Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry.

Highly Enantioselective Asymmetric Henry Reaction Catalyzed by Novel Chiral Phase Transfer Catalyst Derived from Cinchona Alkaloids

Ponmuthu Kottala Vijaya, Sepperumal Murugesan, Ayyanar Siva*

Department of Inorganic Chemistry, School of Chemistry, Madurai Kamaraj University, Madurai-625 021, Tamilnadu, India.

Corresponding authors.Phone.+91451-2458471, E.mail.drasiva@gmail.com; ptcsiva@yahoo.co.in

Content

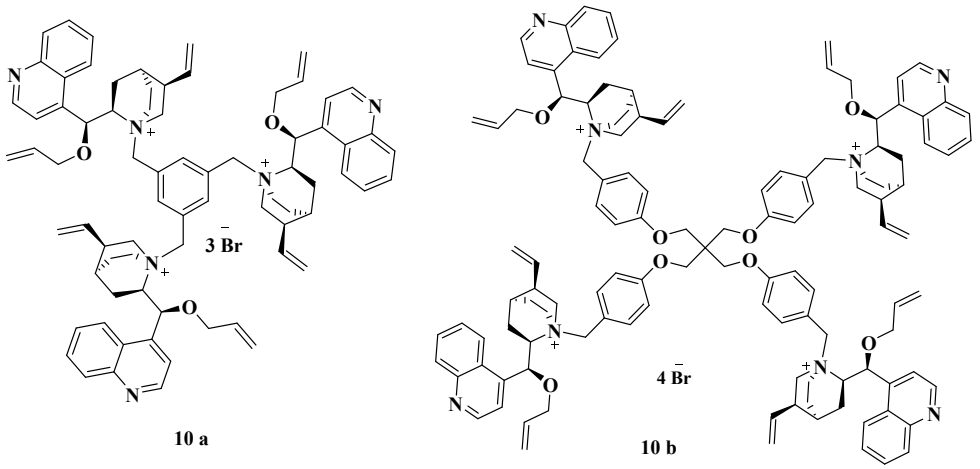
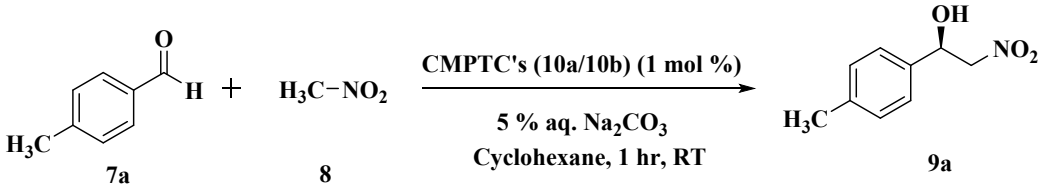


Fig. 1: Our group previously reported cinchona based chiral phase transfer catalyst.

Table S1: Effect of various catalysts for the enantioselective Henry reaction.

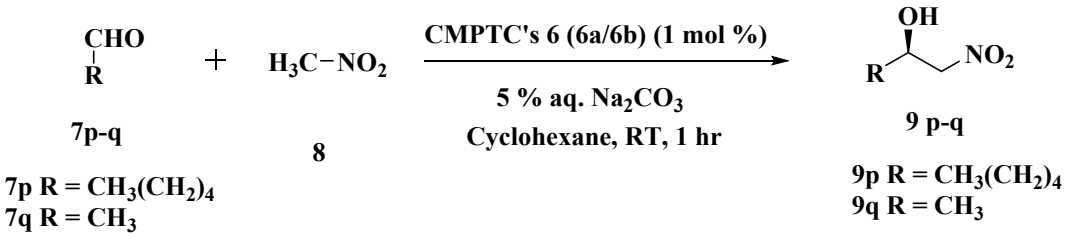


Entry	Catalyst	Yield (%)[a]	% of ee[b]	Abs.Conf
1	10a	82	88	*R*
2	10b	85	96	*R*

[a] Isolated Yield.

[b]Enantiomeric excess of **9a** was determined by HPLC analysis using a chiral column [CHIRALCEL OD-H]with hexane-IPA as an eluent.

Table S2: Catalytic asymmetric Henry reaction between aliphatic aldehydes **7p/7q** and nitromethane **8** under the optimized reaction conditions.

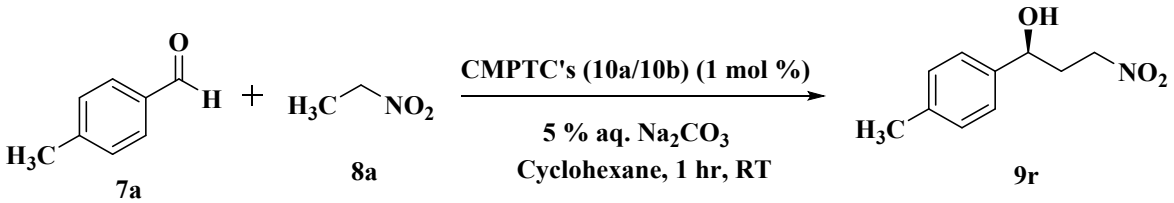


Entry	Starting material	Product	Catalyst	Yield (%)[a]	% of ee[b]	Abs.Conf
1	7p	9p	6a	45	49	*R*
2	7p	9p	6b	45	51	*R*
3	7q	9q	6a	62	67	*R*
4	7q	9q	6b	62	72	*R*

[a] Isolated Yield.

[b]Enantiomeric excess of **9** was determined by HPLC analysis using a chiral column [CHIRALCEL OD-H]with hexane-IPA as an eluent.

Table S3: Catalytic asymmetric Henry reaction between aldehyde **7a** and nitroethane **8a** under the optimized reaction conditions.

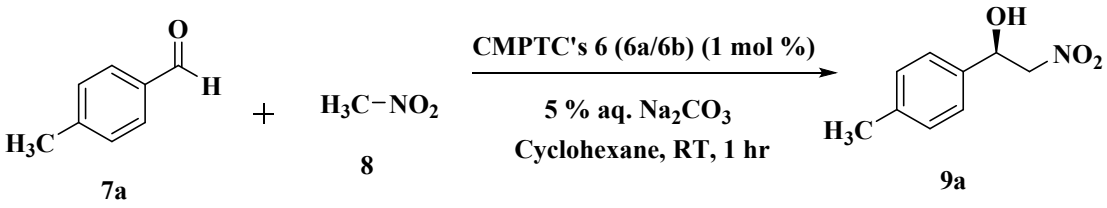


Entry	Starting material	Product	Catalyst	Yield (%)[a]	% of ee[b]	Abs.Conf
1	7a	9r	6a	43	40	*R*
2	7a	9r	6b	43	52	*R*

[a] Isolated Yield.

[b]Enantiomeric excess of **9** was determined by HPLC analysis using a chiral column [CHIRALCEL OD-H]with hexane-IPA as an eluent.

Table S4: Effect of reusability of the chiral phase transfer catalyst **6a/6b** for the enantioselective Henry reaction.



Entry	Cycle	Catalyst	Yield (%)[a]	% of ee[b]	Abs.Conf
1	First	6a	94	97	*R*
3	First	6b	94	98	*R*
2	Second	6a	90	95	*R*
4	Second	6b	90	95	*R*

[a] Isolated Yield.

[b]Enantiomeric excess of **9** was determined by HPLC analysis using a chiral column [CHIRALCEL OD-H]with hexane-IPA as an eluent.

Characterization of the Enantioselective Henry products (9)

(*R*)-1-nitroheptan-2-ol (9p):

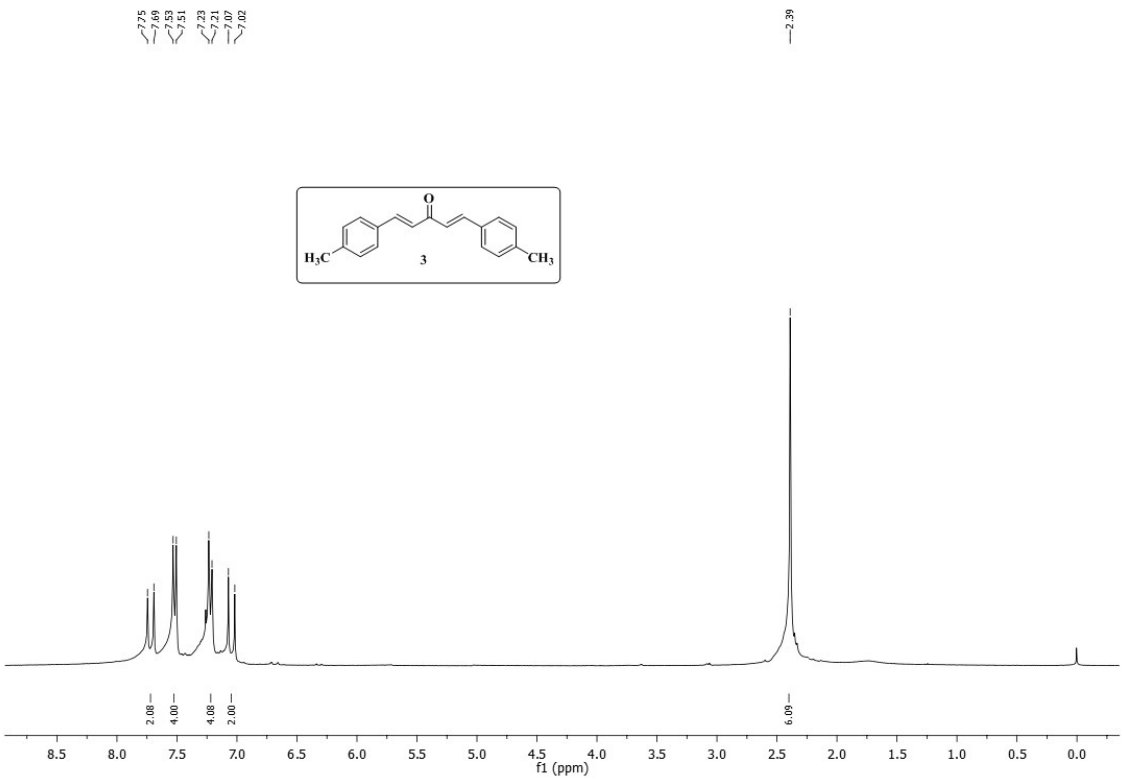
Colourless oil; 45% yield; $[\alpha]^{25}_{D}$ = -12.5 (c, 1.01, $CHCl_3$) 51% ee's; HPLC (Chiralcel OD-H, 90/10 n-hexane/i-PrOH, 1mL/min, 20ºC, 254 nm): t_r (major)= 3.413 min, t_r (minor)= 12.424 min; ^{1}H NMR (300 MHz, CDCl3) δ 4.46–4.29 (m, 3H), 2.68 (s, 1H), 1.56–1.46 (m, 3H), 1.38–1.25 (m, 5H), 0.90 (t, *J* = 10.1 Hz, 3H); ^{13}C NMR (75 MHz, $CDCl_3$) δ 80.73, 68.65, 33.90, 31.70, 25.19, 22.65, 14.22.

(*R*)-1-nitropropan-2-ol (9q):

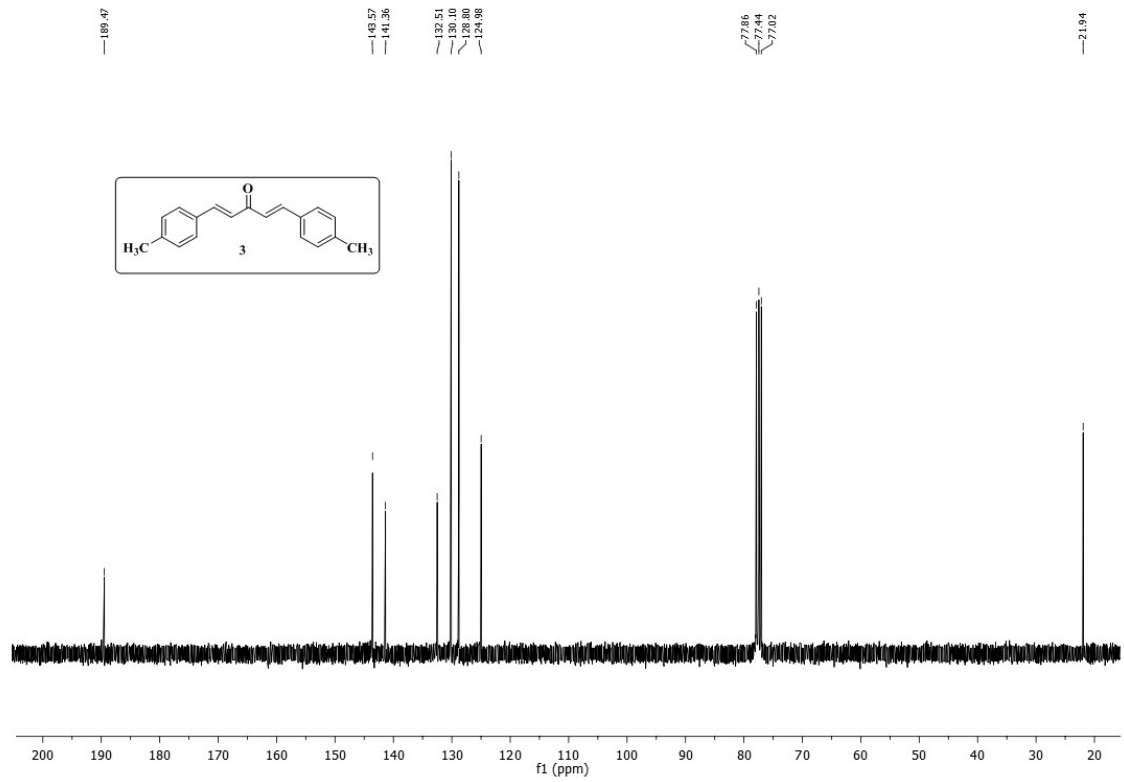
Colourless oil; 62% yield; $[\alpha]^{25}_{D}$ = -23.6 (c, 1.12, $CHCl_3$) 72% ee's; HPLC (Chiralcel OD-H, 90/10 n-hexane/i-PrOH, 1mL/min, 20ºC, 254 nm): t_r (major)= 3.233 min, t_r (minor)= 11.018 min; ^{1}H NMR (300 MHz, CDCl3) δ 4.61–4.40 (m, 3H), 3.17–3.01 (m, 1H), 1.26–1.13 (m, 3H); ^{13}C NMR (75 MHz, $CDCl_3$) δ 77.93, 31.47, 15.13.

(*R*)-3-nitro-1-(p-tolyl)propan-1-ol (9r):

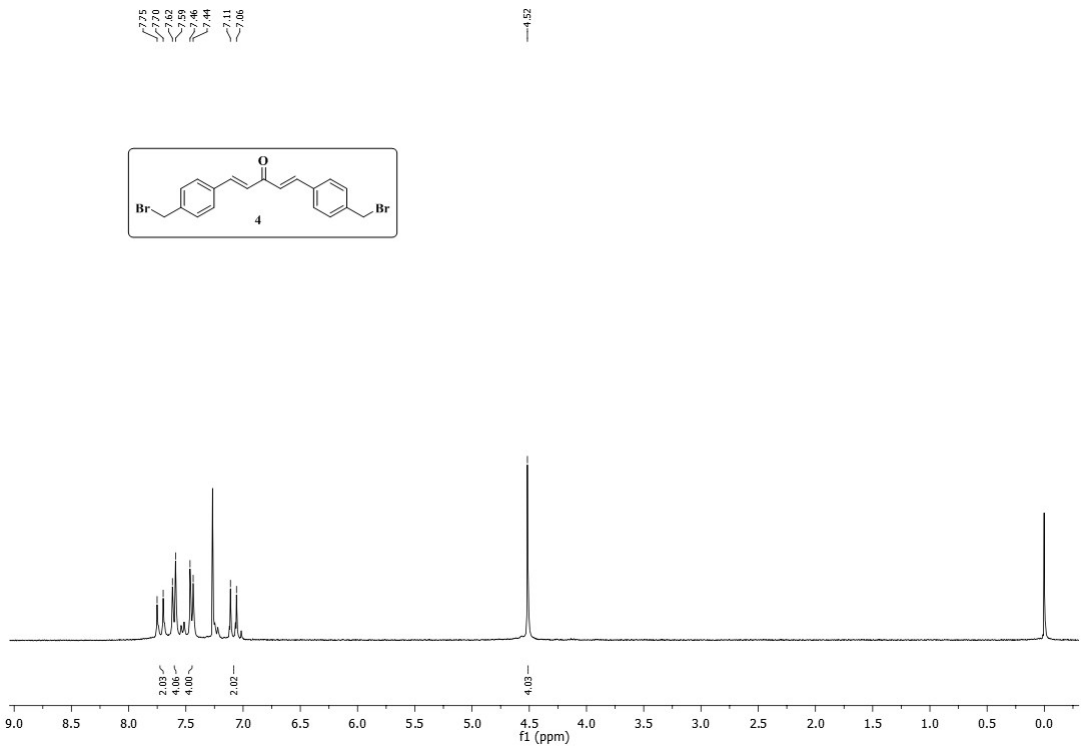
Colourless oil; 43% yield; $[\alpha]^{25}_{D}$ = -14.7 (c, 1.09, $CHCl_3$) 52% ee's; HPLC (Chiralcel OD-H, 90/10 n-hexane/i-PrOH, 1mL/min, 20ºC, 254 nm): t_r (major)= 3.109 min, t_r (minor)= 9.241 min; ^{1}H NMR (300 MHz, CDCl3) δ 7.22 (d, 2H, *J* = 8.25 Hz), 7.18 (d, 2H, *J* = 5.82 Hz), 4.94 (d, 1H, *J* = 9.21 Hz), 4.78-4.71 (m, 2H), 3.18 (s, 1H), 2.34 (s, 3H), 1.26 (d, 2H, *J* = 6.75 Hz); ^{13}C NMR (75 MHz, $CDCl_3$) δ 139.35, 135.92, 130.00, 127.29, 88.92, 76.49, 21.57, 16.80.



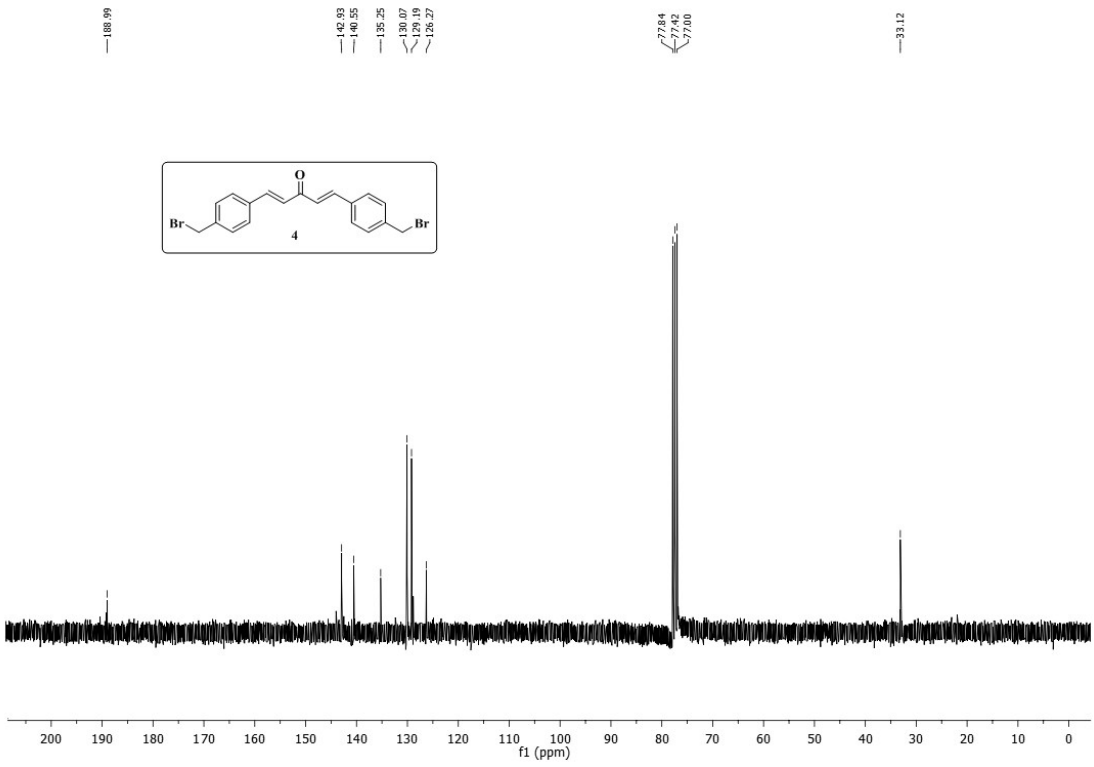
S 1: ^{1}H NMR Spectrum of (1E,4E)-1,5-dip-tolylpenta-1,4-dien-3-one (3)



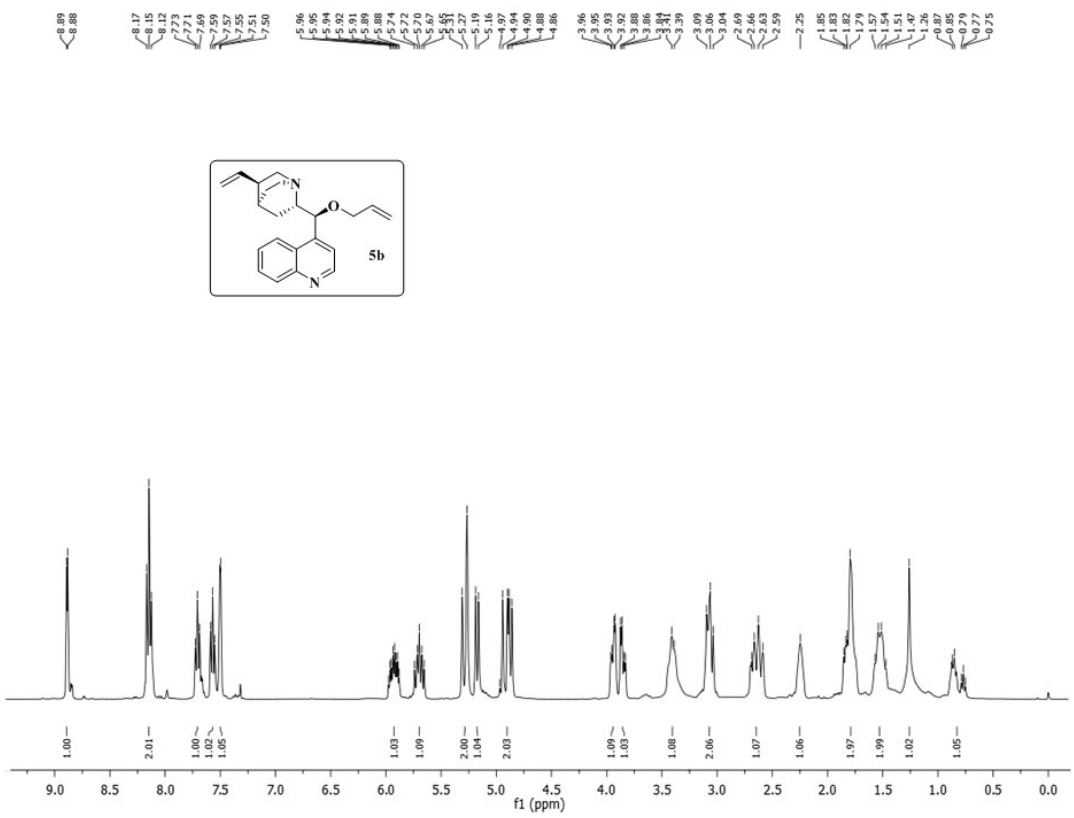
S 2: ^{13}C NMR Spectrum of (1E,4E)-1,5-dip-tolylpenta-1,4-dien-3-one (3)



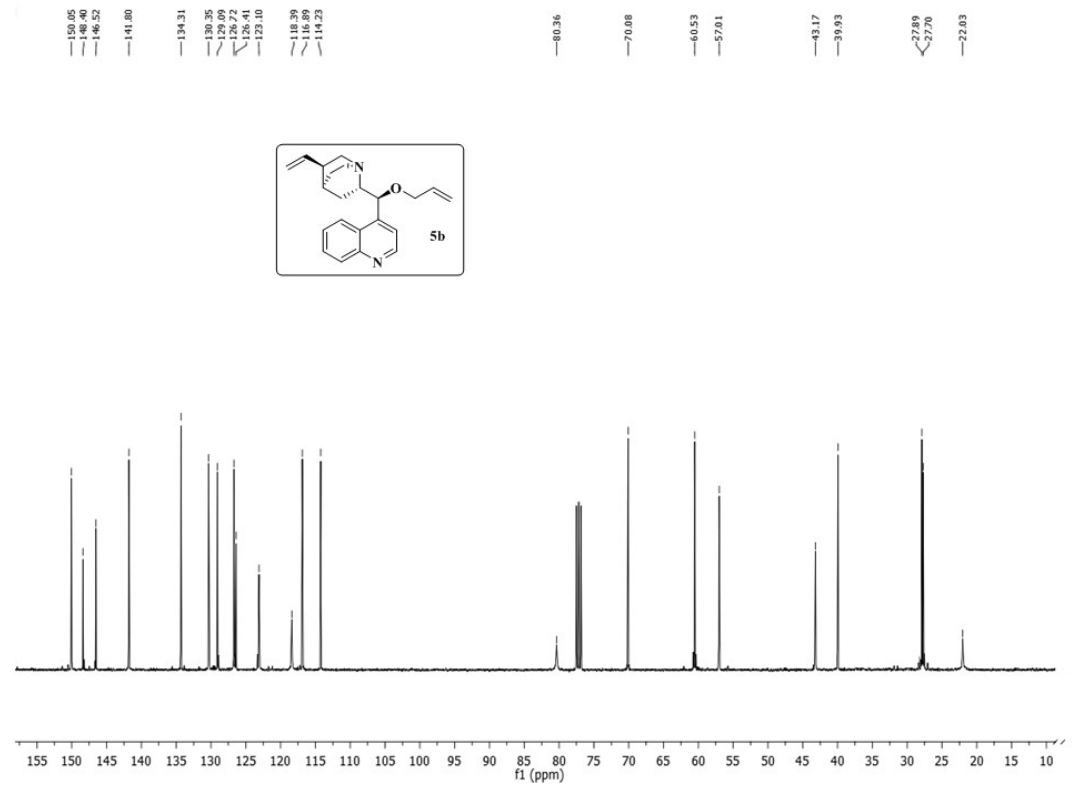
S 3: ^{1}H NMR Spectrum of (1E,4E)-1,5-bis(4-(bromomethyl)phenyl)penta-1,4-dien-3-one (4)



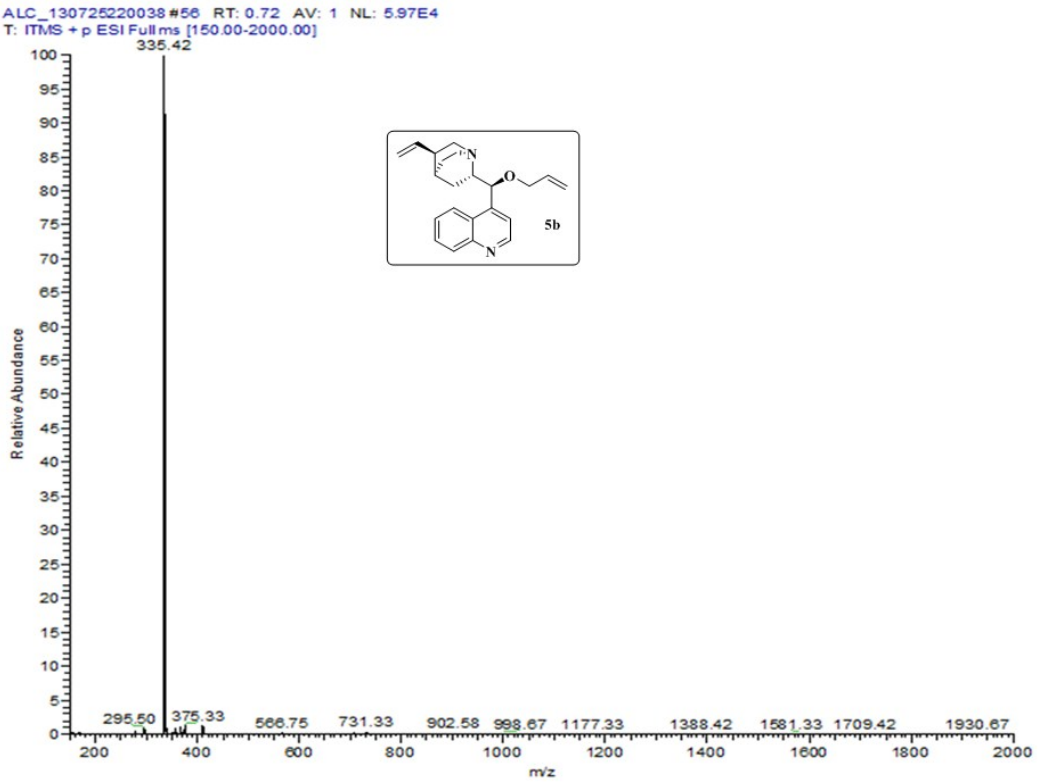
S 4: ^{13}C NMR Spectrum of (1E,4E)-1,5-bis(4-(bromomethyl)phenyl)penta-1,4-dien-3-one (4)



