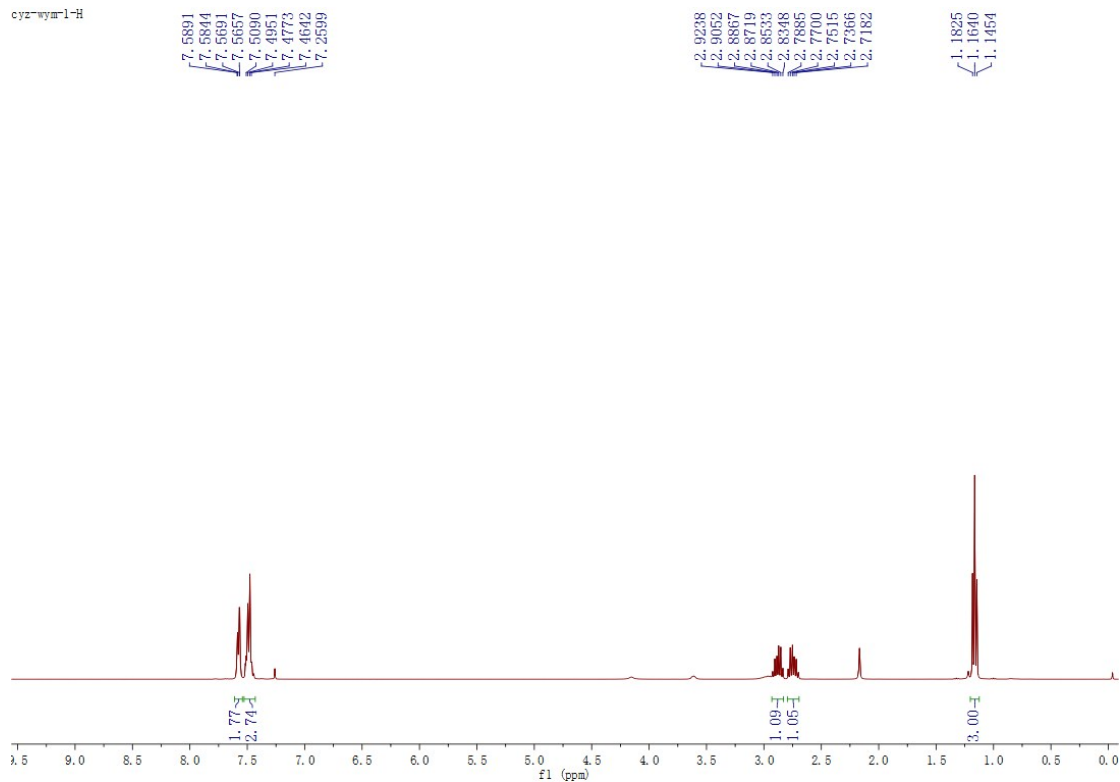
HPLC spectra for (R)-1j



检测器A 254nm

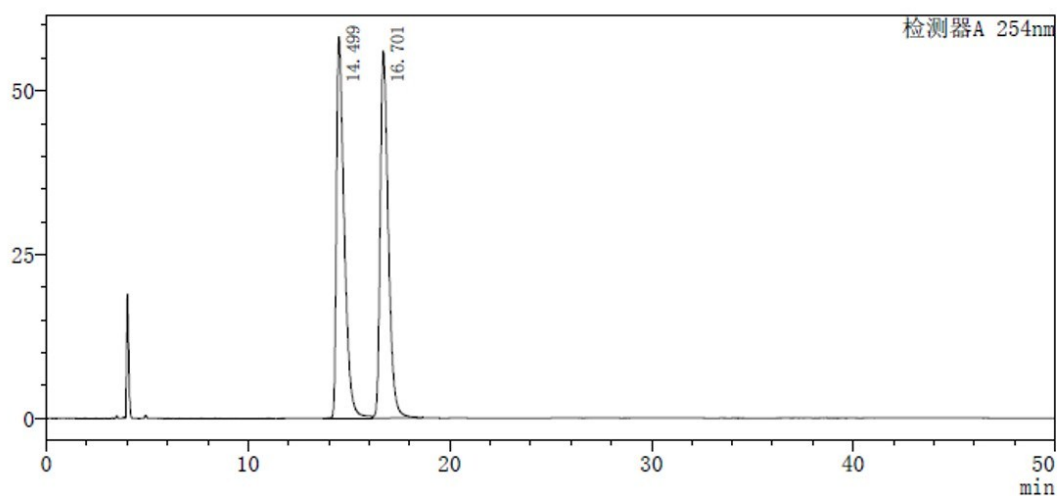
ID#	Rt. Time	Area	Height	Area %
1	14.671	8071650	358401	100.000

NMR spectra for (R)-1j



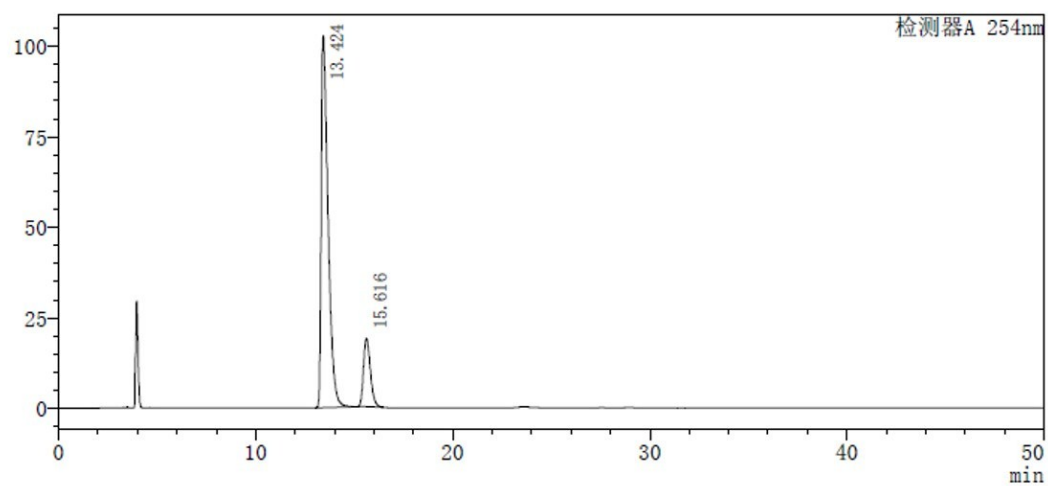
12. HPLC and NMR spectra data for compound (R)-1k

HPLC spectra for *rac*-1k



检测器A 254nm				
ID#	Rt. Time	Area	Height	Area %
1	14.499	1563108	58179	49.920
2	16.701	1568094	55981	50.080

HPLC spectra for (R)-1k



检测器A 254nm				
ID#	Rt. Time	Area	Height	Area %
1	13.424	2492019	102808	84.559
2	15.616	455060	18895	15.441

NMR spectra for (R)-1k