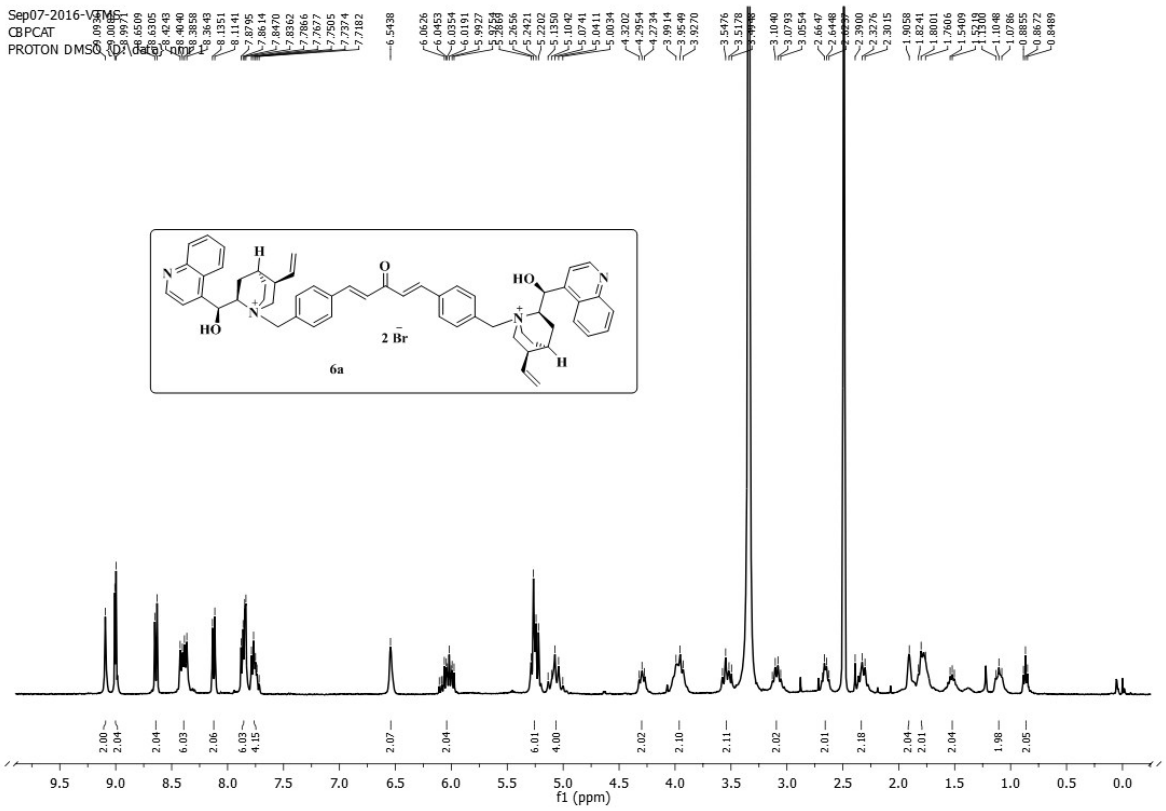
S 5: ^{1}H NMR Spectrum of *O*- allylcinchonine (5b)



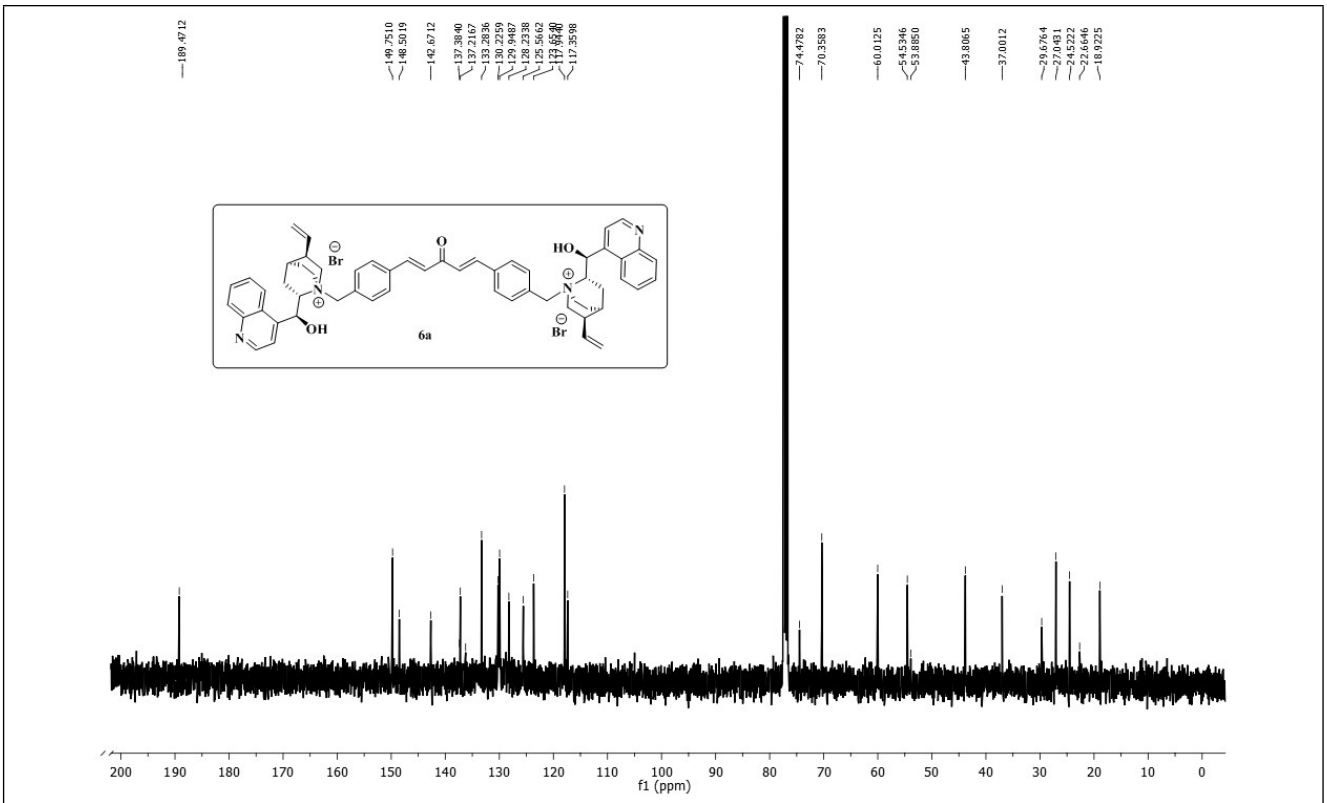
S 6: ^{13}C NMR Spectrum of *O*- allylcinchonine (5b)



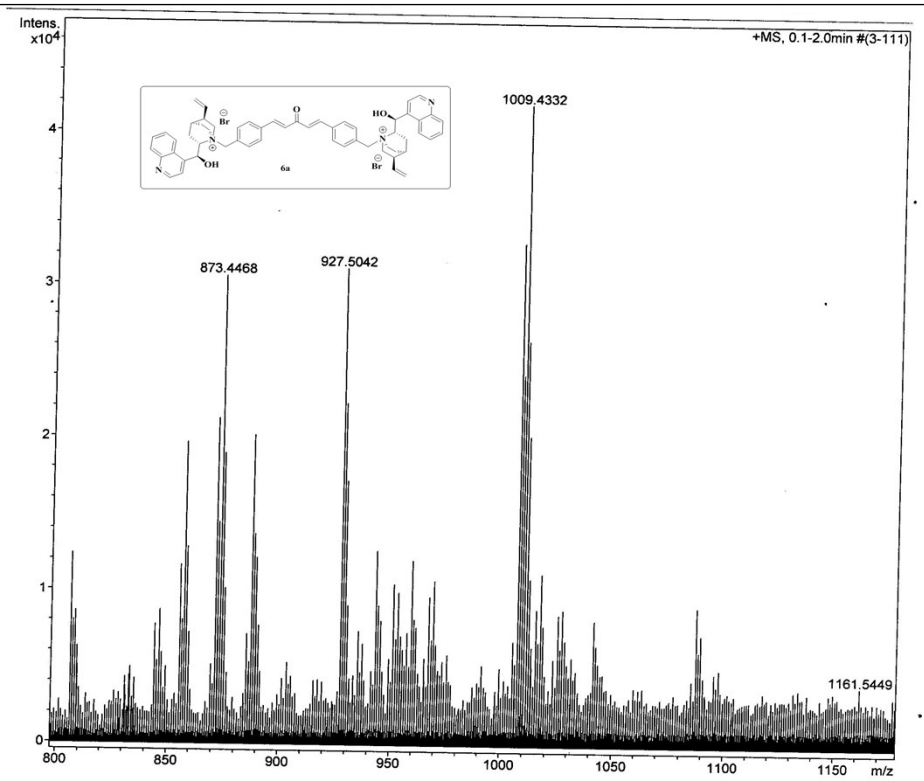
S 7: ESI - Mass Spectrum of *O*- allylcinchonine (5b)



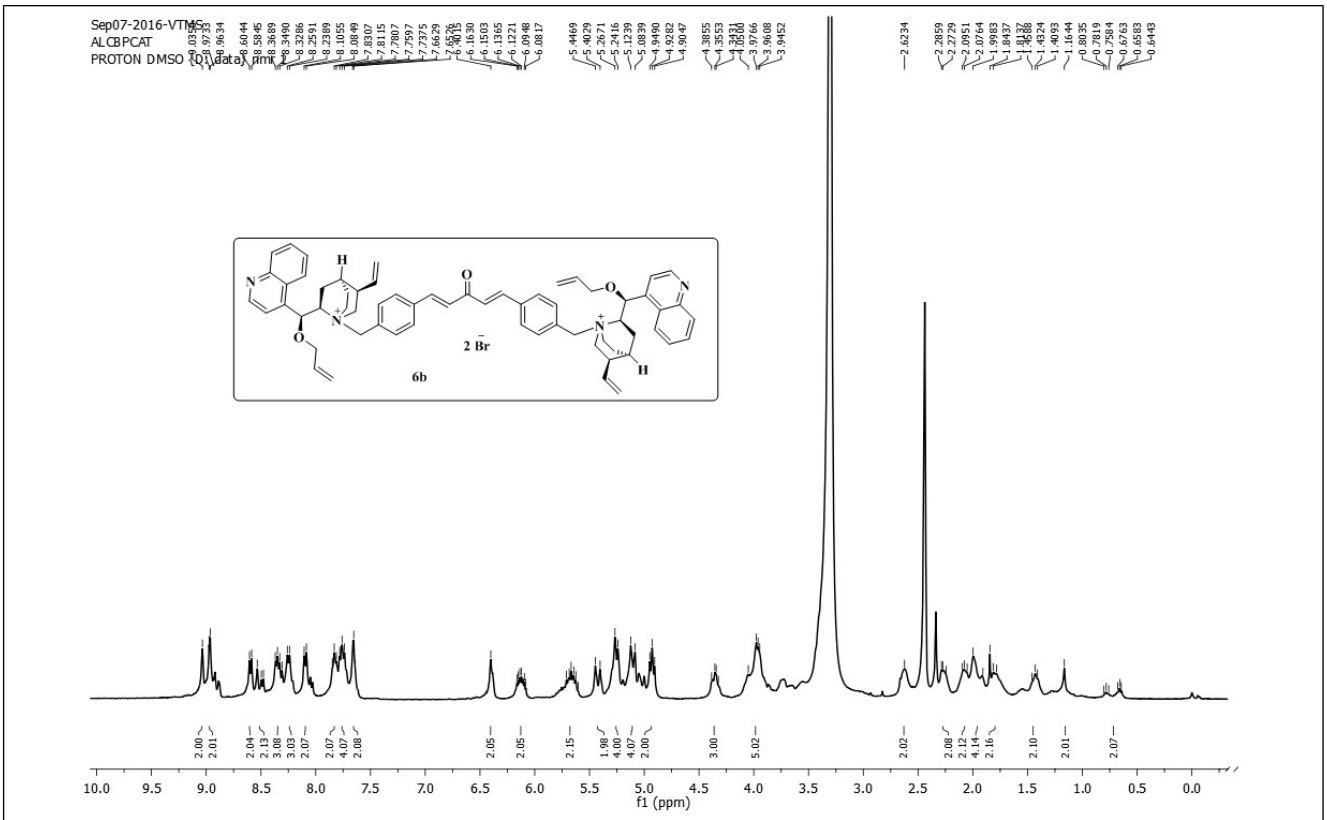
S 8: ^{1}H NMR Spectrum of Cinchonine (contains free -OH) based CPTC (6a).



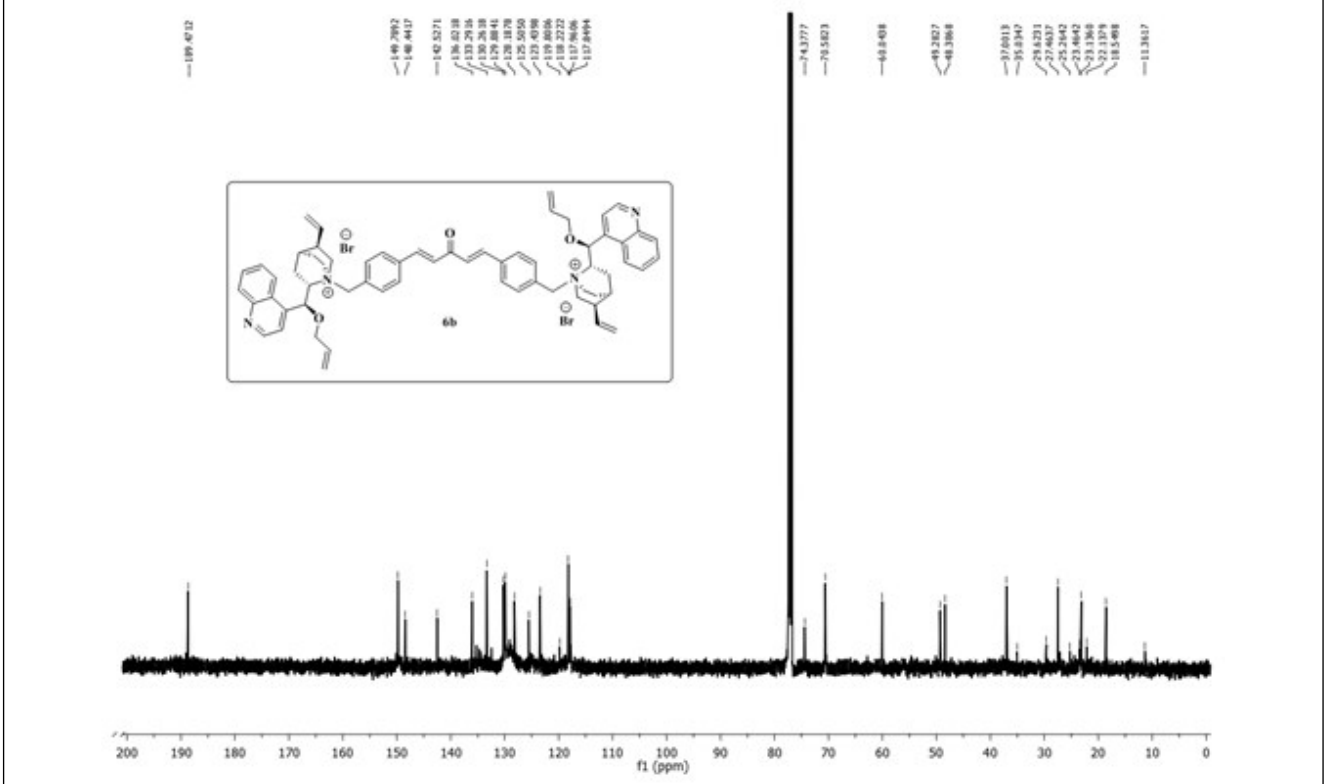
S 9: ^{13}C NMR Spectrum of Cinchonine (contains free -OH) based CPTC (6a).



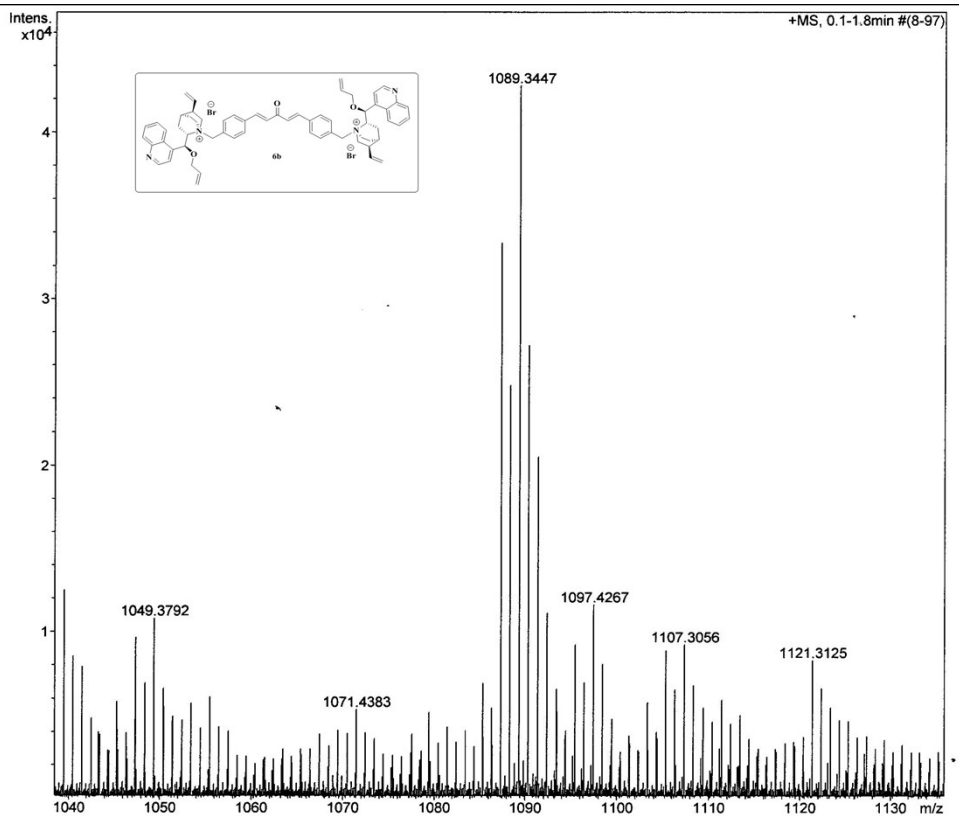
S 10: HRMS - Mass Spectrum of Cinchonine (contains free -OH) based CPTC (6a).



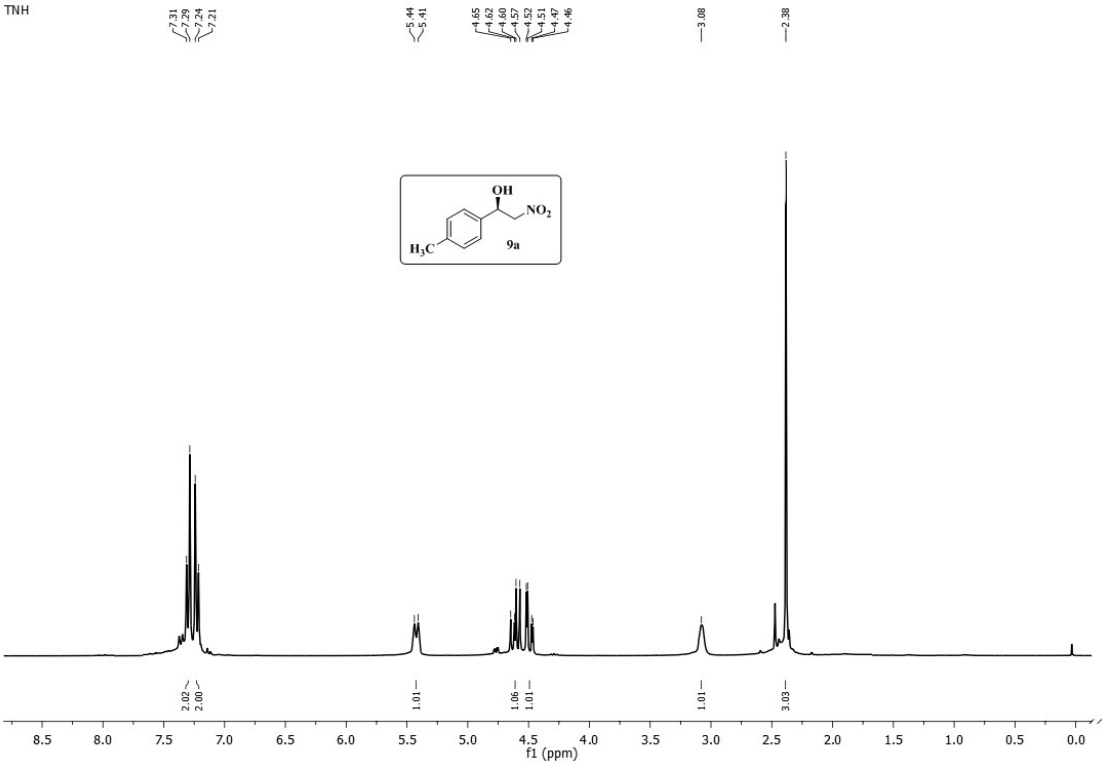
S 11: ^{1}H NMR Spectrum of Allylated cinchonine based CPTC (6b).



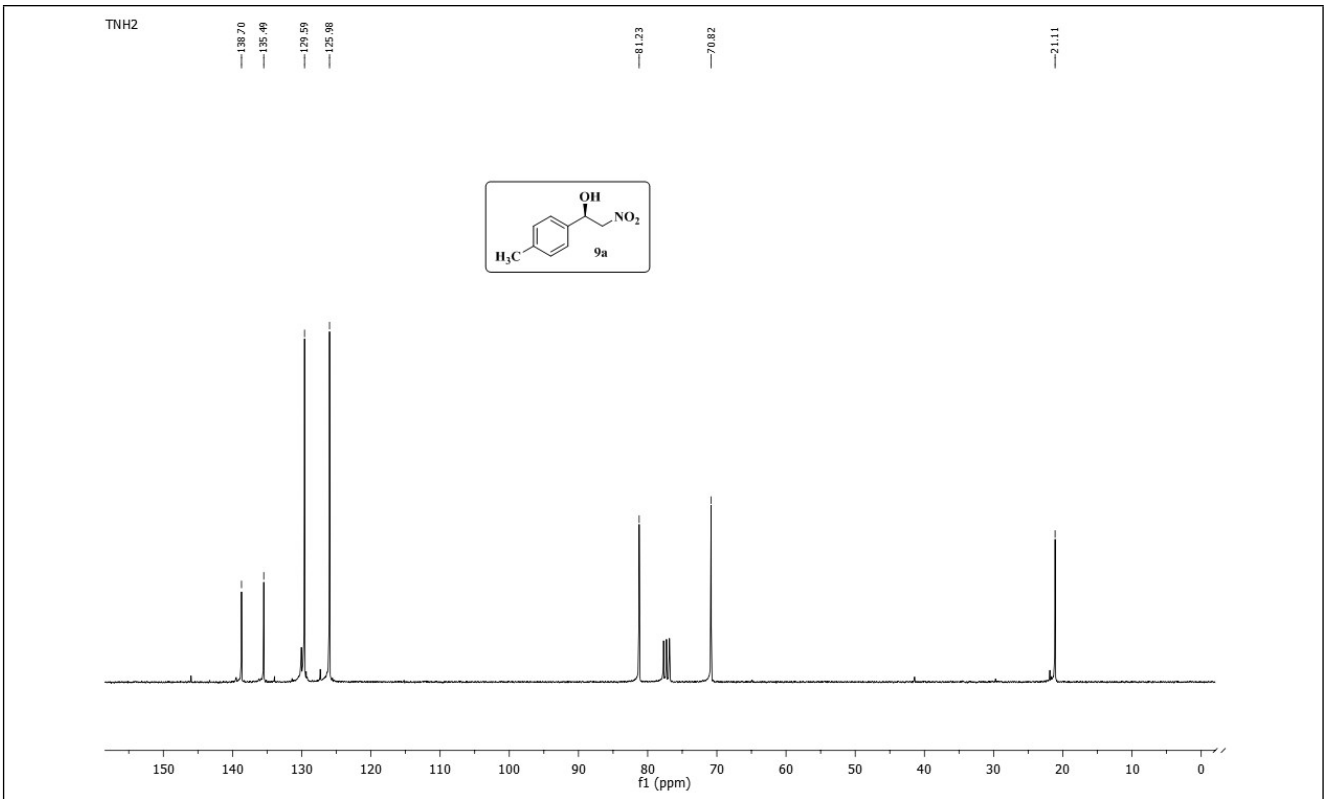
S 12: ^{13}C NMR Spectrum of Allylated cinchonine based CPTC (6b).



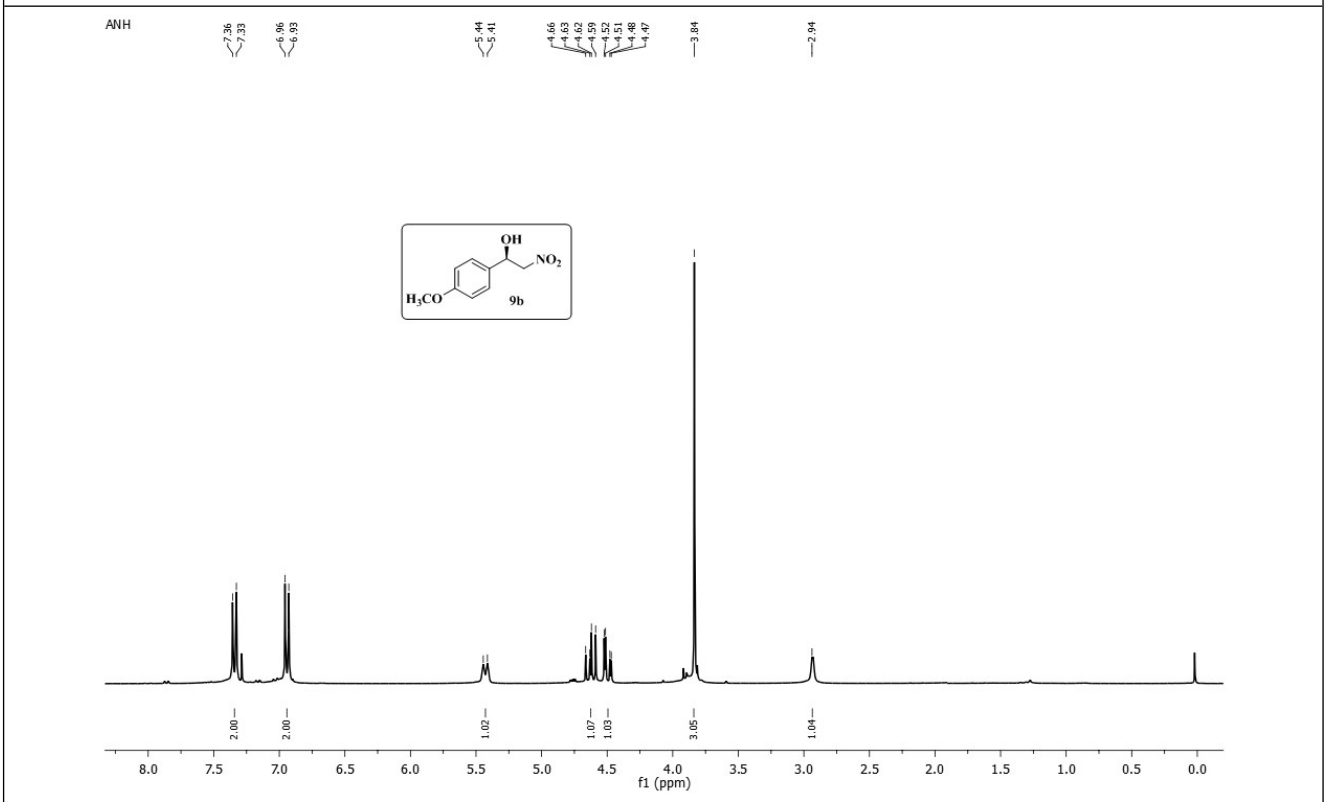
S 13: HRMS - Mass Spectrum of Allylated cinchonine based CPTC (6b).



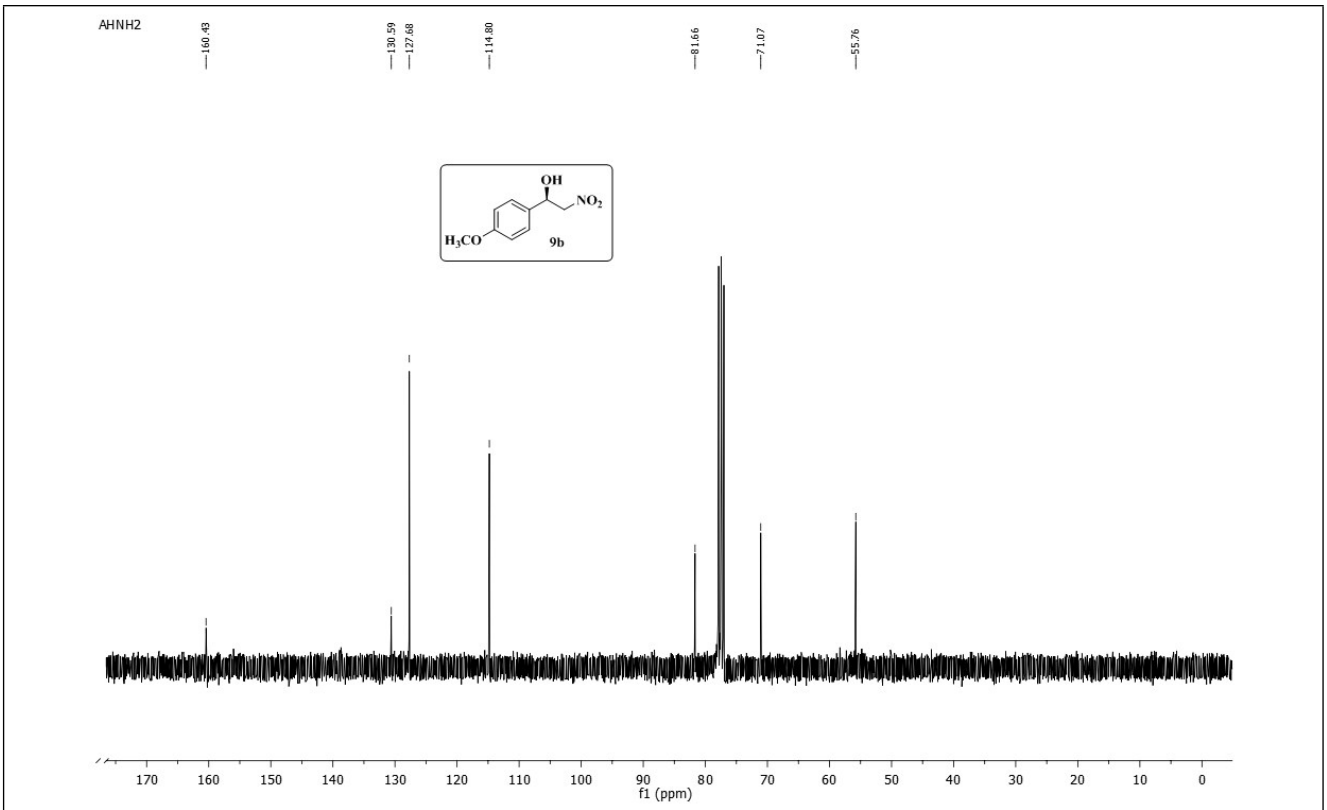
S 14: ^{1}H NMR Spectrum of *(R)*-2-nitro-1-p-tolylethanol (9a).



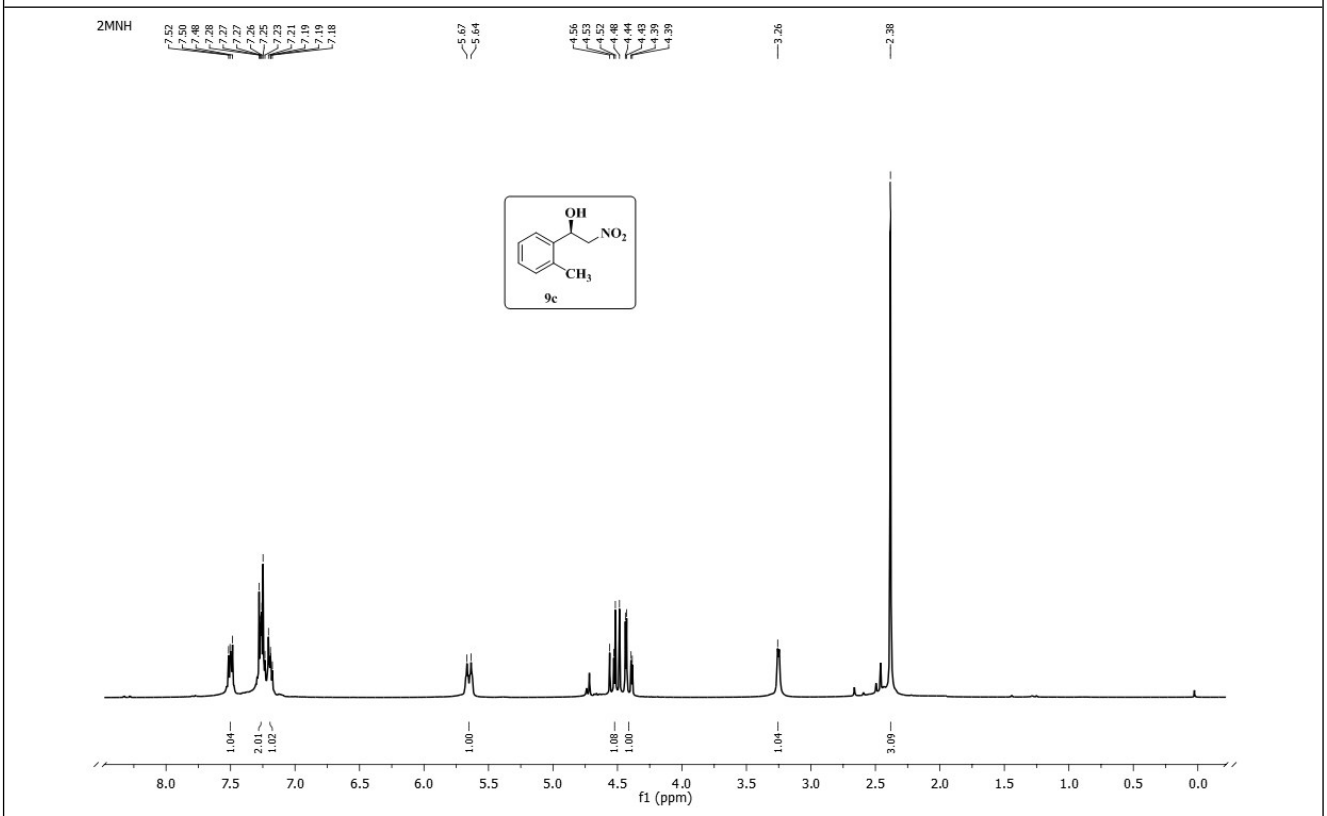
S 15: ^{13}C NMR Spectrum of *(R)*-2-nitro-1-p-tolylethanol (9a).



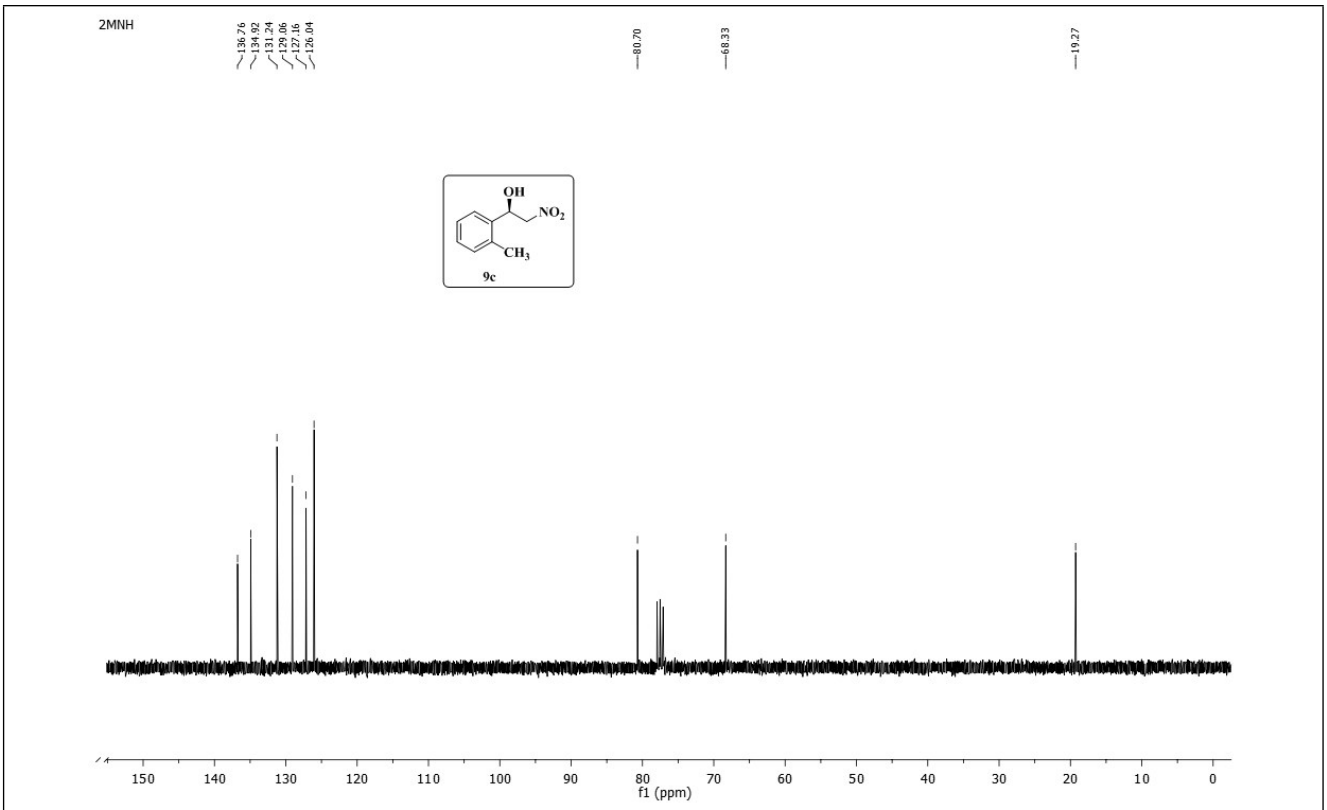
S 16: ^{1}H NMR Spectrum of *(R)*-1-(4-methoxyphenyl)-2-nitroethanol (9b).



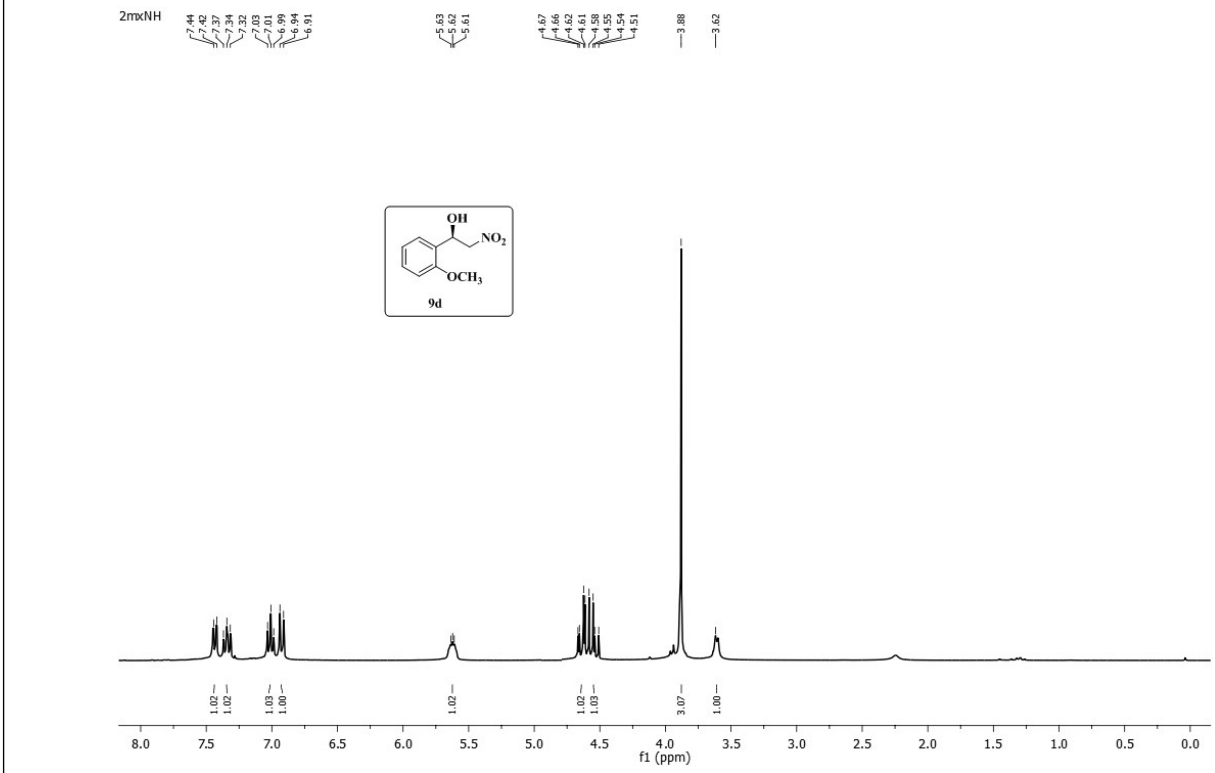
S 17: ^{13}C NMR Spectrum of *(R)*-1-(4-methoxyphenyl)-2-nitroethanol (9b).



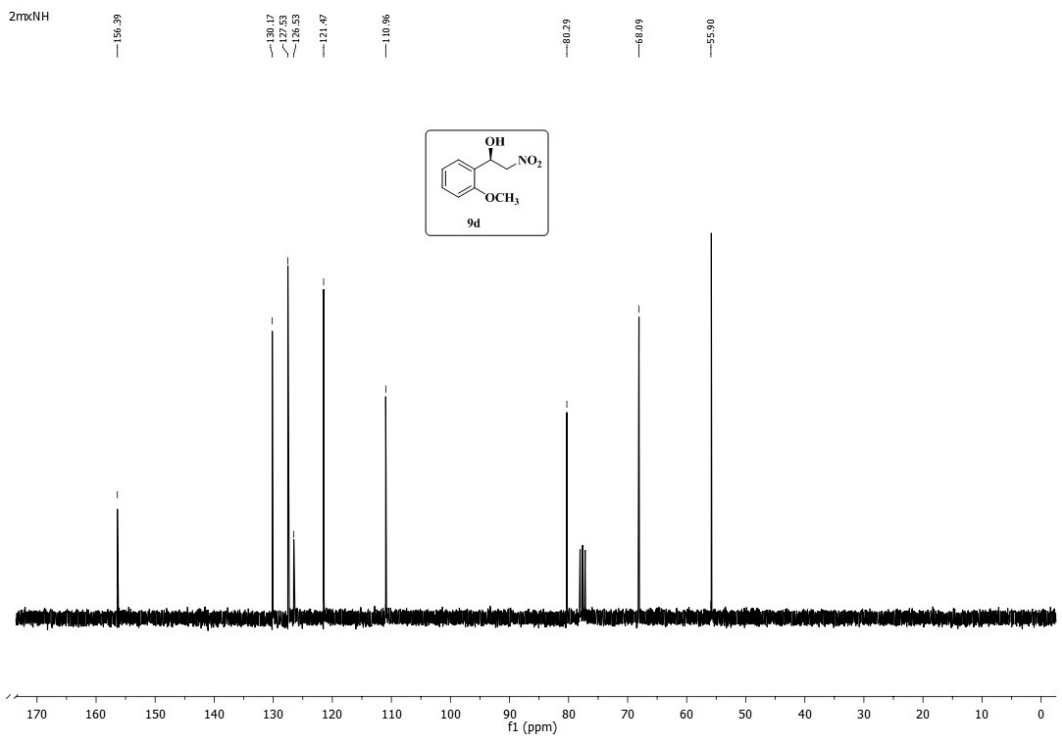
S 18: ^{1}H NMR Spectrum of *(R)*-2-nitro-1-o-tolylethanol (9c).



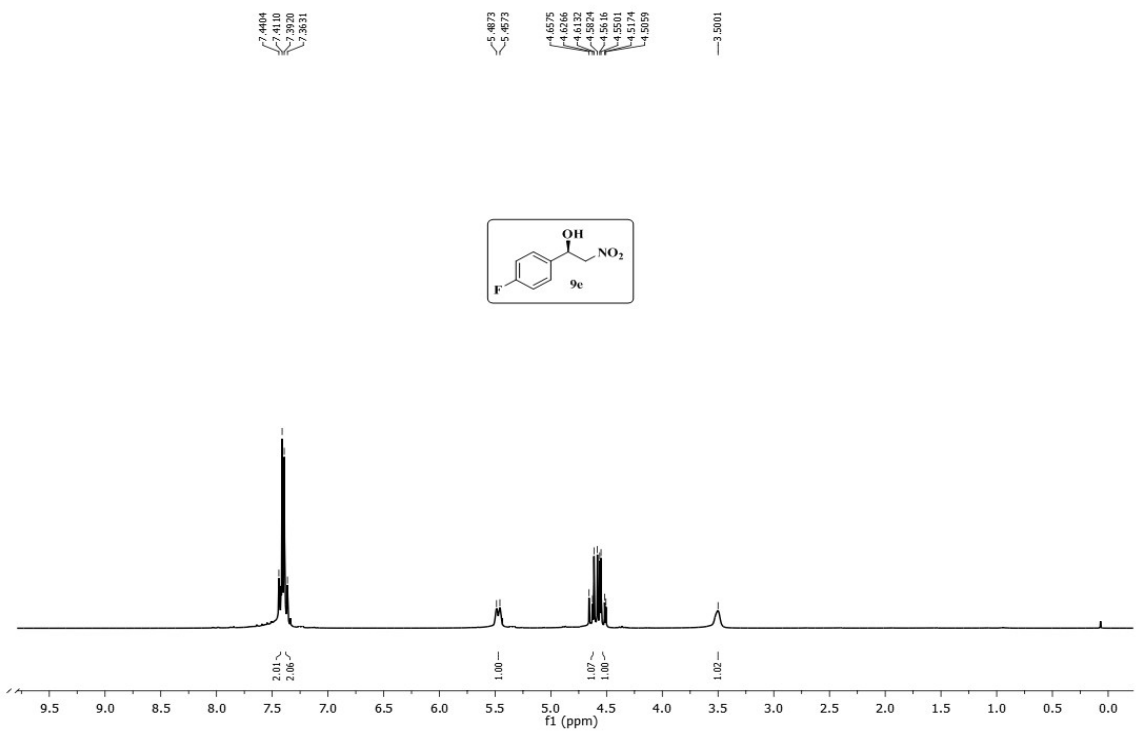
S 19: ^{13}C NMR Spectrum of *(R)*-2-nitro-1-o-tolylethanol (9c).



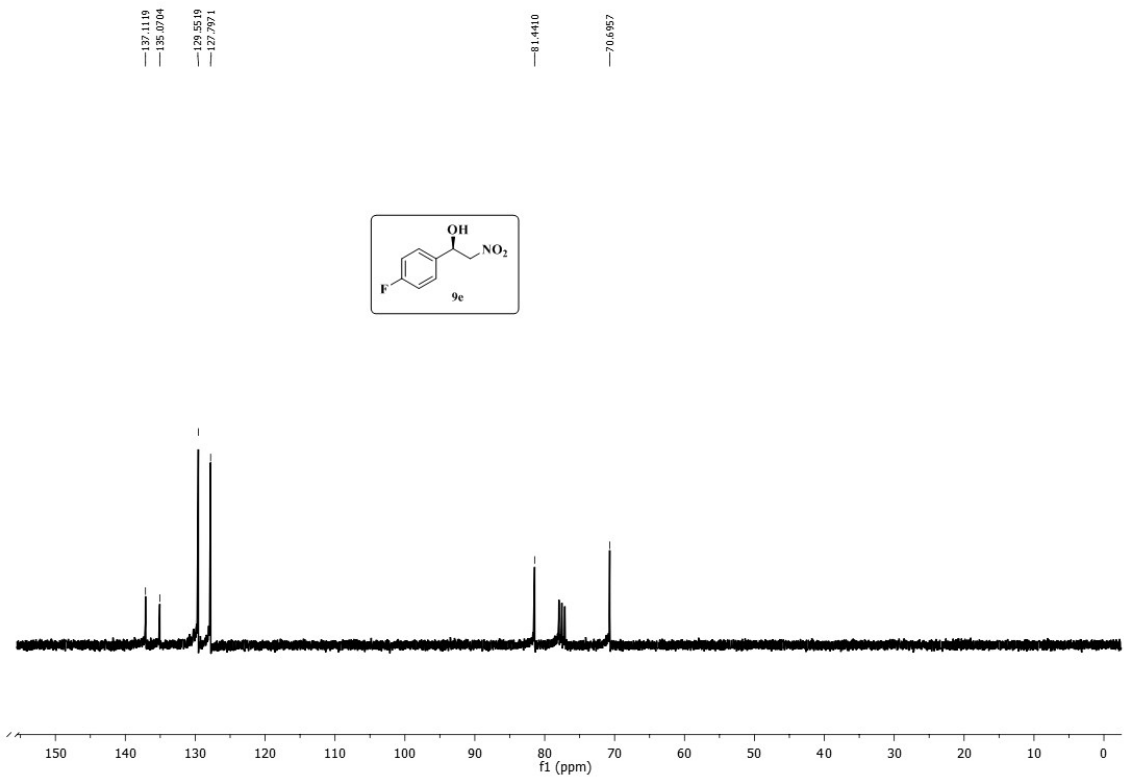
S 20: ^{1}H NMR Spectrum of *(R)*-1-(2-methoxyphenyl)-2-nitroethanol (9d).



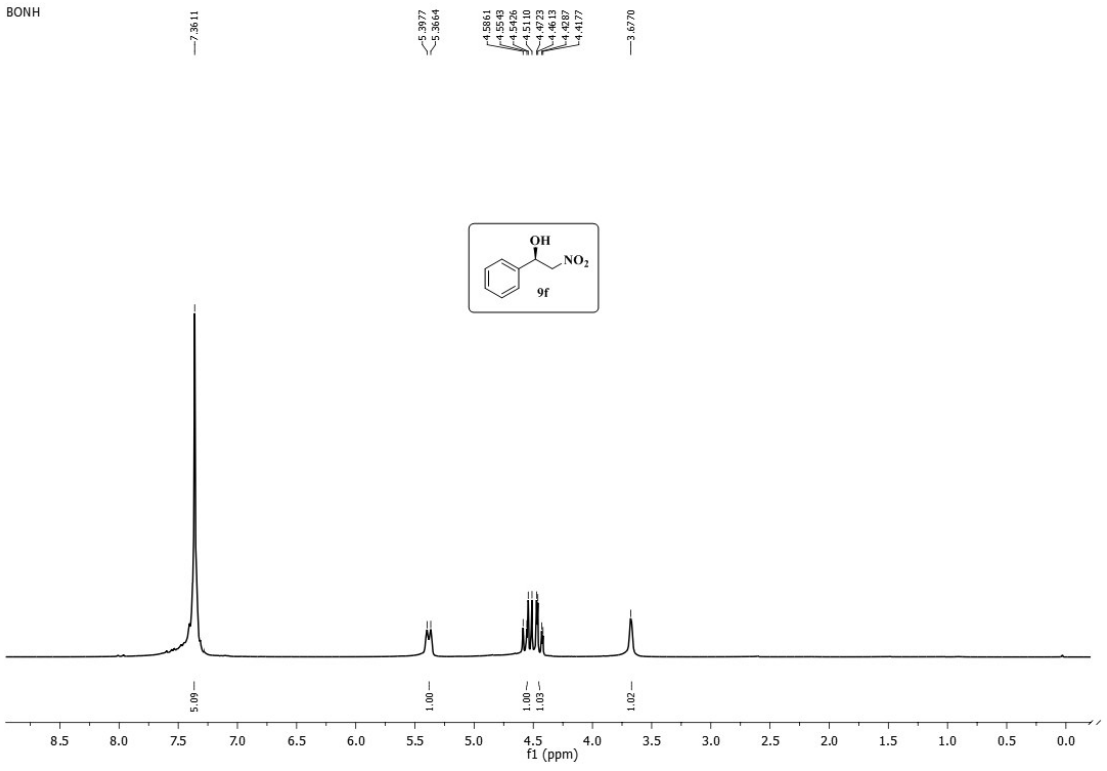
S 21: ^{13}C NMR Spectrum of *(R)*-1-(2-methoxyphenyl)-2-nitroethanol (9d).



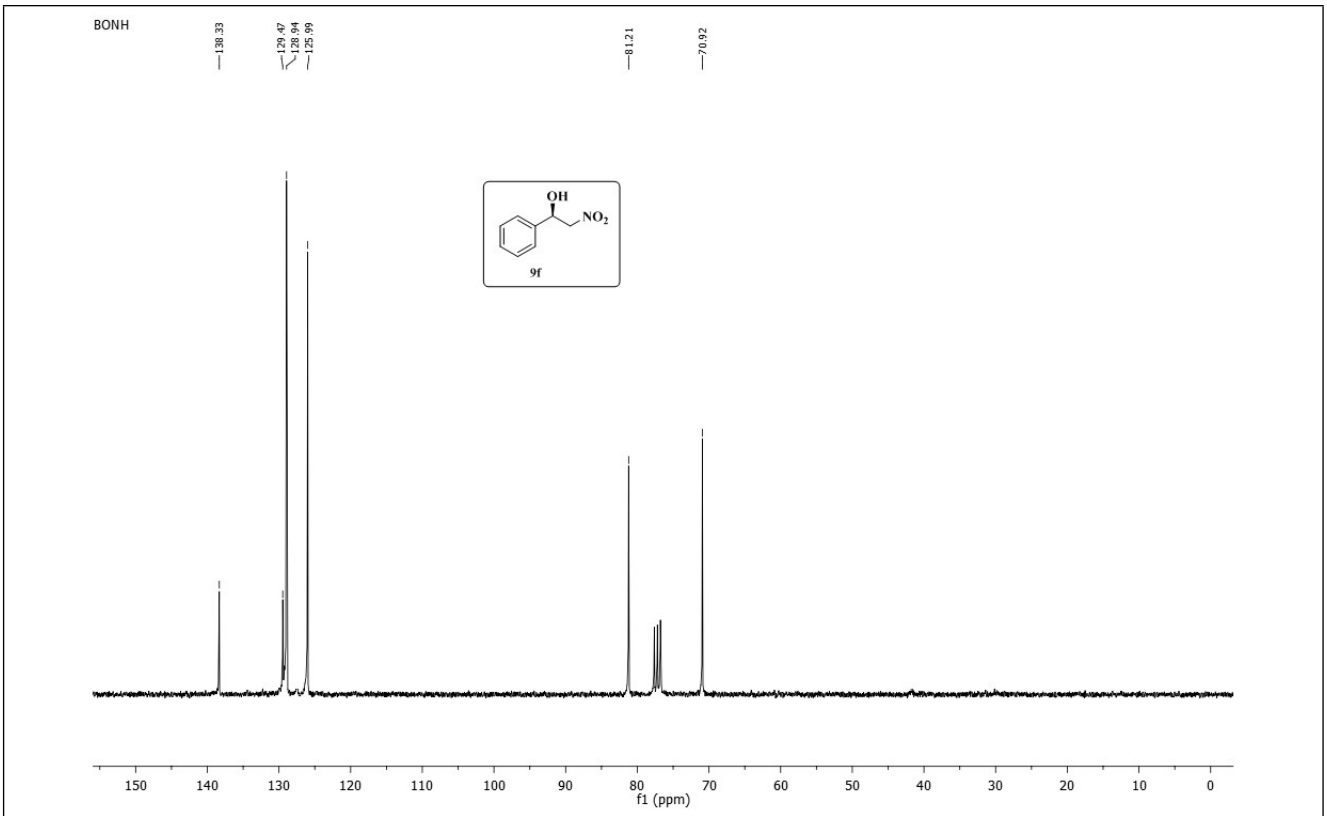
S 22: ^{1}H NMR Spectrum of *(R)*-1-(4-fluorophenyl)-2-nitroethanol (9e).



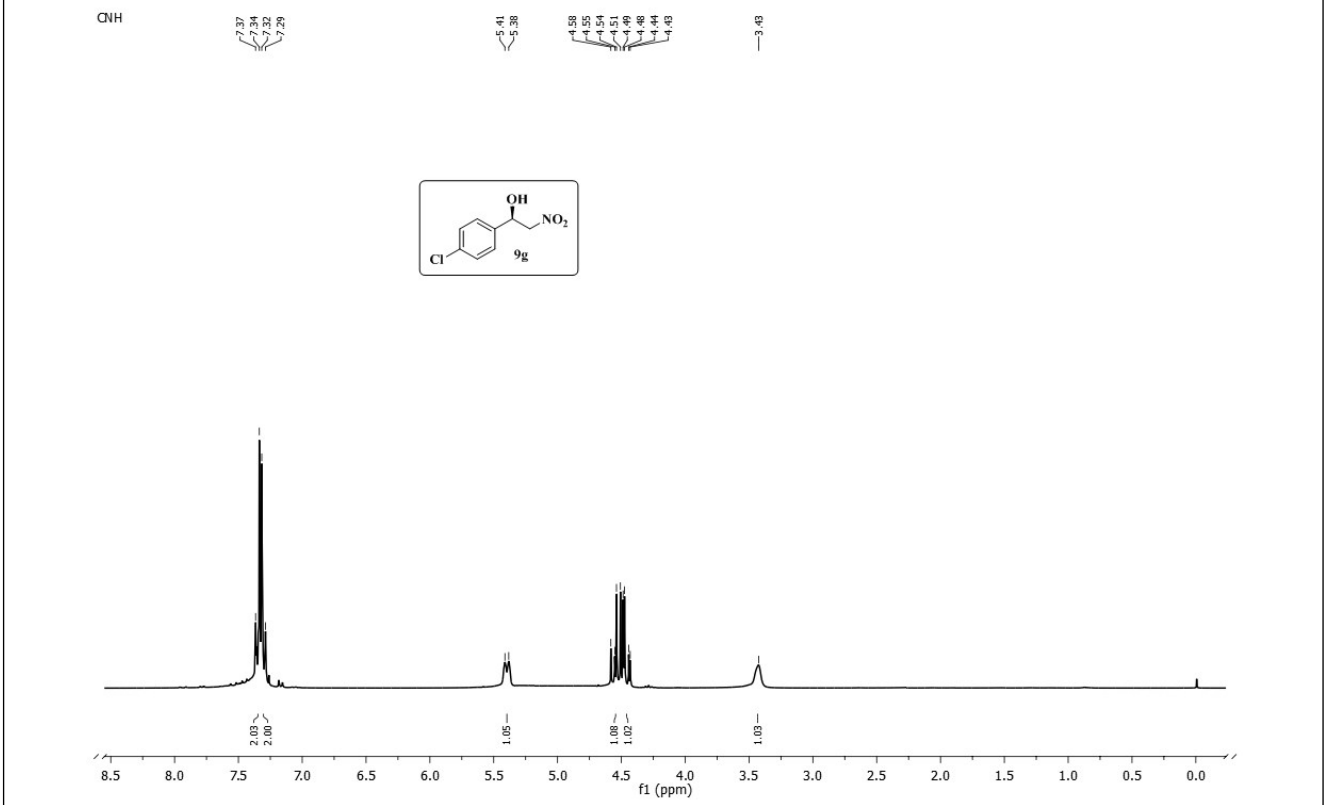
S 23: ^{13}C NMR Spectrum of *(R)*-1-(4-fluorophenyl)-2-nitroethanol (9e).



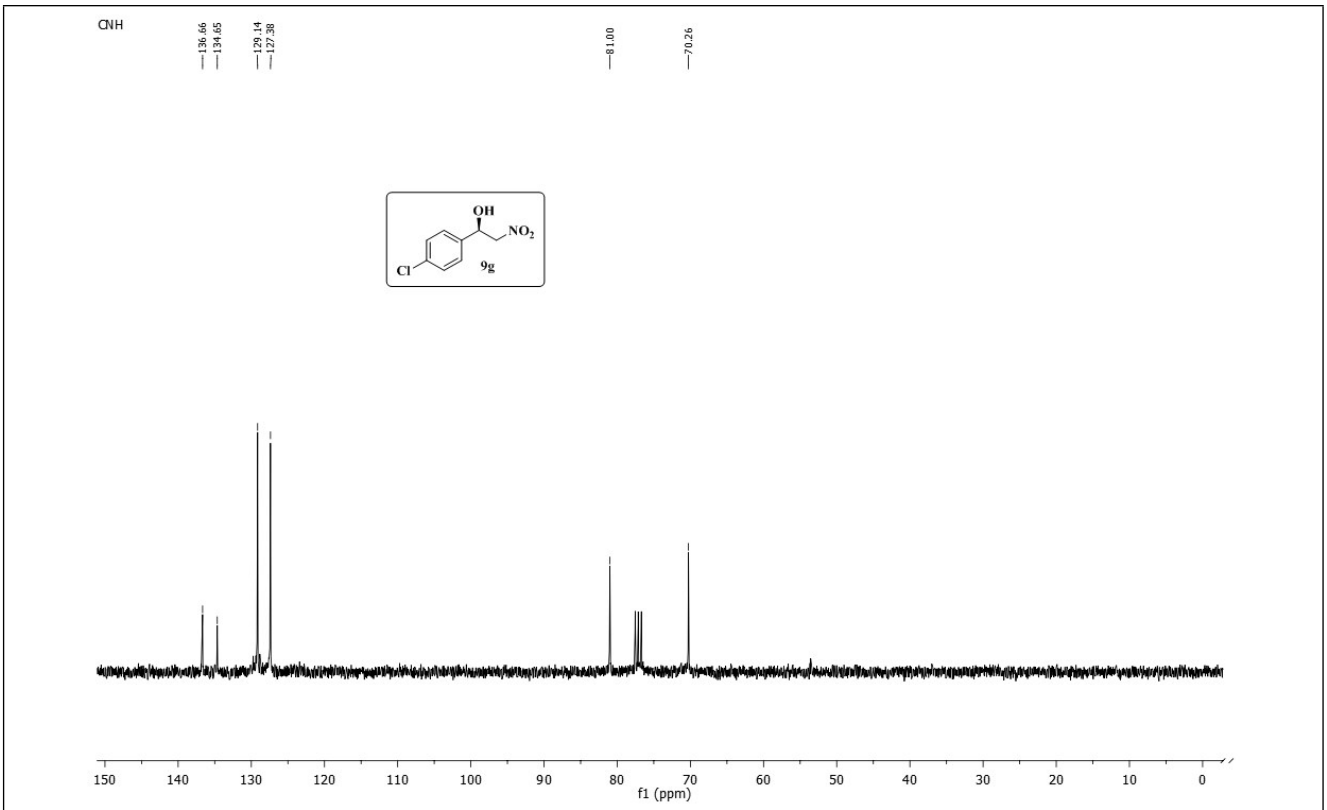
S 24: ^{1}H NMR Spectrum of *(R)*-2-nitro-1-phenylethanol (9f).



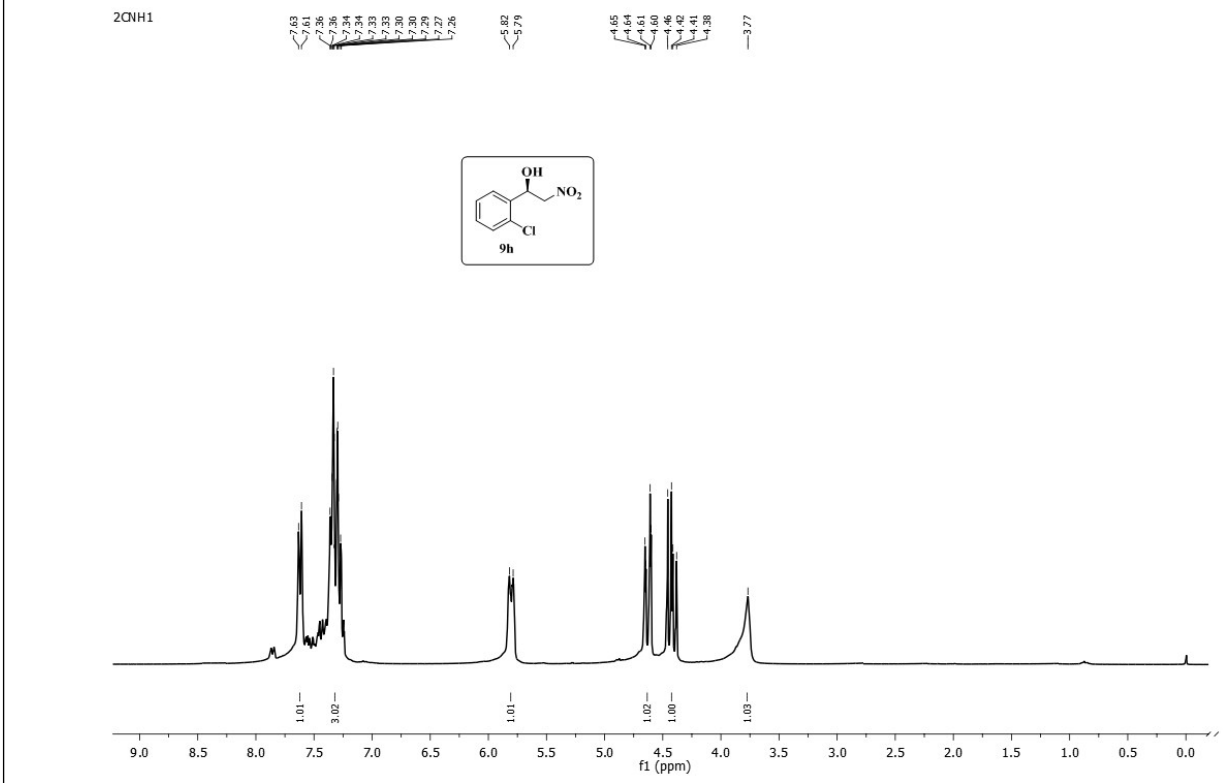
S 25: ^{13}C NMR Spectrum of *(R)*-2-nitro-1-phenylethanol (9f).



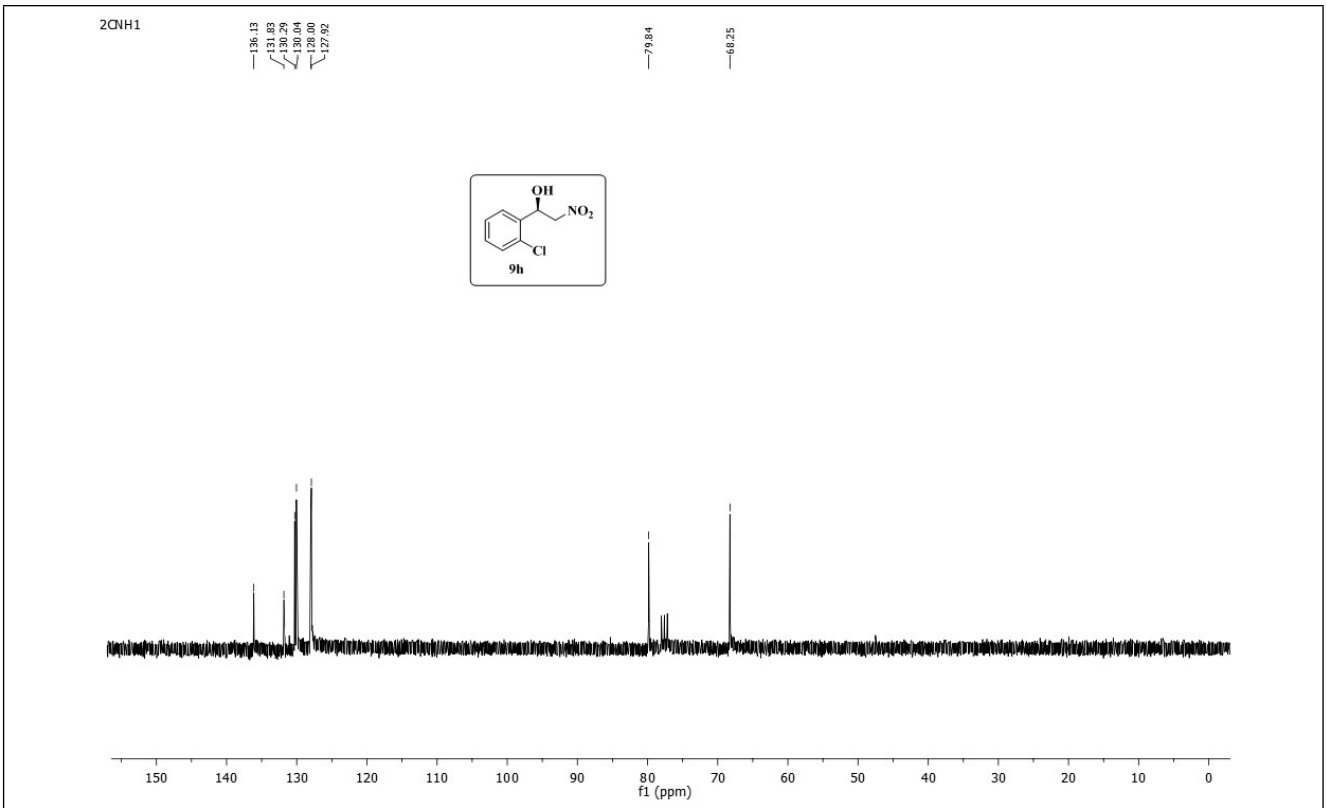
S 26: ^{1}H NMR Spectrum of *(R)*-1-(4-chlorophenyl)-2-nitroethanol (9g).



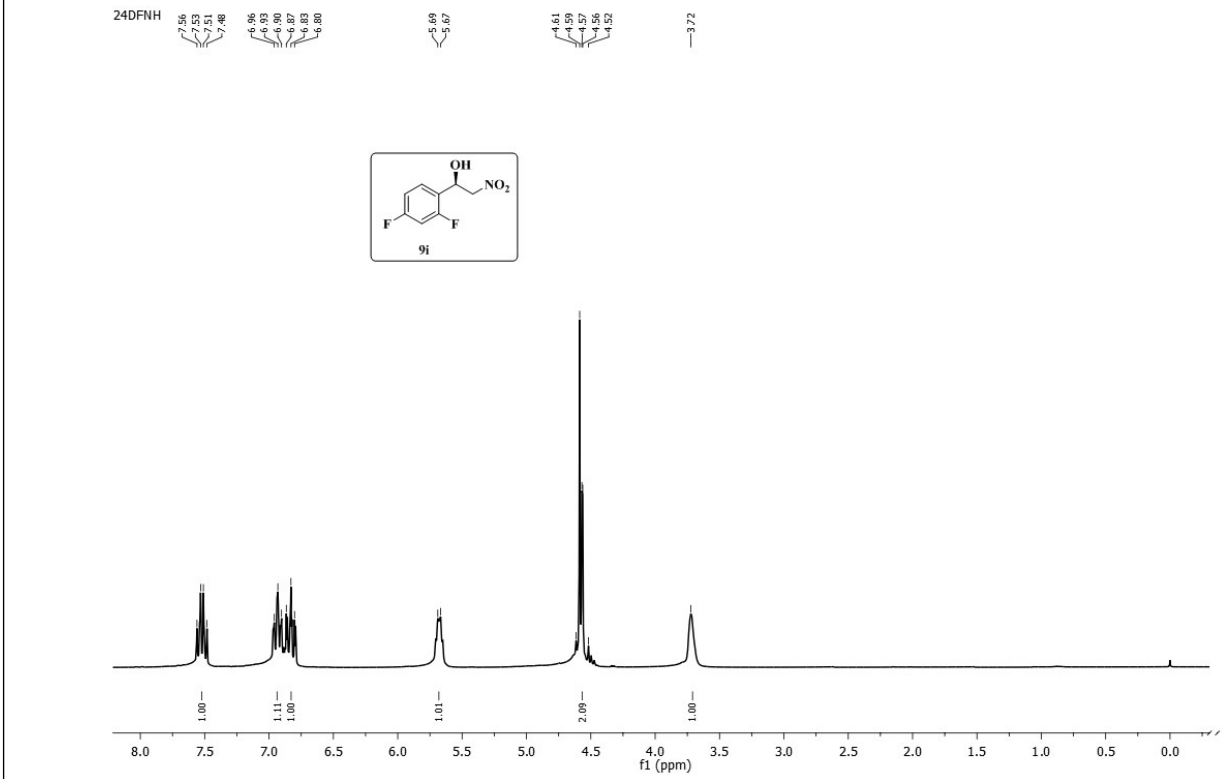
S 27: ^{13}C NMR Spectrum of *(R)*-1-(4-chlorophenyl)-2-nitroethanol (9g).



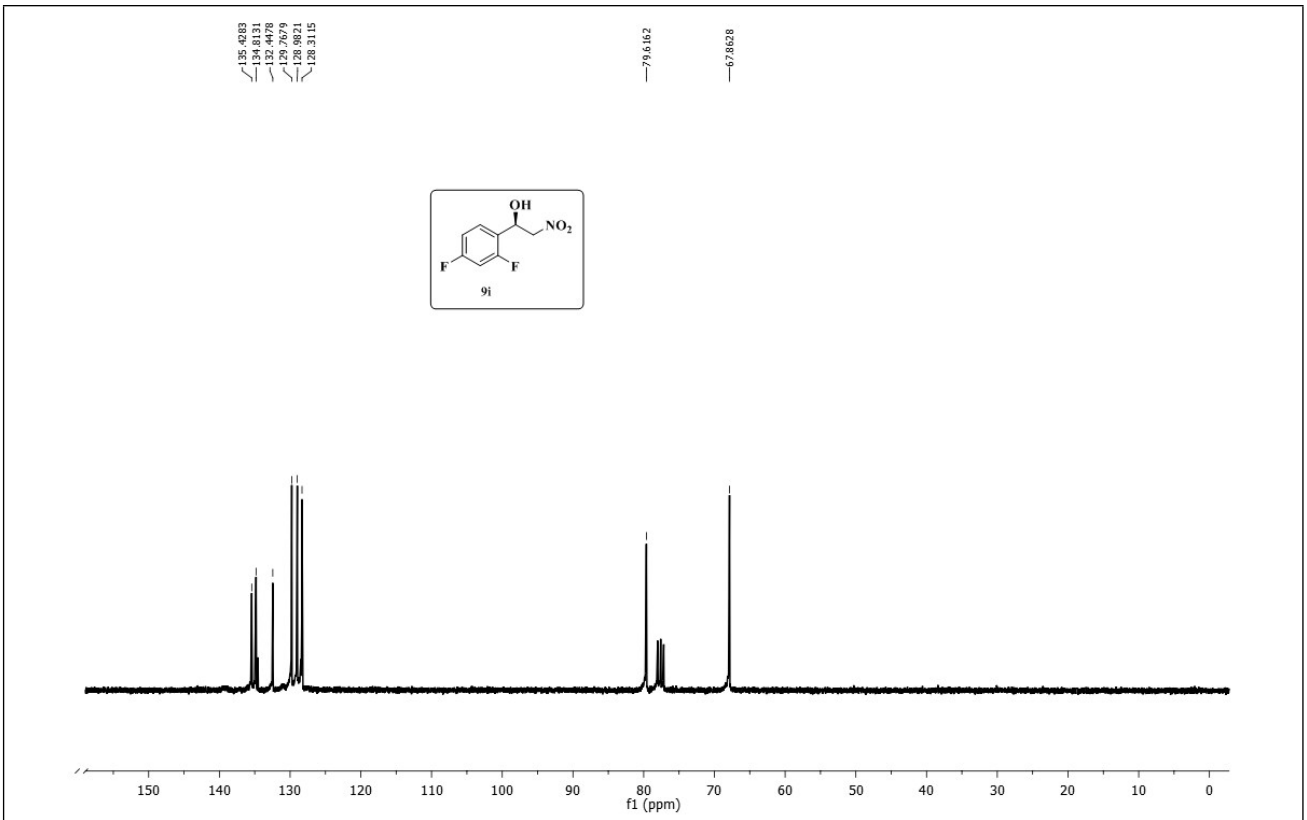
S 28: ^{1}H NMR Spectrum of *(R)*-1-(2-chlorophenyl)-2-nitroethanol (9h).



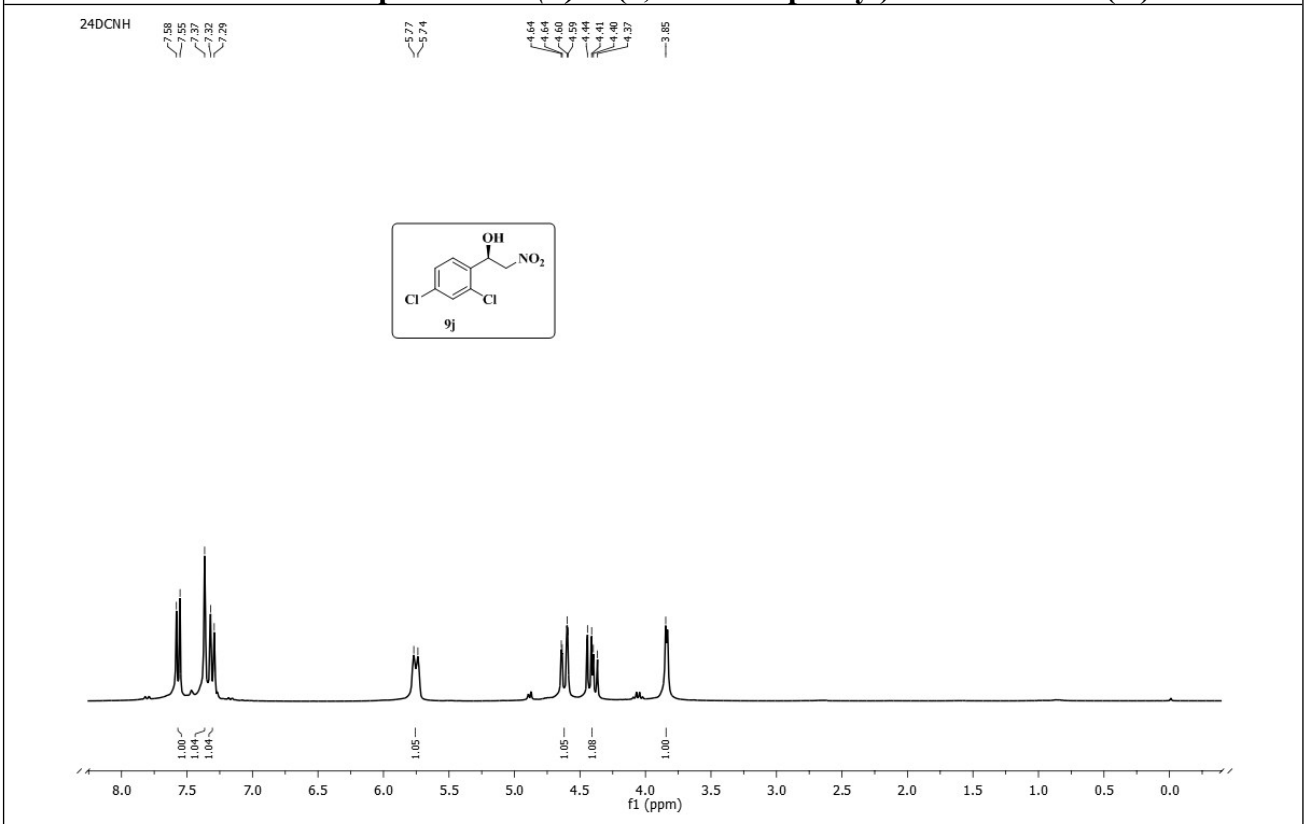
S 29: ^{13}C NMR Spectrum of *(R)*-1-(2-chlorophenyl)-2-nitroethanol (9h).



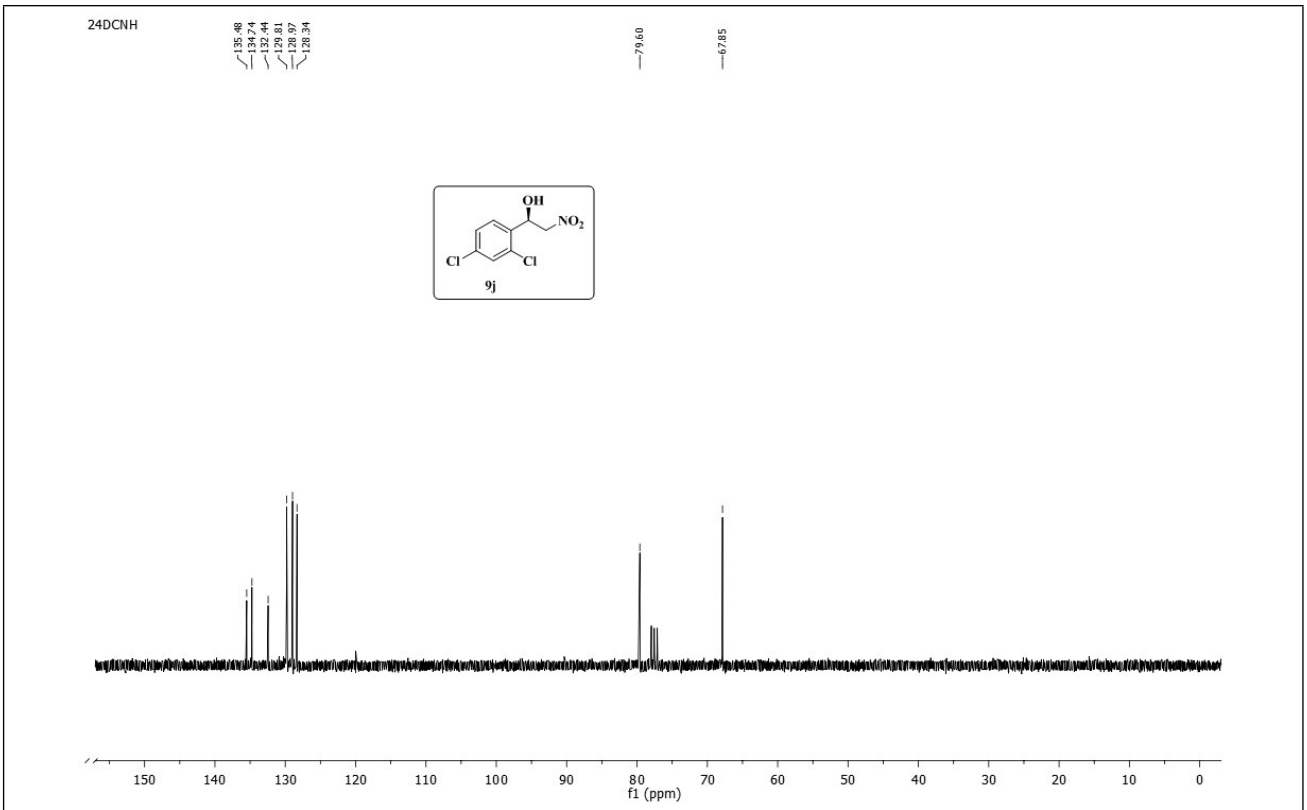
S 30: ^{1}H NMR Spectrum of *(R)*-1-(2,4-difluorophenyl)-2-nitroethanol (9i).



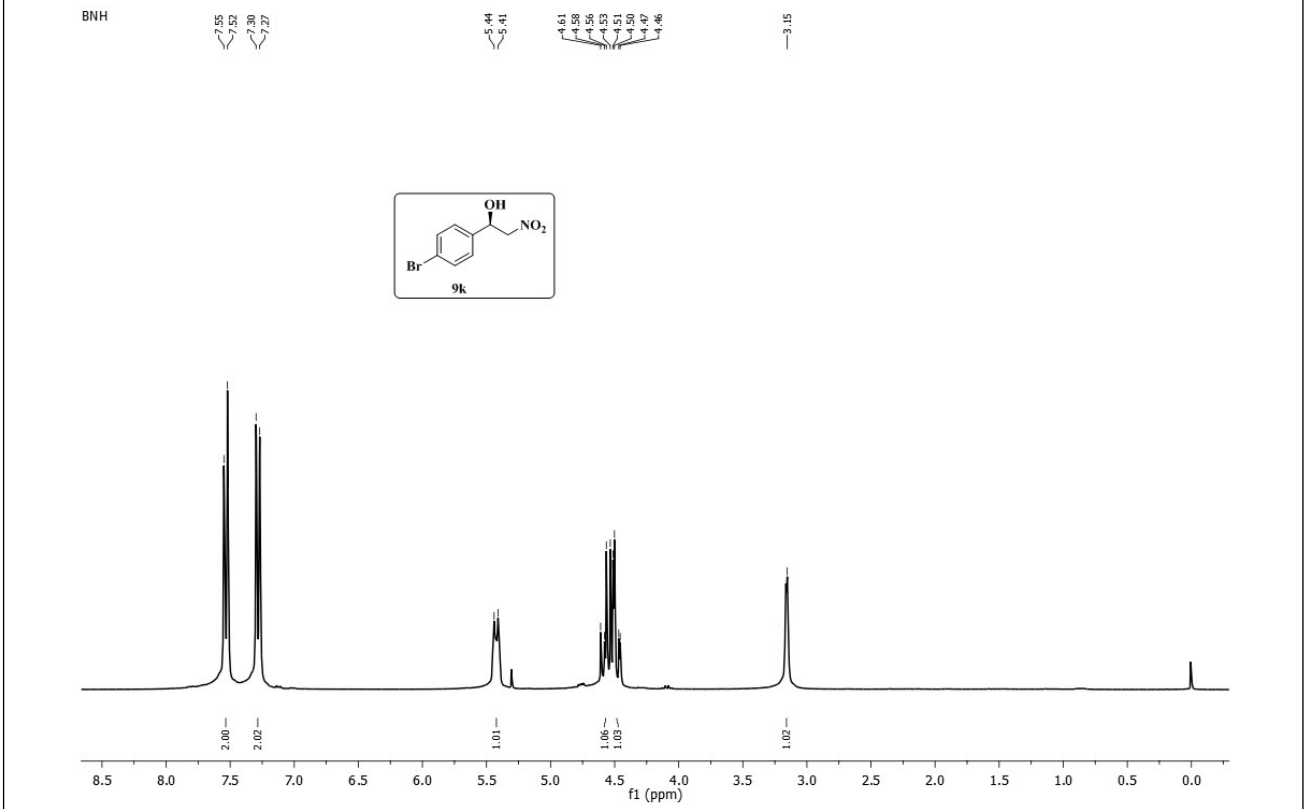
S 31: ^{13}C NMR Spectrum of *(R)*-1-(2,4-difluorophenyl)-2-nitroethanol (9i).



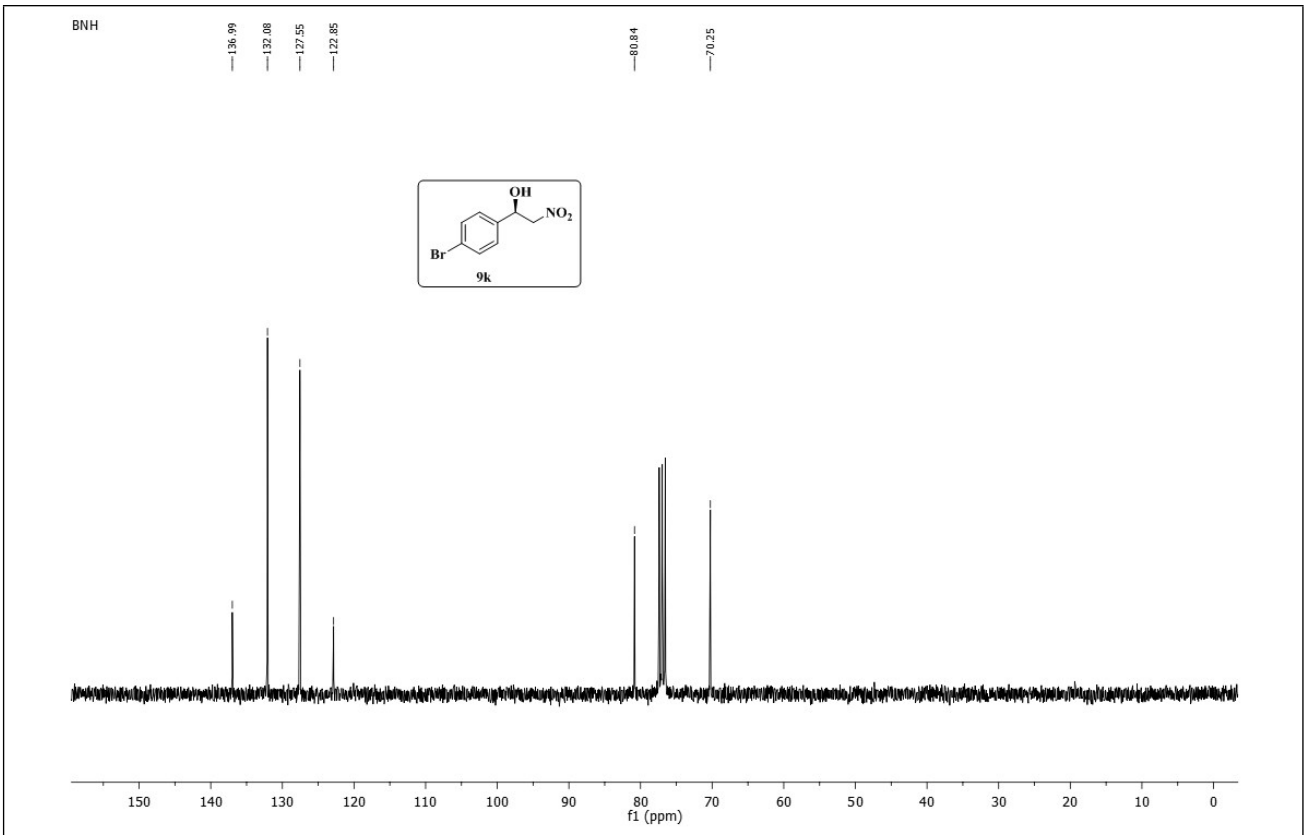
S 32: ^{1}H NMR Spectrum of *(R)*-1-(2,4-dichlorophenyl)-2-nitroethanol (9j).



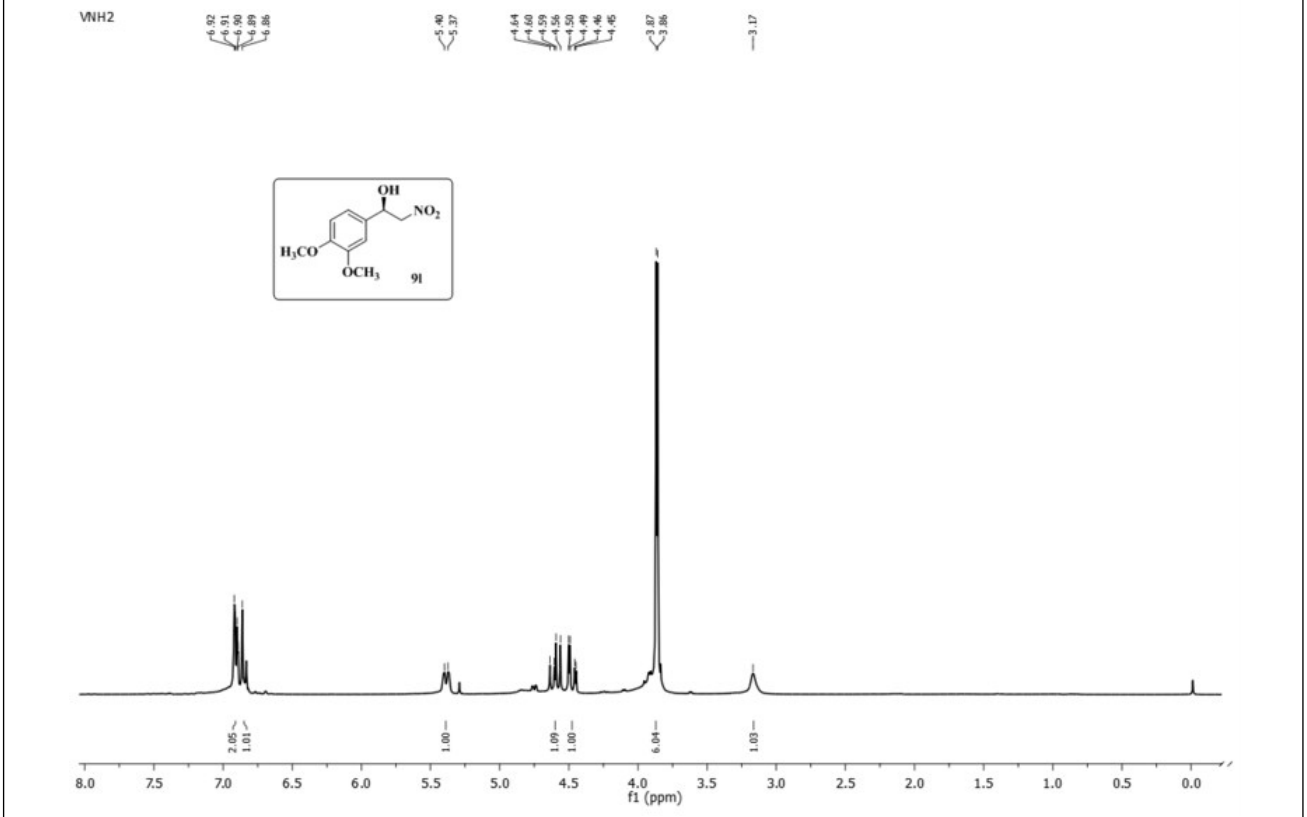
S 33: ^{13}C NMR Spectrum of *(R)*-1-(2,4-dichlorophenyl)-2-nitroethanol (9j).



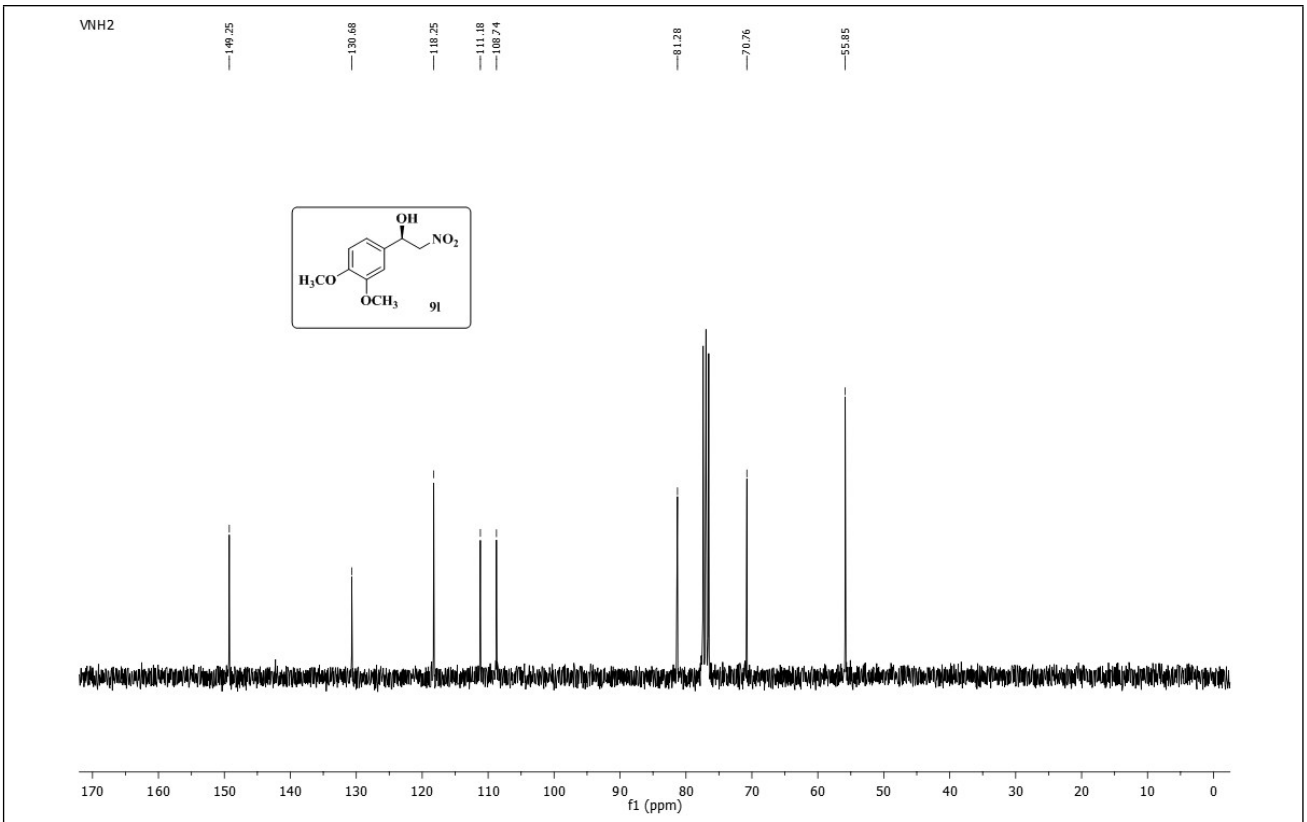
S 34: ^{1}H NMR Spectrum of *(R)*-1-(4-bromophenyl)-2-nitroethanol (9k).



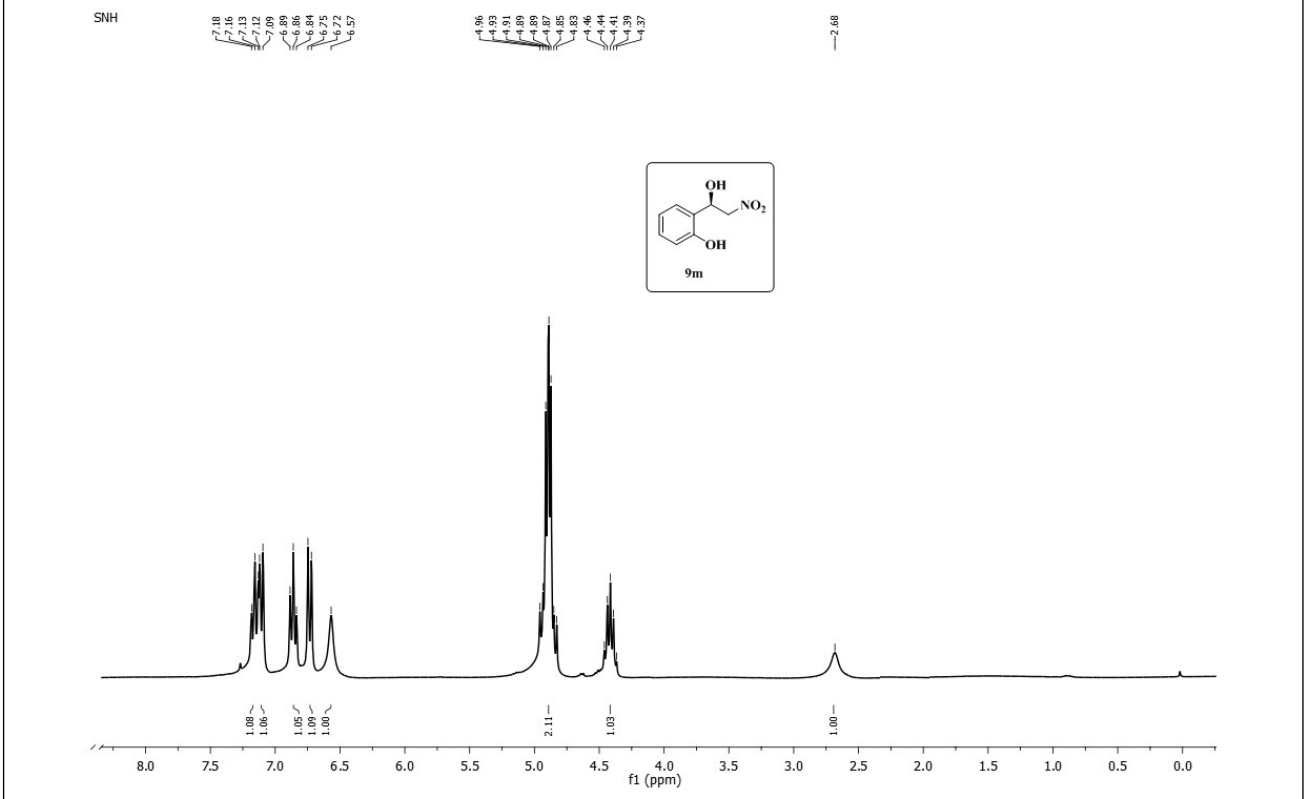
S 35: ^{13}C NMR Spectrum of *(R)*-1-(4-bromophenyl)-2-nitroethanol (9k).



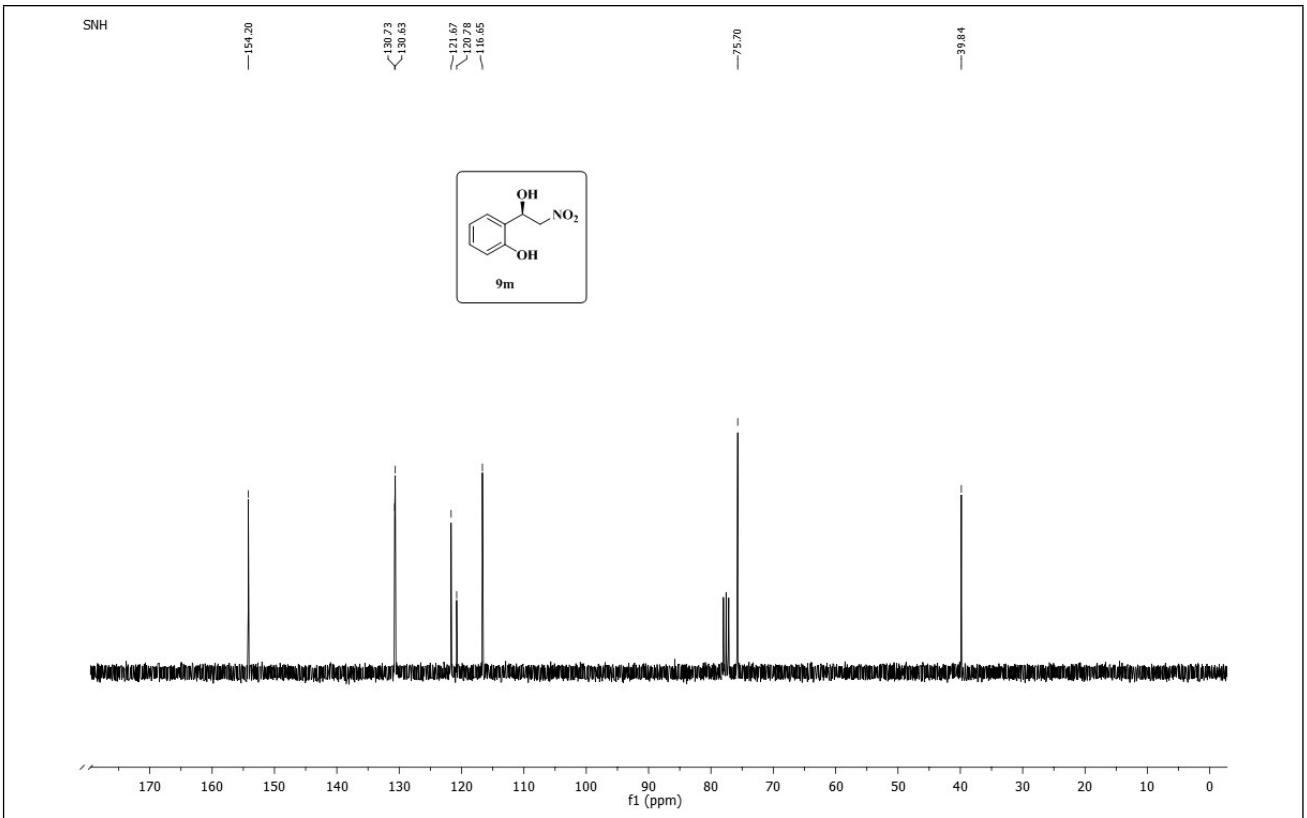
S 36: ^{1}H NMR Spectrum of *(R)*-1-(3,4-dimethoxyphenyl)-2-nitroethanol (9l).



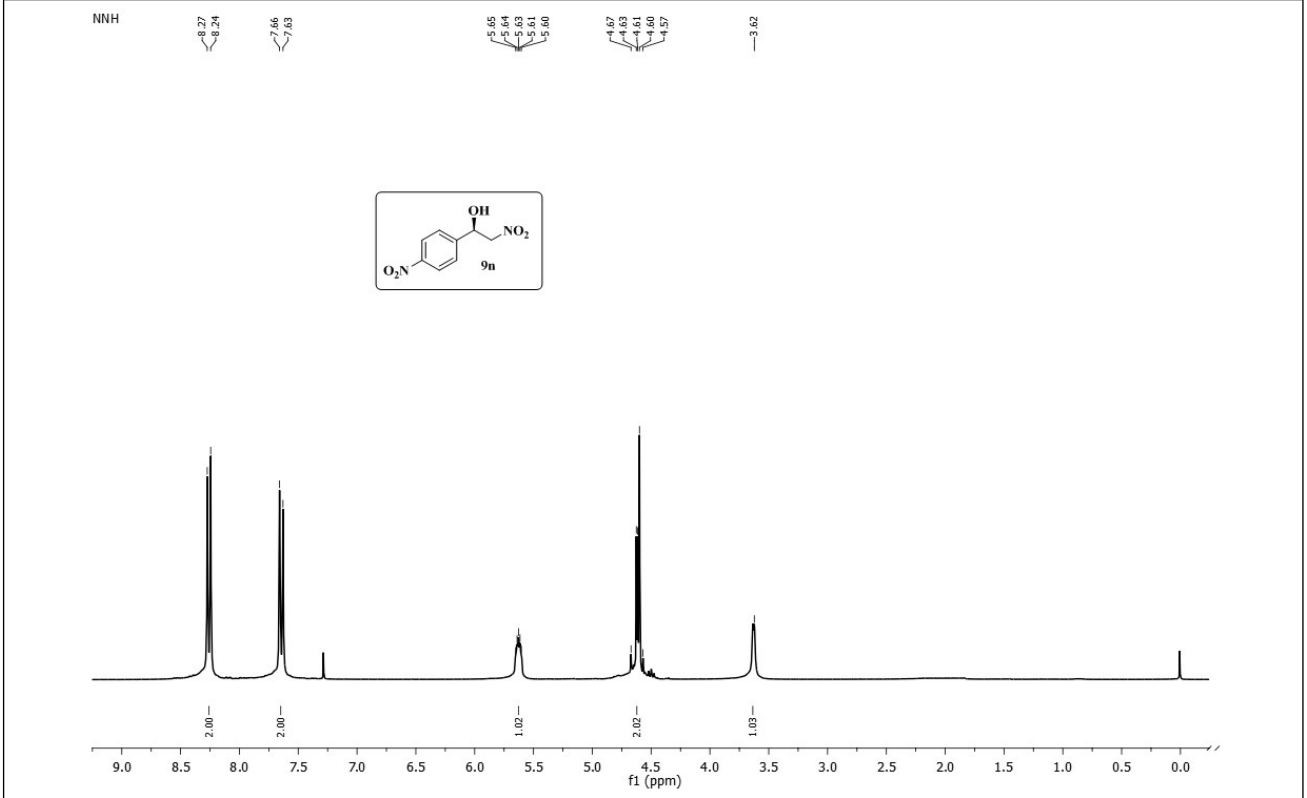
S 37: ^{13}C NMR Spectrum of *(R)*-1-(3,4-dimethoxyphenyl)-2-nitroethanol (9l).



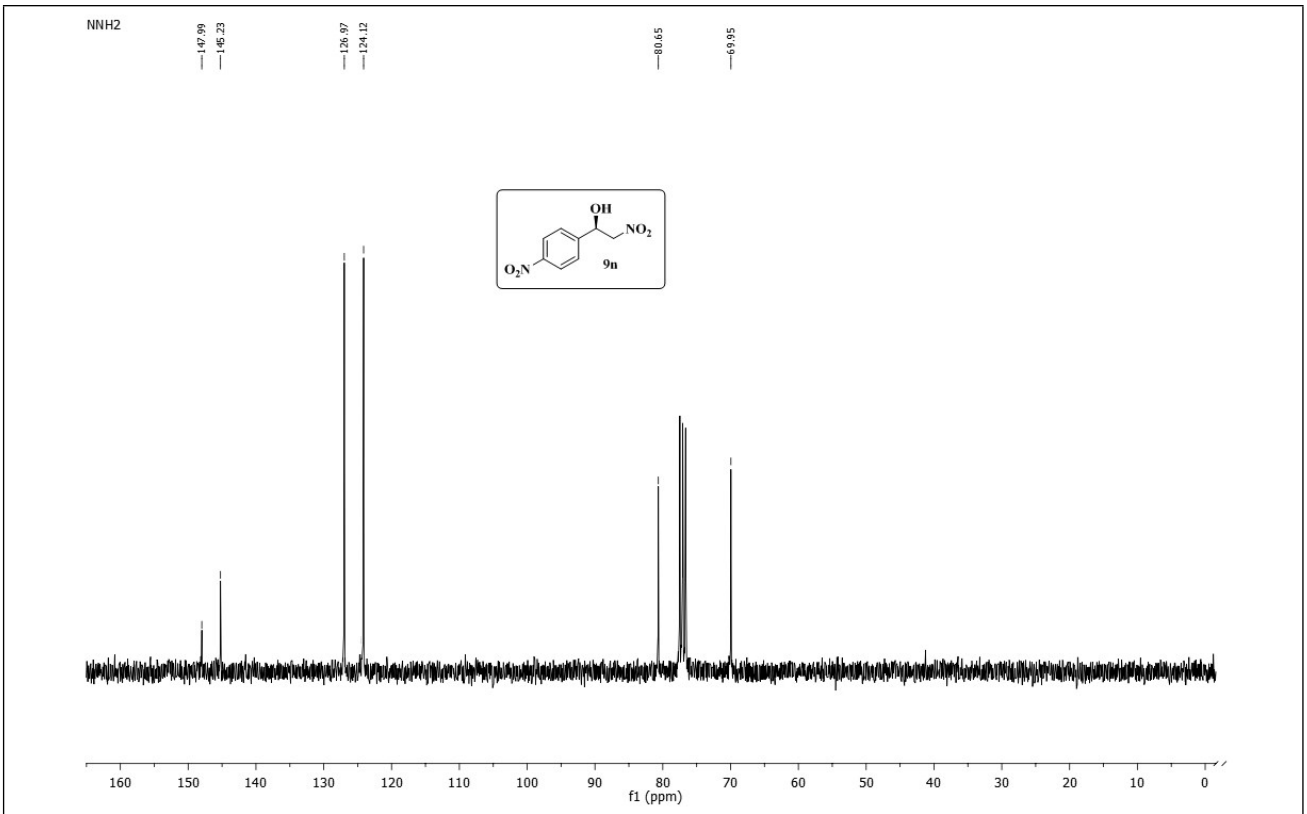
S 38: ^{1}H NMR Spectrum of *(R)*-2-(1-hydroxy-2-nitroethyl)phenol (9m).



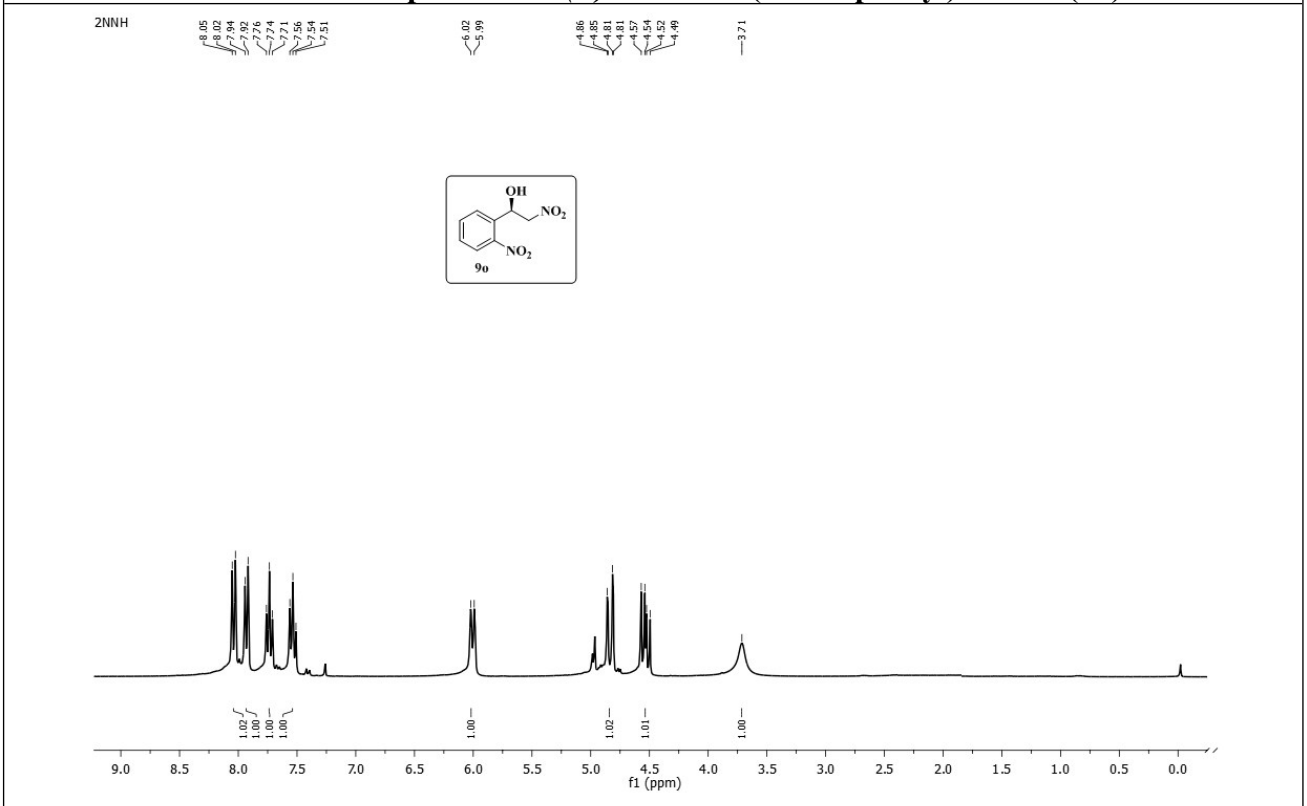
S 39: ^{13}C NMR Spectrum of *(R)*-2-(1-hydroxy-2-nitroethyl)phenol (9m).



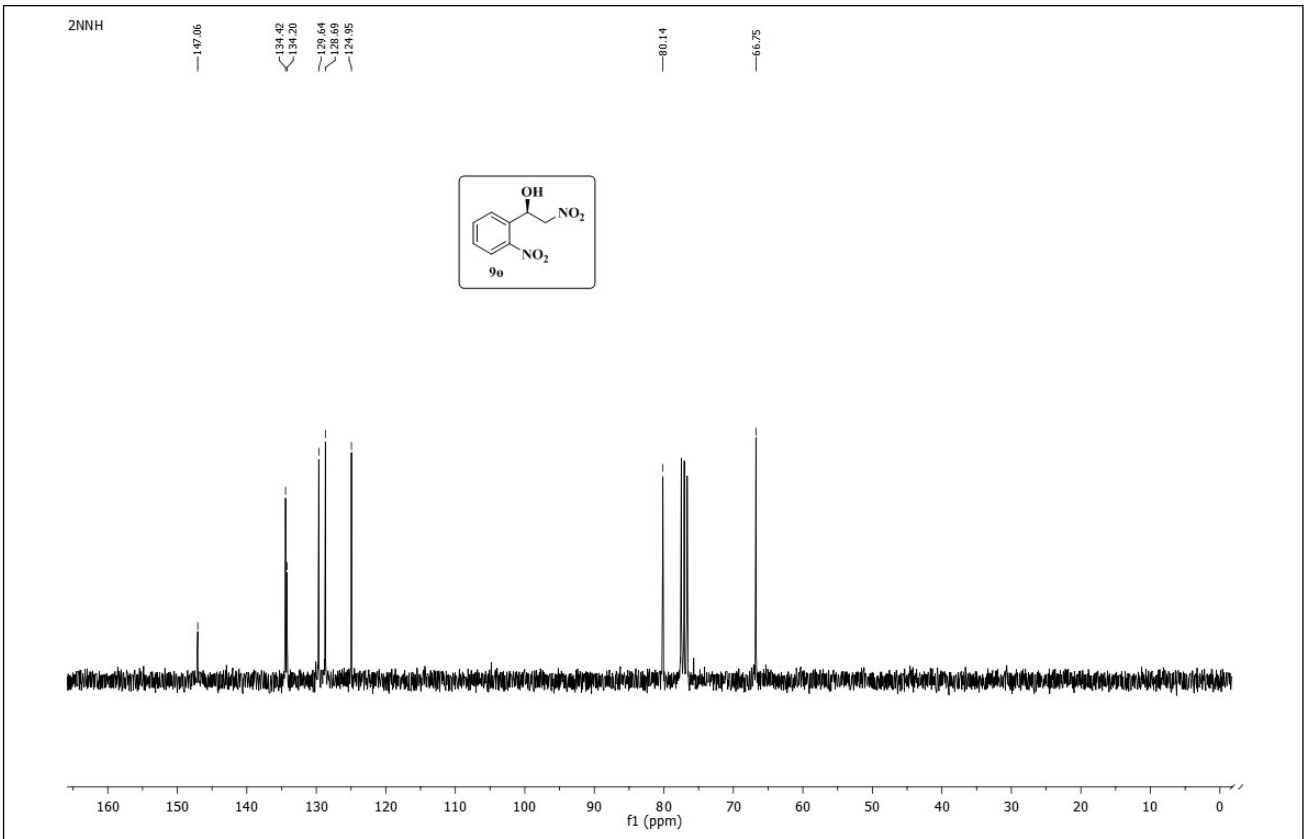
S 40: ^{1}H NMR Spectrum of *(R)*-2-nitro-1-(4-nitrophenyl)ethanol (9n).



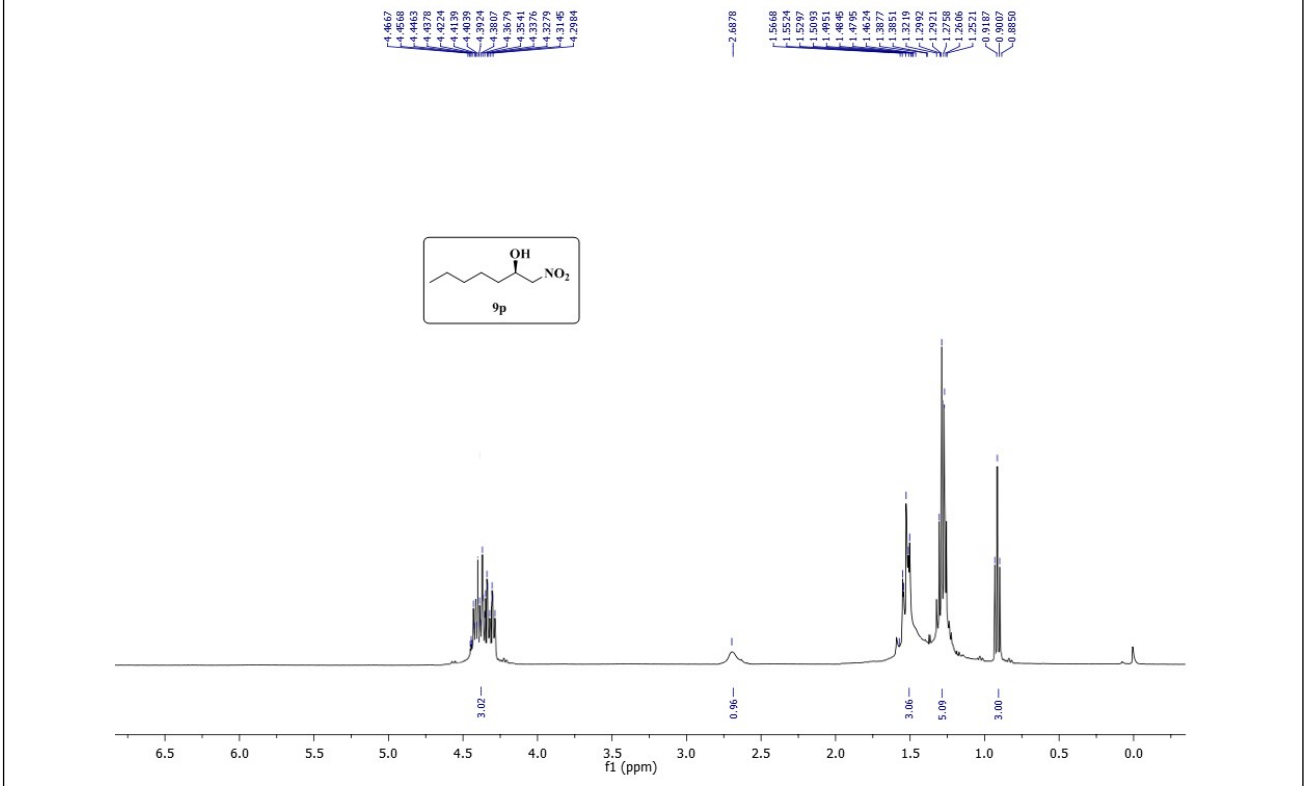
S 41: ^{13}C NMR Spectrum of *(R)*-2-nitro-1-(4-nitrophenyl)ethanol (9n).



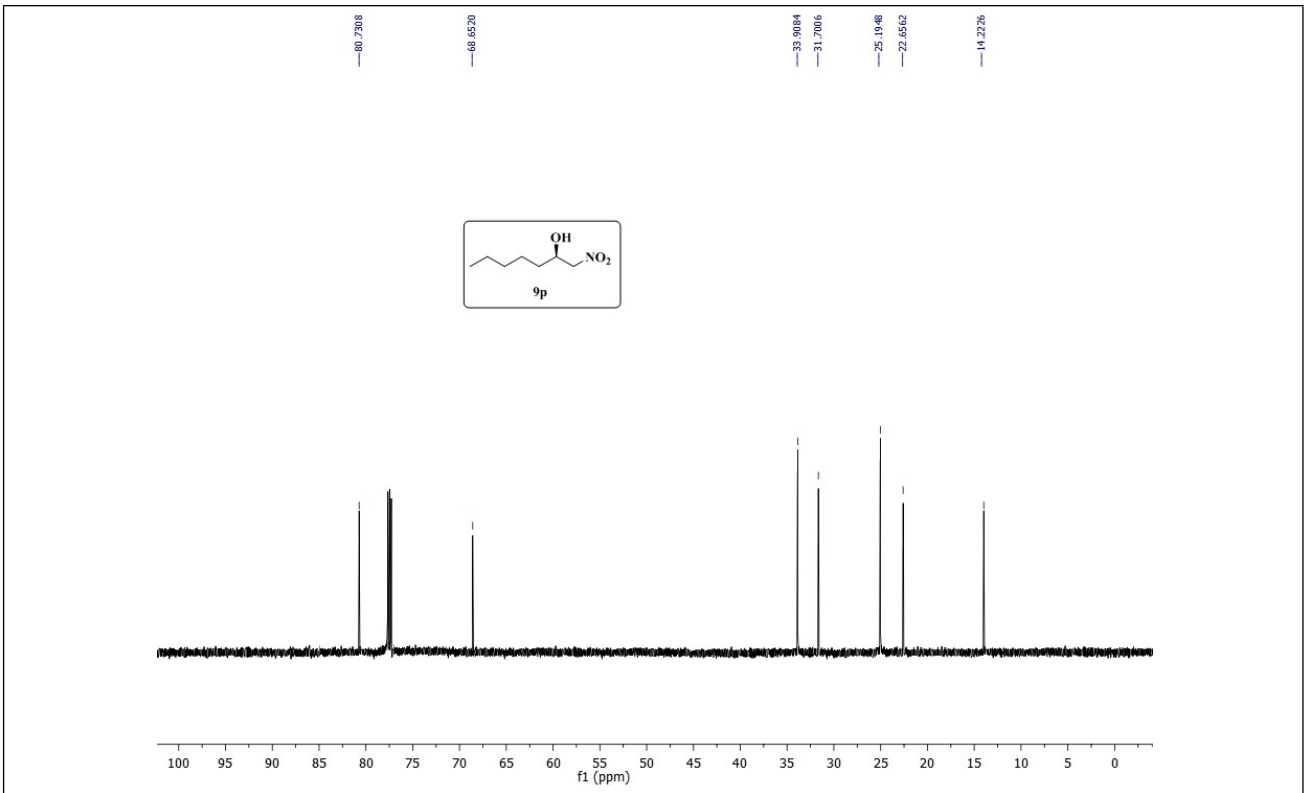
S 42: ^{1}H NMR Spectrum of *(R)*-2-nitro-1-(2-nitrophenyl)ethanol (9o).



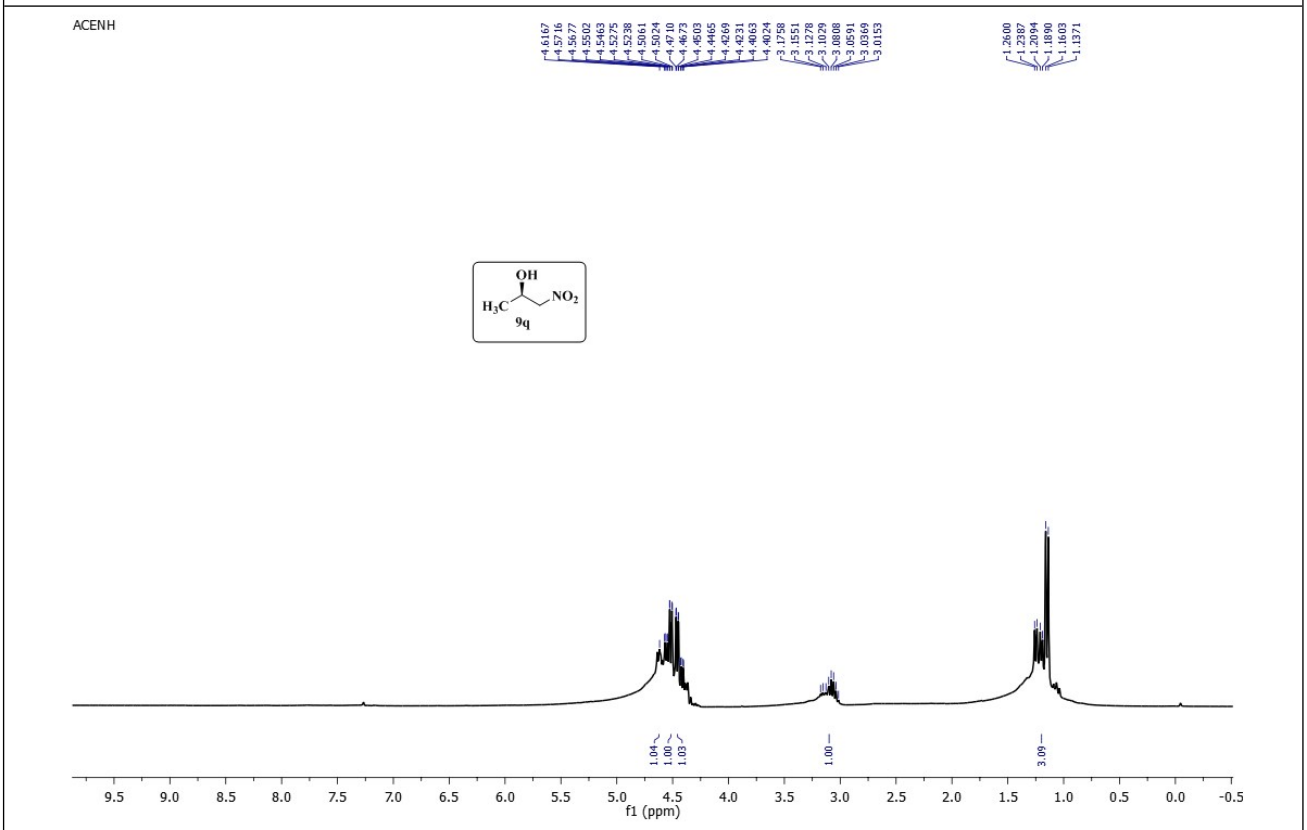
S 43: ^{13}C NMR Spectrum of *(R)*-2-nitro-1-(2-nitrophenyl)ethanol (9o).



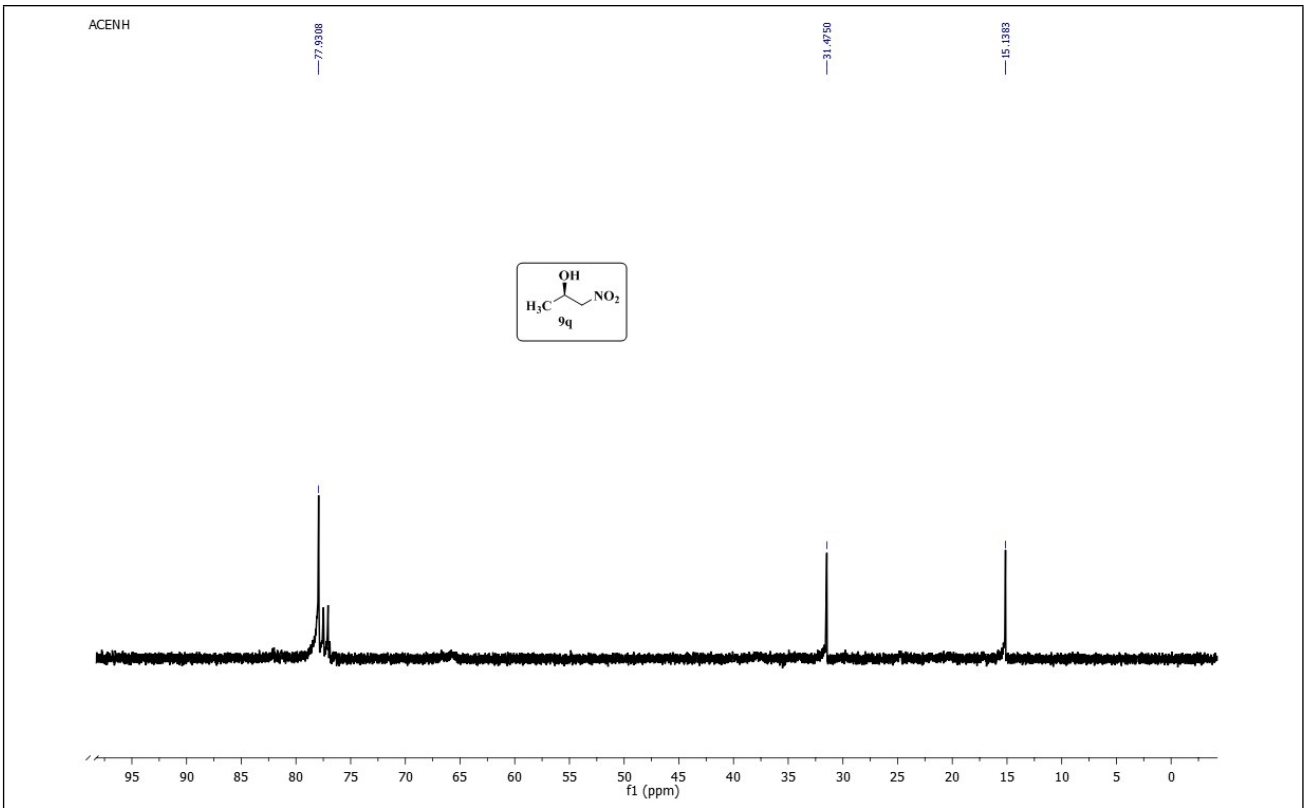
S 44: ^{1}H NMR Spectrum of (*R*)-1-nitroheptan-2-ol (9p).



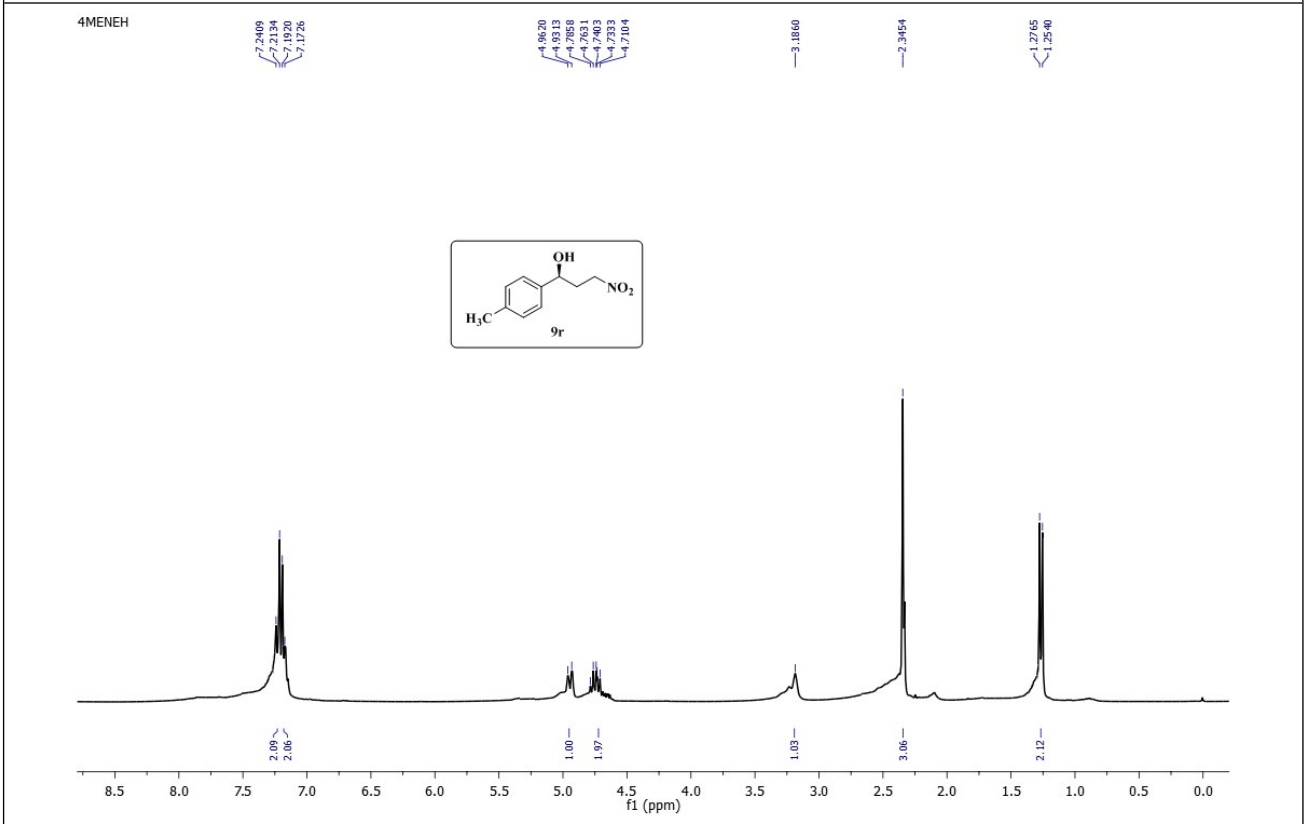
S 45: ^{13}C NMR Spectrum of (*R*)-1-nitroheptan-2-ol (9p).



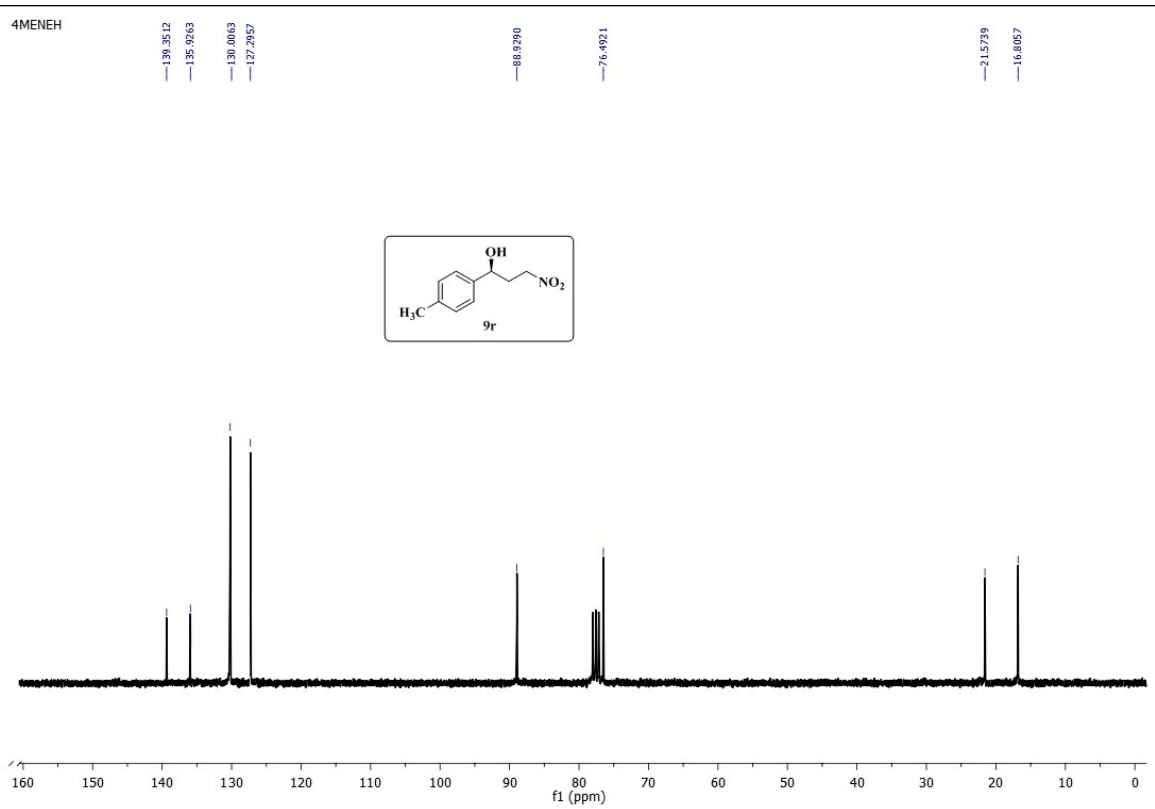
S 46: ^{1}H NMR Spectrum of (*R*)-1-nitropropan-2-ol (9q).



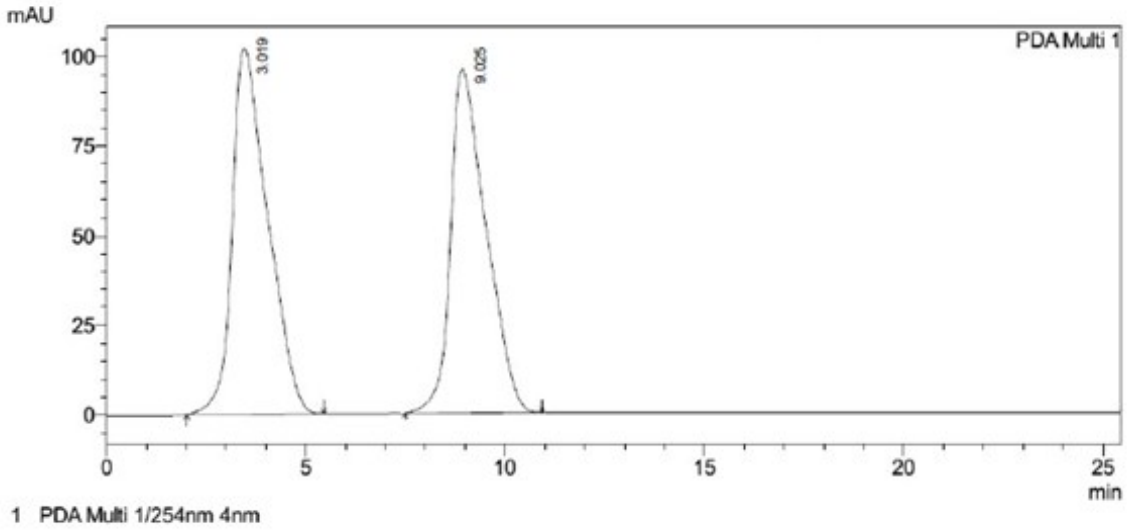
S 47: ^{13}C NMR Spectrum of (*R*)-1-nitropropan-2-ol (9q).



S 48: ^{1}H NMR Spectrum of (*R*)-3-nitro-1-(p-tolyl)propan-1-ol (9r).



S 49: ^{13}C NMR Spectrum of (*R*)-3-nitro-1-(p-tolyl)propan-1-ol (9r).

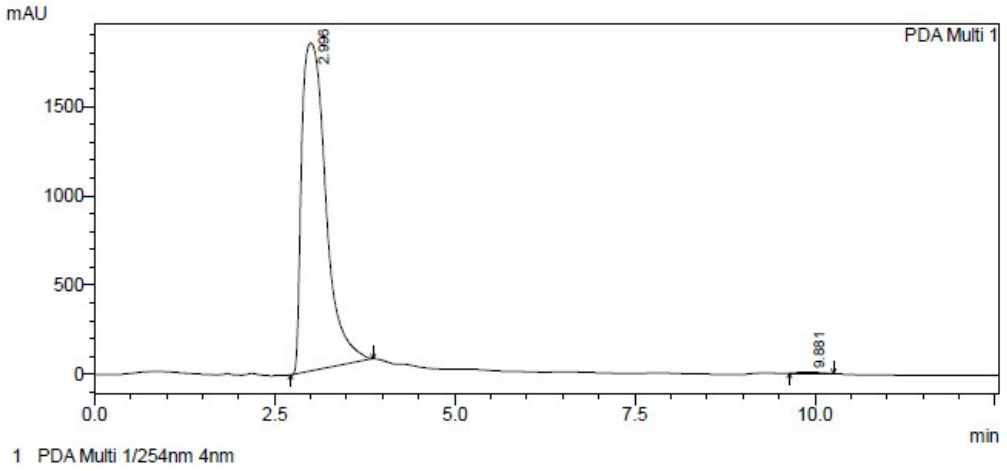


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.019	9427796	104252	50.483	51.552
2	9.025	9342474	97487	49.517	48.448
Total		18770271	201740	100.000	100.000

S 50: HPLC spectrum of Racemic Mixture 9a.

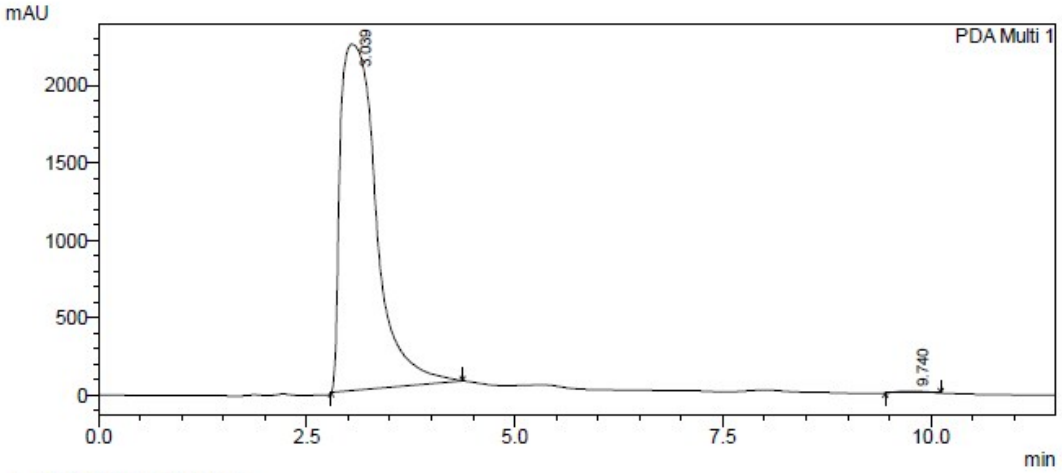


PeakTable

PDA Ch1 264nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	2.996	42746426	1837444	99.650	99.636
2	9.881	150278	6719	0.350	0.364
Total		42896704	1844164	100.000	100.000

S 51: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and Cyclohexane/Na_2CO_3 in RT condition (Entry 1, Table 1).

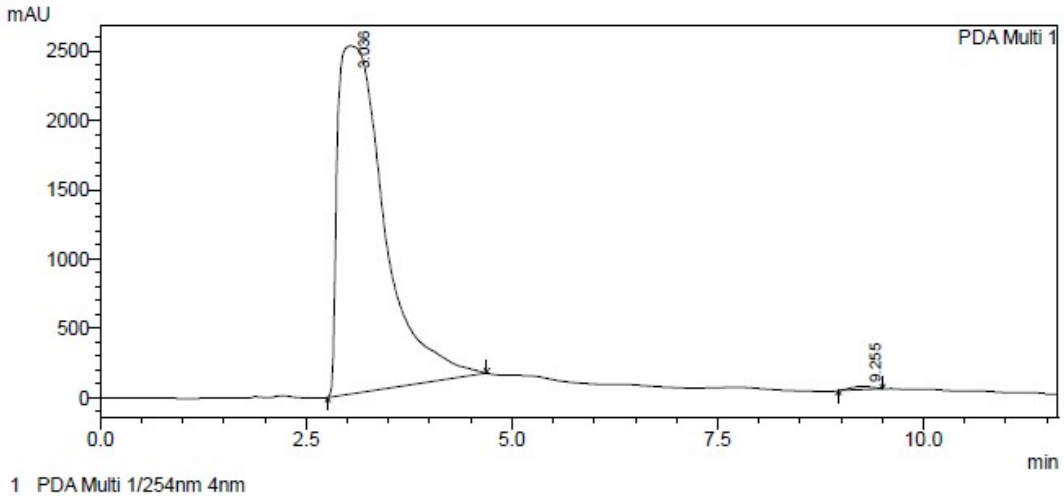


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.039	67208106	2234525	99.530	99.404
2	9.740	317548	13394	0.470	0.596
Total		67525654	2247919	100.000	100.000

S 52: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and Cyclohexane/Na_2CO_3 in RT condition (Entry 2, Table 1).



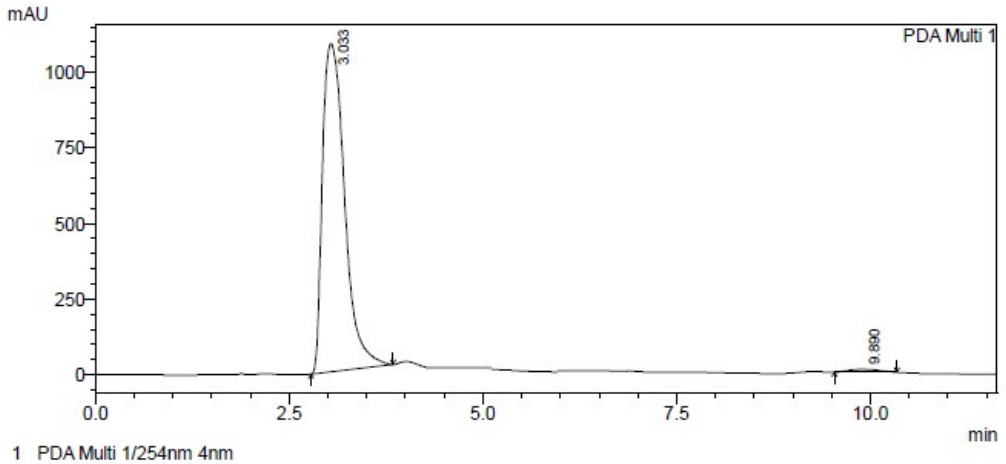
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.036	99330205	2508926	99.567	99.098
2	9.255	431532	22831	0.433	0.902
Total		99761736	2531757	100.000	100.000

S 53: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and Cyclohexane/K_2CO_3 in RT condition (Entry 3, Table 1).



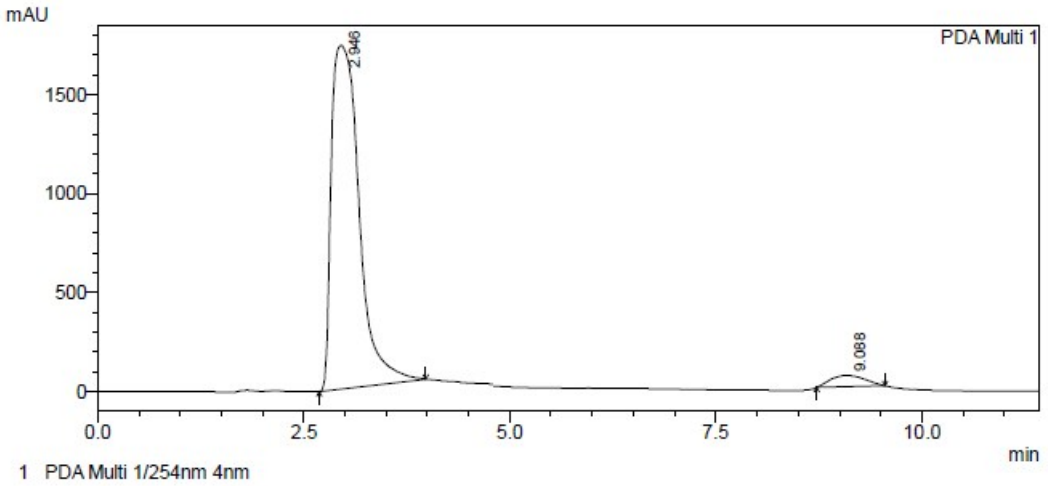
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 284nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.033	21501494	1084992	98.758	99.090
2	9.890	270497	9959	1.242	0.910
Total		21771992	1094952	100.000	100.000

S 54: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and Cyclohexane/K_2CO_3 in RT condition (Entry 4, Table 1).

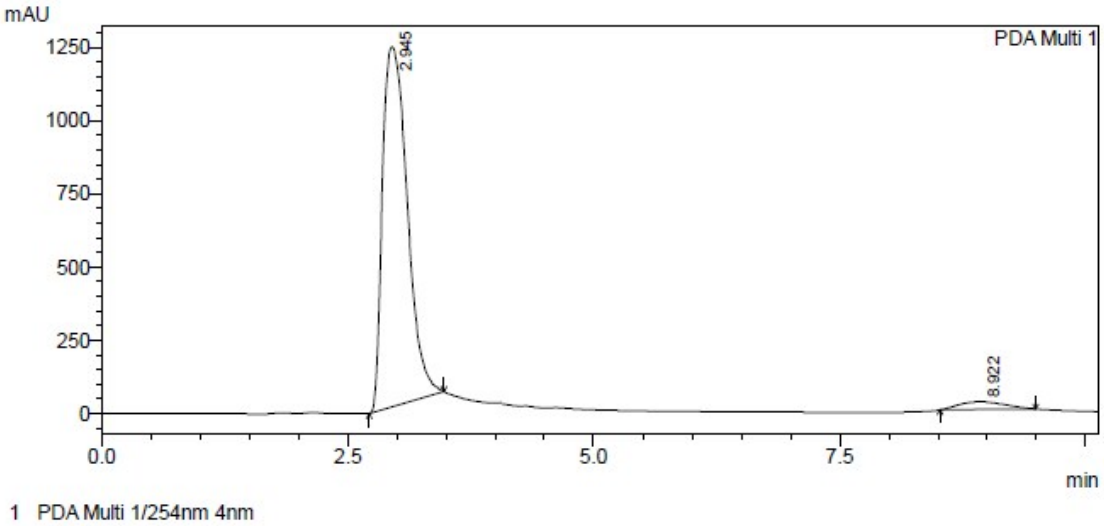


PeakTable

PDA Ch1 274nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	2.946	40679719	1734752	96.046	96.849
2	9.088	1674679	56432	3.954	3.151
Total		42354398	1791183	100.000	100.000

S 55: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and Cyclohexane/NaOH in RT condition (Entry 5, Table 1).

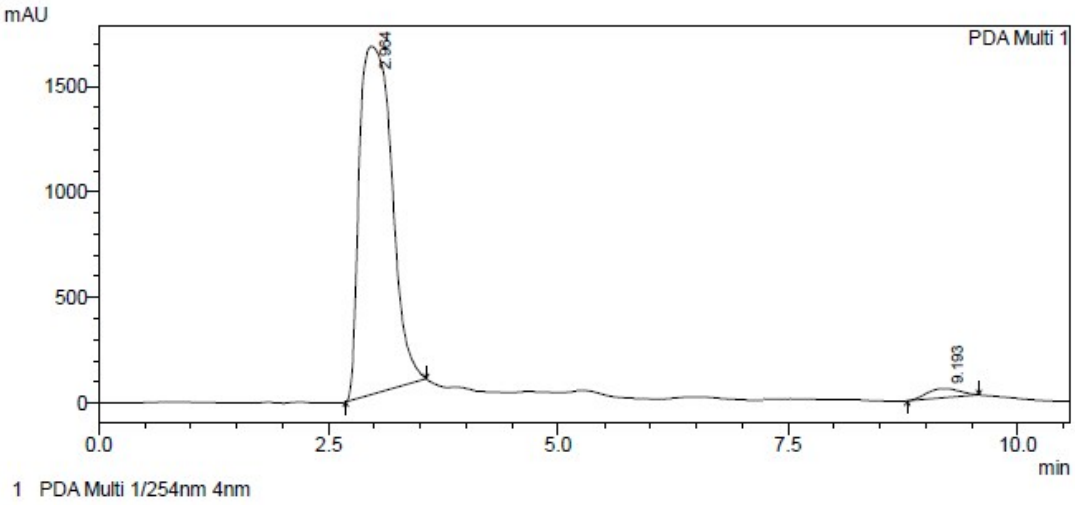


PeakTable

PDA Ch1 284nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	2.945	21537924	1227483	96.184	97.914
2	8.922	854502	26157	3.816	2.086
Total		22392426	1253640	100.000	100.000

S 56: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and Cyclohexane/NaOH in RT condition (Entry 6, Table 1).



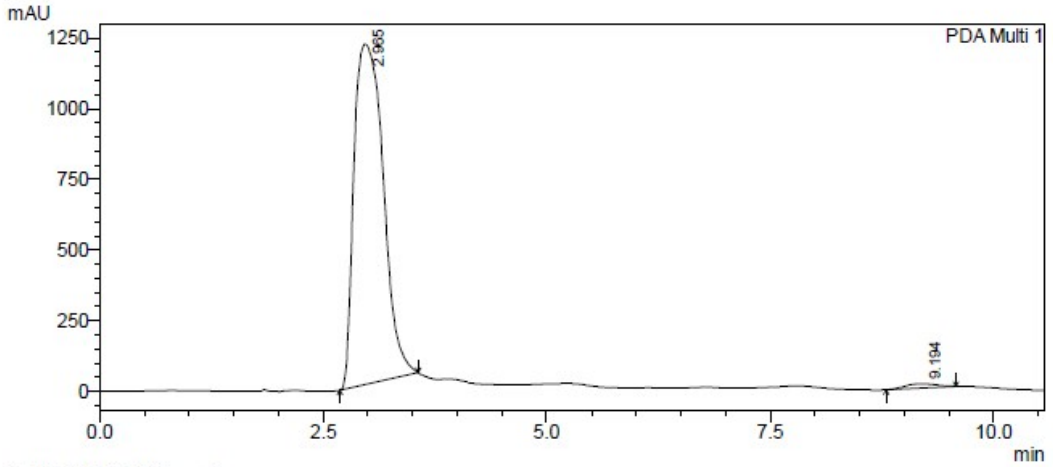
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 274nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	2.964	40451358	1647802	97.354	97.384
2	9.193	1099337	44261	2.646	2.616
Total		41550695	1692063	100.000	100.000

S 57: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and Cyclohexane/KOH in RT condition (Entry 7, Table 1).



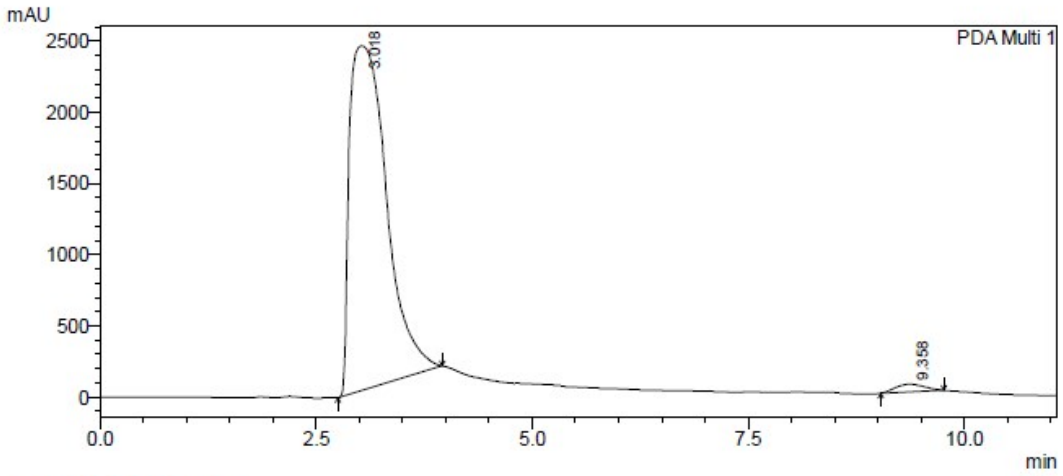
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 284nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	2.965	27433748	1205038	98.669	98.750
2	9.194	370086	15258	1.331	1.250
Total		27803834	1220296	100.000	100.000

S 58: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and Cyclohexane/KOH in RT condition (Entry 8, Table 1).



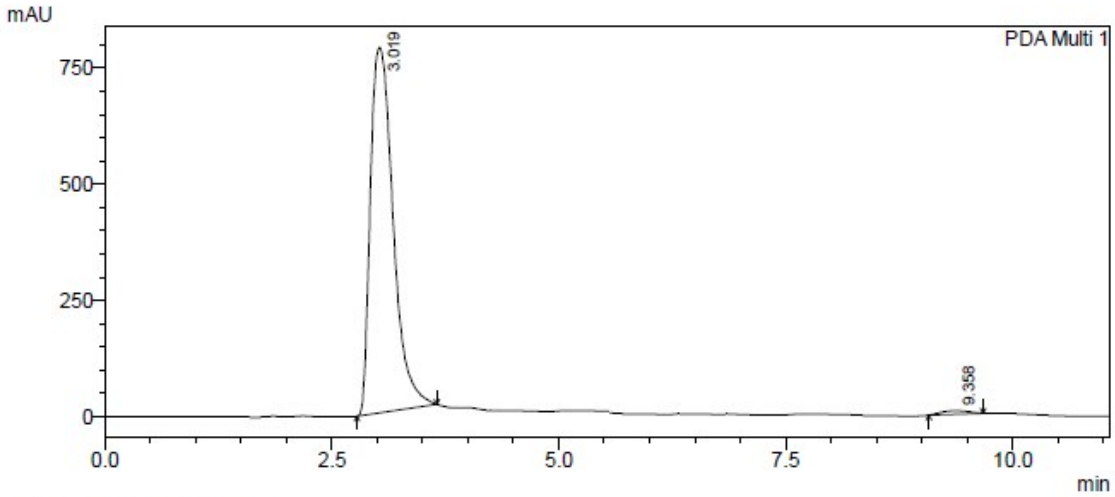
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.018	72138878	2419086	98.272	97.820
2	9.358	1268808	53913	1.728	2.180
Total		73407685	2472999	100.000	100.000

S 59: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and Cyclohexane/ Na^{t}OBu in RT condition (Entry 9, Table 1).



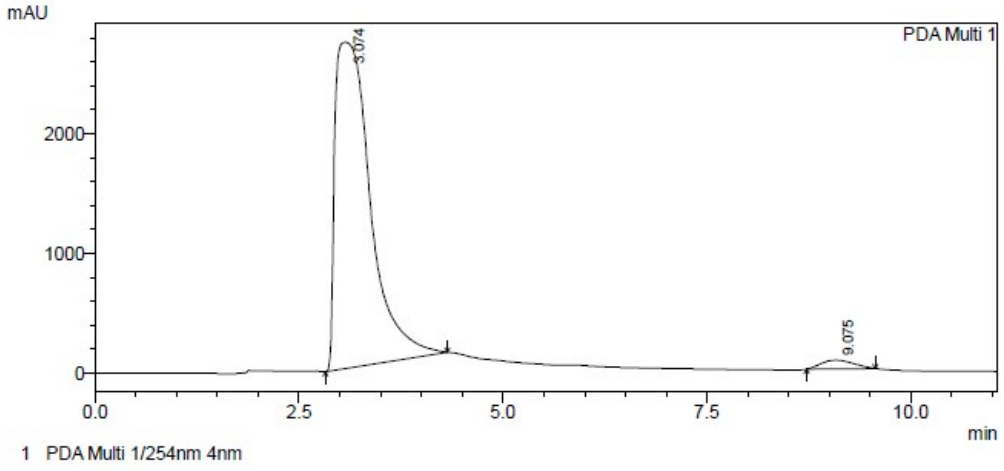
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 284nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.019	13710953	785744	98.877	99.051
2	9.358	155719	7528	1.123	0.949
Total		13866672	793272	100.000	100.000

S 60: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and Cyclohexane/ Na^{t}OBu in RT condition (Entry 10, Table 1).

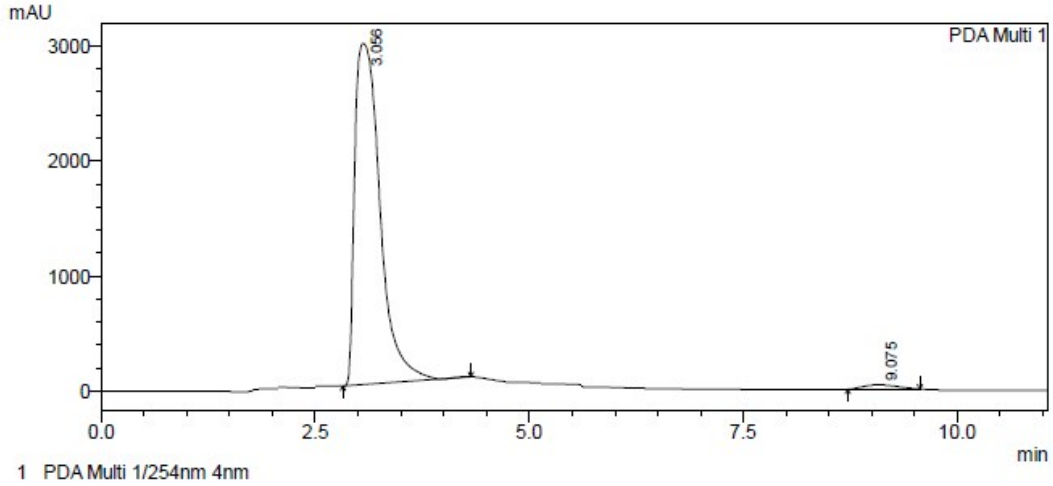


PeakTable

PDA Ch1 240nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.074	82461709	2721870	97.616	97.398
2	9.075	2014062	72705	2.384	2.602
Total		84475771	2794575	100.000	100.000

S 61: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and Cyclohexane/ K^{t}OBu in RT condition (Entry 11, Table 1).

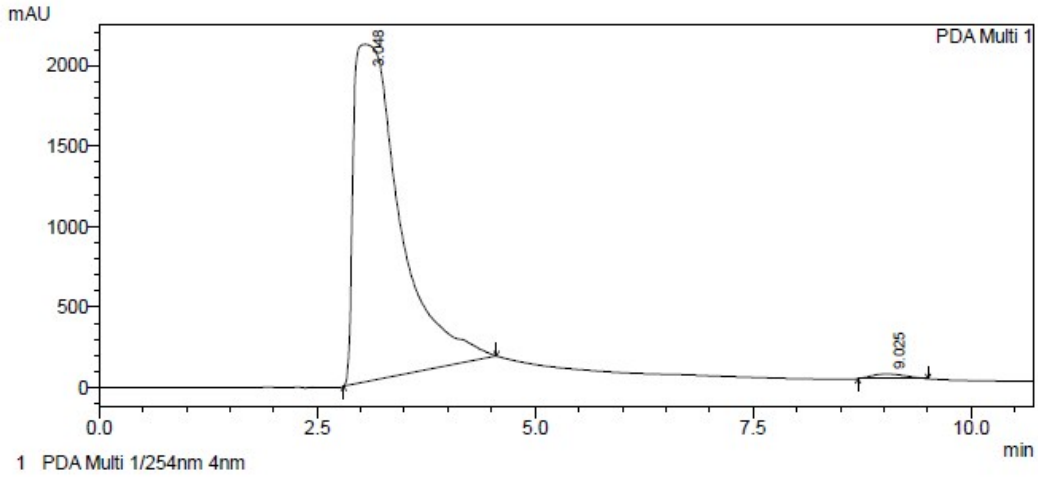


PeakTable

PDA Ch1 230nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.056	60941559	2962184	98.260	98.703
2	9.075	1078871	38909	1.740	1.297
Total		62020429	3001093	100.000	100.000

S 62: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and Cyclohexane/ K^{t}OBu in RT condition (Entry 12, Table 1).

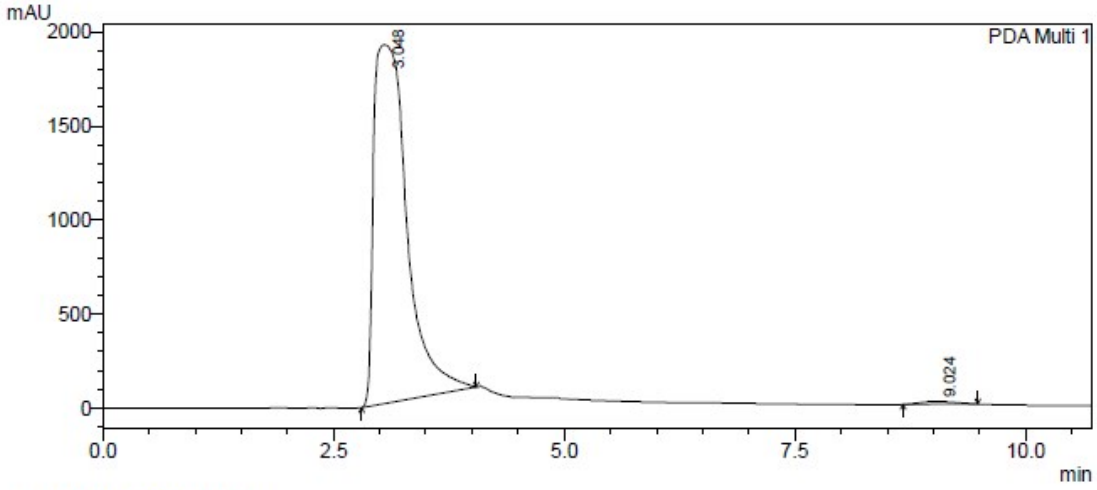


PeakTable

PDA Ch1 264nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.048	77994254	2095209	99.006	98.616
2	9.025	783256	29398	0.994	1.384
Total		78777510	2124607	100.000	100.000

S 63: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and Cyclohexane/ Cs_2CO_3 in RT condition (Entry 13, Table 1).

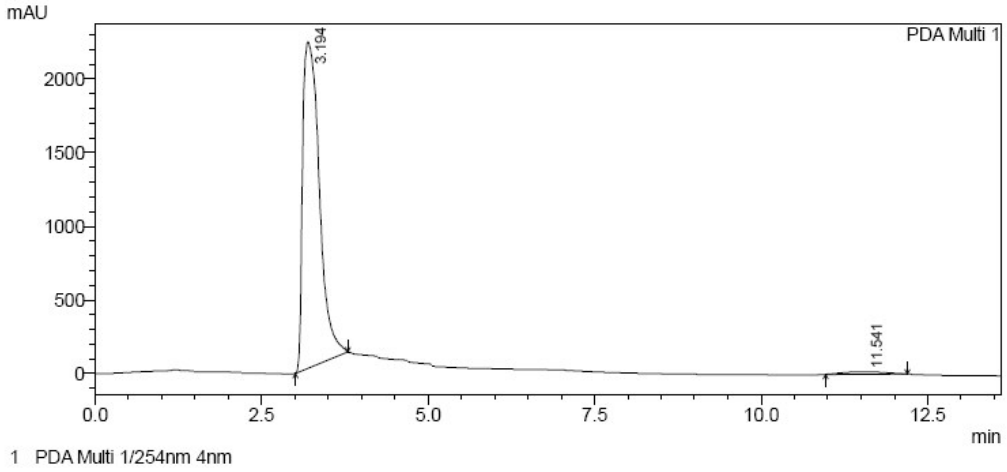


PeakTable

PDA Ch1 274nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.048	47882409	1905746	99.144	99.196
2	9.024	413213	15454	0.856	0.804
Total		48295622	1921200	100.000	100.000

S 64: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and Cyclohexane/ Cs_2CO_3 in RT condition (Entry 14, Table 1).

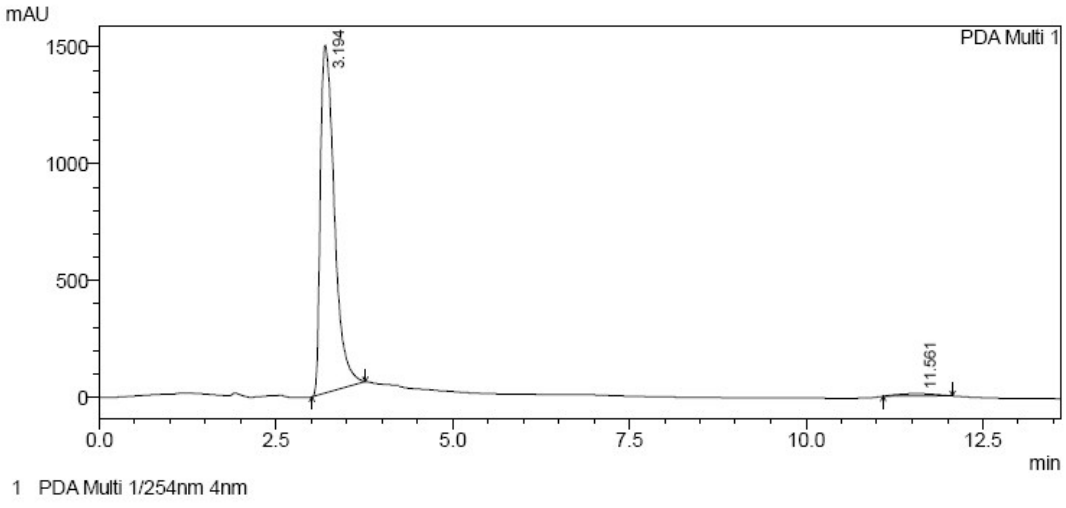


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.194	38611492	2213770	98.092	99.245
2	11.541	751205	16840	1.908	0.755
Total		39362696	2230611	100.000	100.000

S 65: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and Acetonitrile/ Na_2CO_3 in RT condition (Entry 1, Table 2).

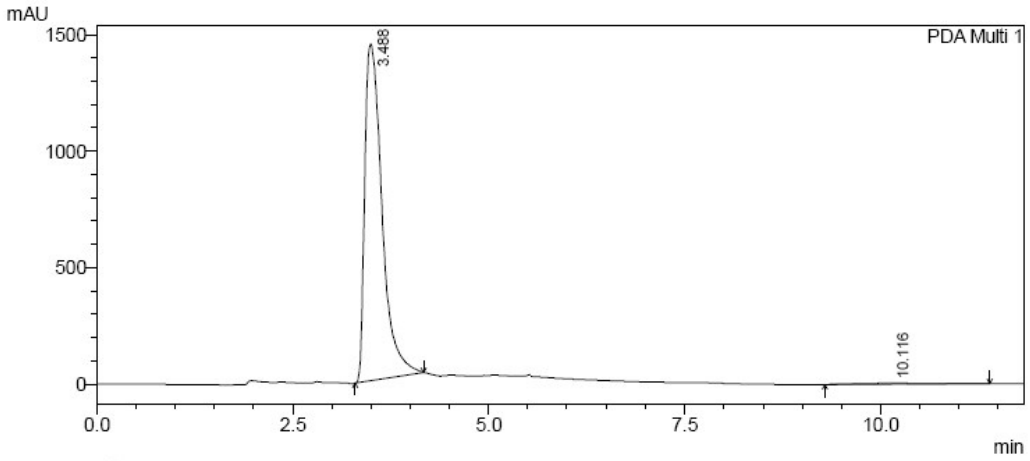


PeakTable

PDA Ch1 264nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.194	20545562	1486969	98.122	99.297
2	11.561	393332	10534	1.878	0.703
Total		20938894	1497503	100.000	100.000

S 66: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and Acetonitrile/ Na_2CO_3 in RT condition (Entry 2, Table 2).



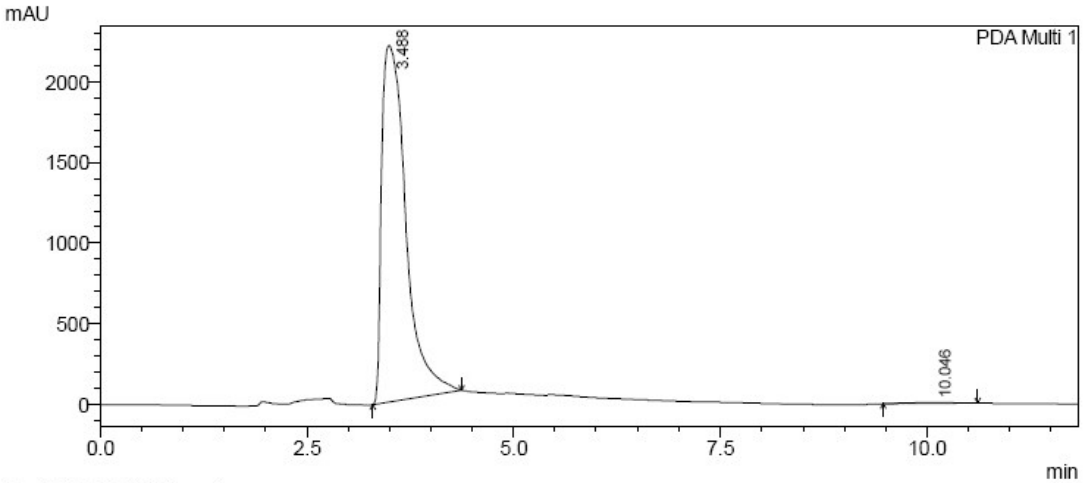
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 264nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.488	22177204	1445685	98.825	99.725
2	10.116	263600	3980	1.175	0.275
Total		22440804	1449666	100.000	100.000

S 67: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and Methanol/ Na_2CO_3 in RT condition (Entry 3, Table 2).



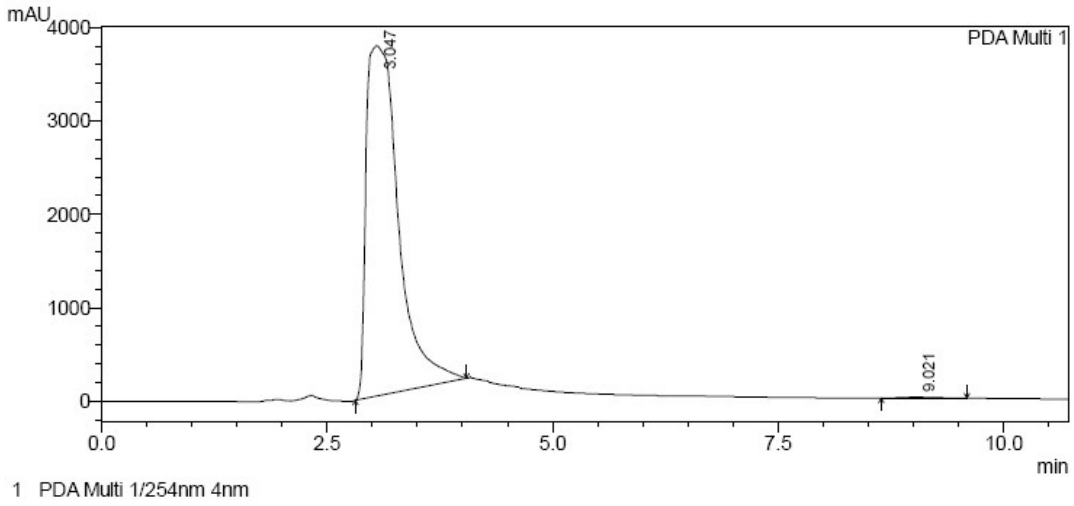
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.488	44959050	2209744	99.460	99.718
2	10.046	244012	6242	0.540	0.282
Total		45203062	2215986	100.000	100.000

S 68: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and Methanol/ Na_2CO_3 in RT condition (Entry 4, Table 2).



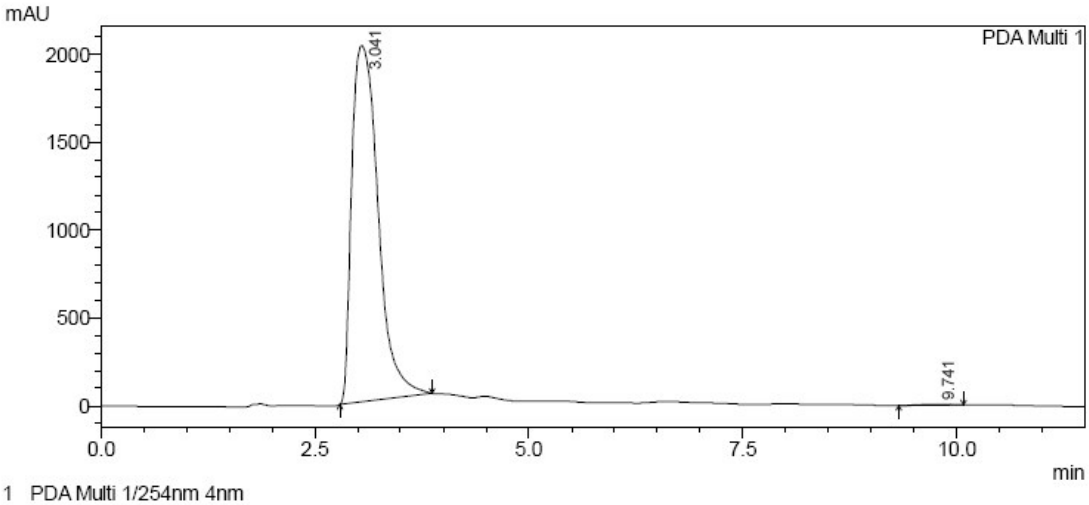
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 230nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.047	93428992	3746691	99.662	99.703
2	9.021	316430	11178	0.338	0.297
Total		93745422	3757870	100.000	100.000

S 69: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and DCM/ Na_2CO_3 in RT condition (Entry 5, Table 2).



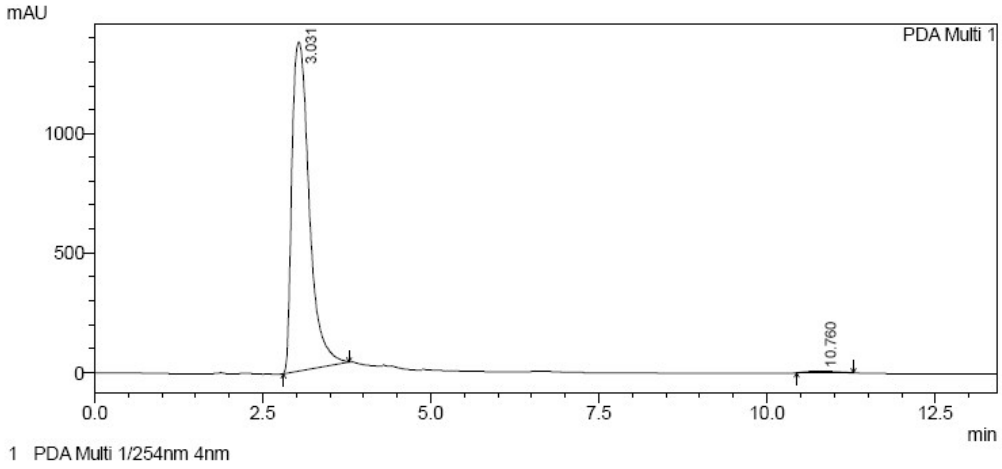
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 234nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.041	43463566	2026327	99.711	99.734
2	9.741	126026	5403	0.289	0.266
Total		43589592	2031730	100.000	100.000

S 70: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and DCM/ Na_2CO_3 in RT condition (Entry 6, Table 2).

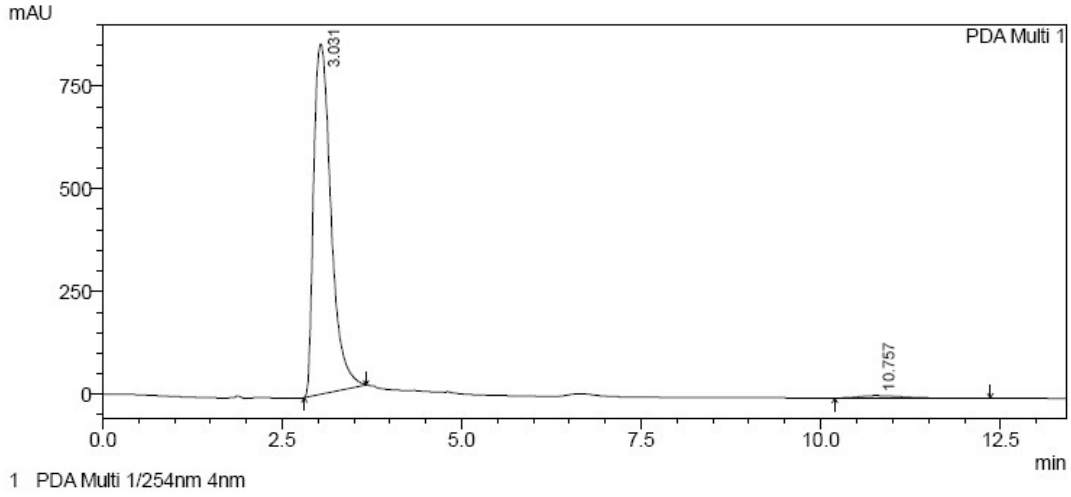


PeakTable

PDA Ch1 274nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.031	24643734	1375708	99.113	99.461
2	10.760	220630	7459	0.887	0.539
Total		24864364	1383167	100.000	100.000

S 71: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and $CHCl_3$ / Na_2CO_3 in RT condition (Entry 7, Table 2).

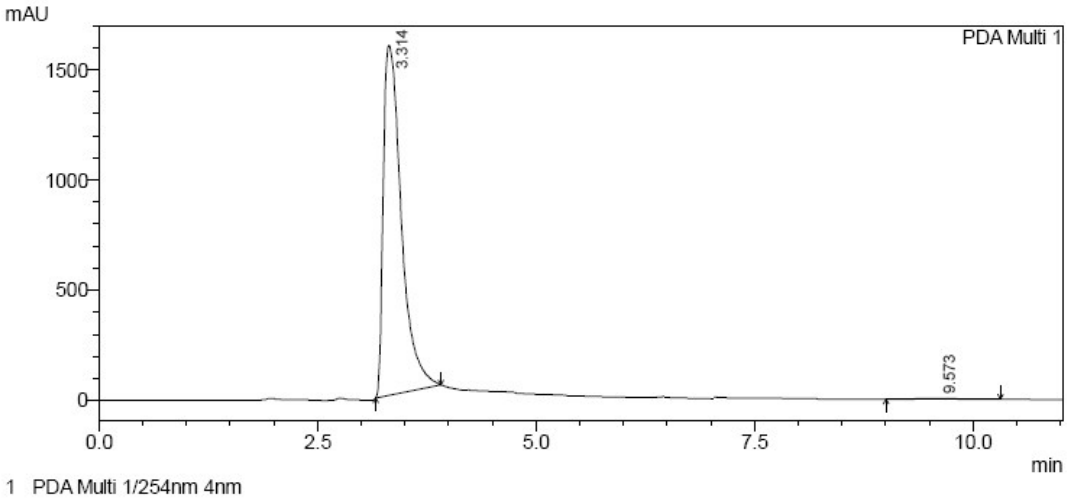


PeakTable

PDA Ch1 285nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.031	14323705	853083	98.349	99.319
2	10.757	240407	5849	1.651	0.681
Total		14564112	858933	100.000	100.000

S 72: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and $CHCl_3$ / Na_2CO_3 in RT condition (Entry 8, Table 2).

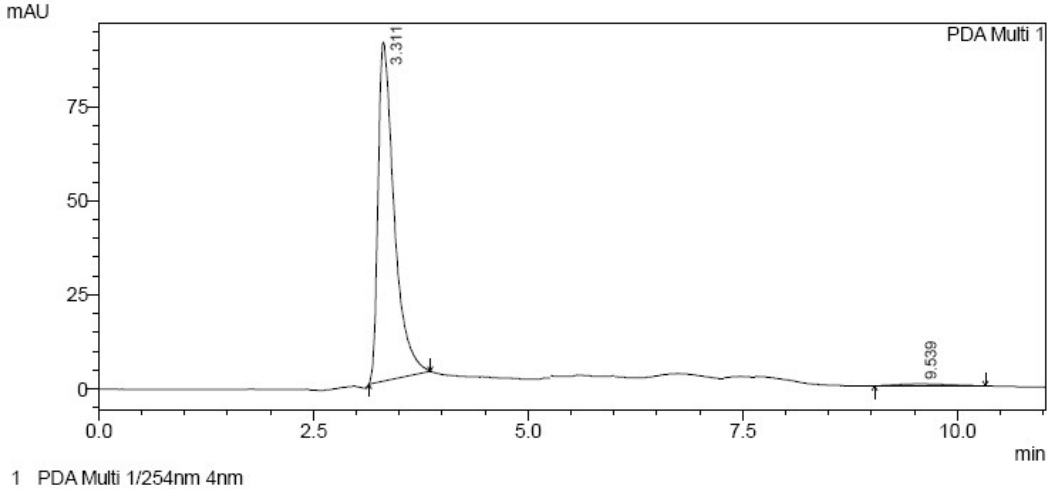


PeakTable

PDA Ch1 274nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.314	22815863	1589168	99.645	99.879
2	9.573	81287	1928	0.355	0.121
Total		22897150	1591096	100.000	100.000

S 73: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and CCl_4 / Na_2CO_3 in RT condition (Entry 9, Table 2).

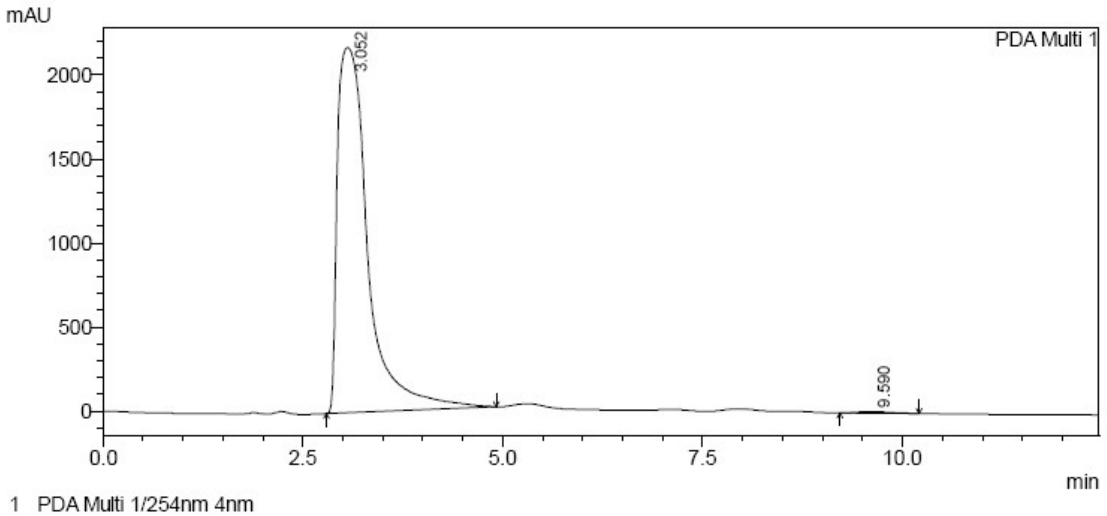


PeakTable

PDA Ch1 300nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.311	1176437	89981	98.177	99.406
2	9.539	21850	537	1.823	0.594
Total		1198287	90518	100.000	100.000

S 74: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and CCl_4 / Na_2CO_3 in RT condition (Entry 10, Table 2).



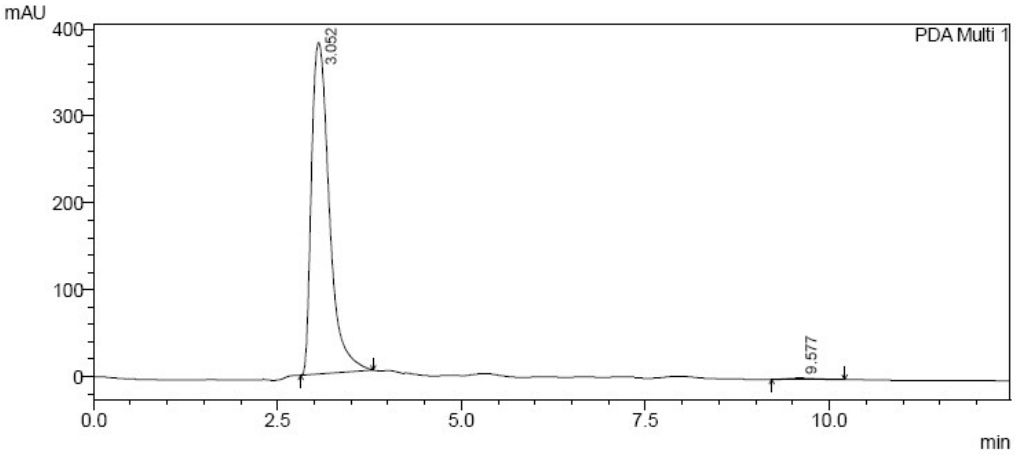
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.052	57874788	2171928	99.536	99.549
2	9.590	269608	9843	0.464	0.451
Total		58144395	2181771	100.000	100.000

S 75: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and Cyclohexane / Na_2CO_3 in RT condition (Entry 11, Table 2).



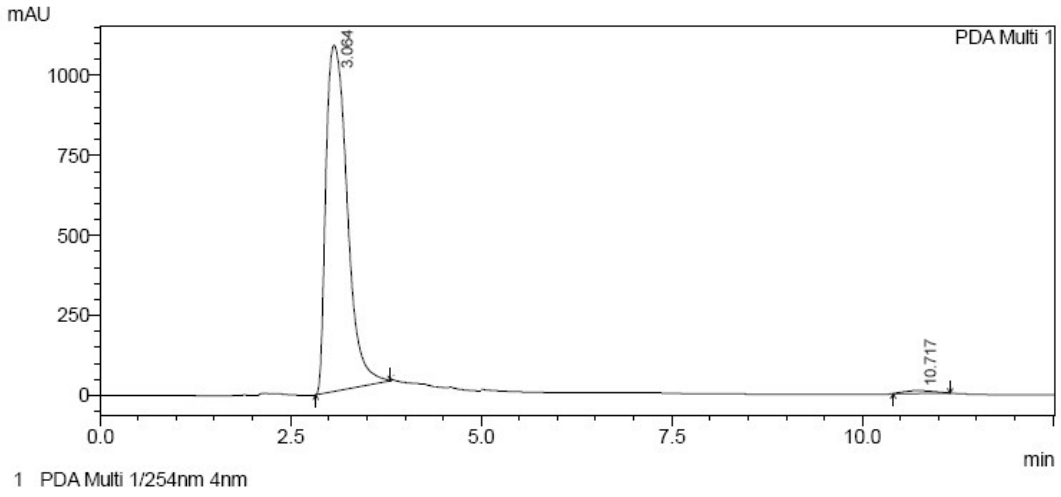
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 284nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.052	6455171	381711	99.311	99.550
2	9.577	44797	1725	0.689	0.450
Total		6499968	383436	100.000	100.000

S 76: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and Cyclohexane / Na_2CO_3 in RT condition (Entry 12, Table 2).

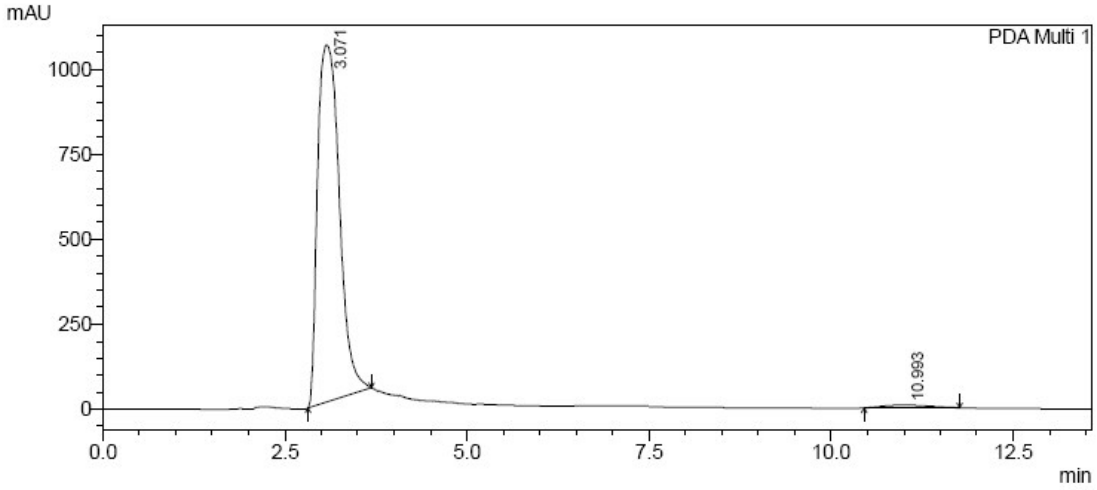


PeakTable

PDA Ch1 284nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.064	20985575	1082551	98.916	99.207
2	10.717	229879	8651	1.084	0.793
Total		21215454	1091202	100.000	100.000

S 77: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and Benzene/ Na_2CO_3 in RT condition (Entry 13, Table 2).

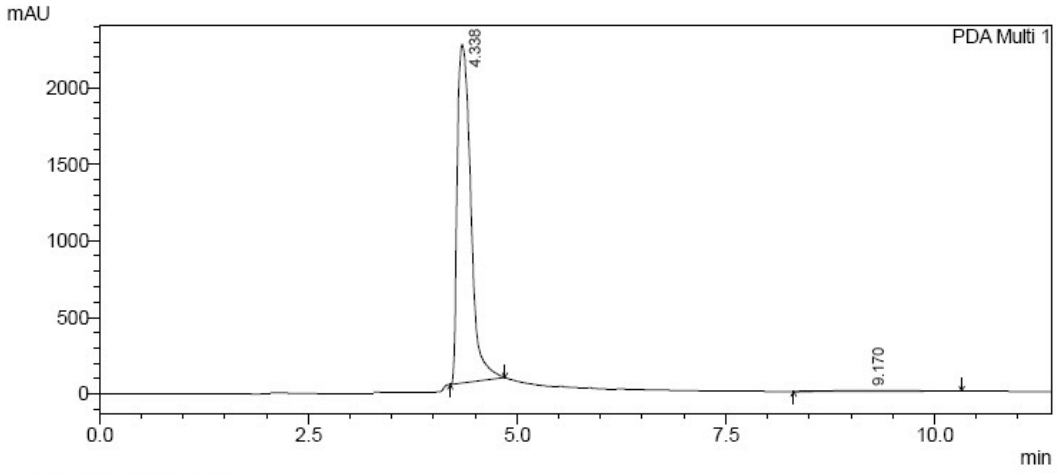


PeakTable

PDA Ch1 284nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.071	21867013	1050966	98.362	99.219
2	10.993	364163	8271	1.638	0.781
Total		22231176	1059237	100.000	100.000

S 78: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and Benzene / Na_2CO_3 in RT condition (Entry 14, Table 2).



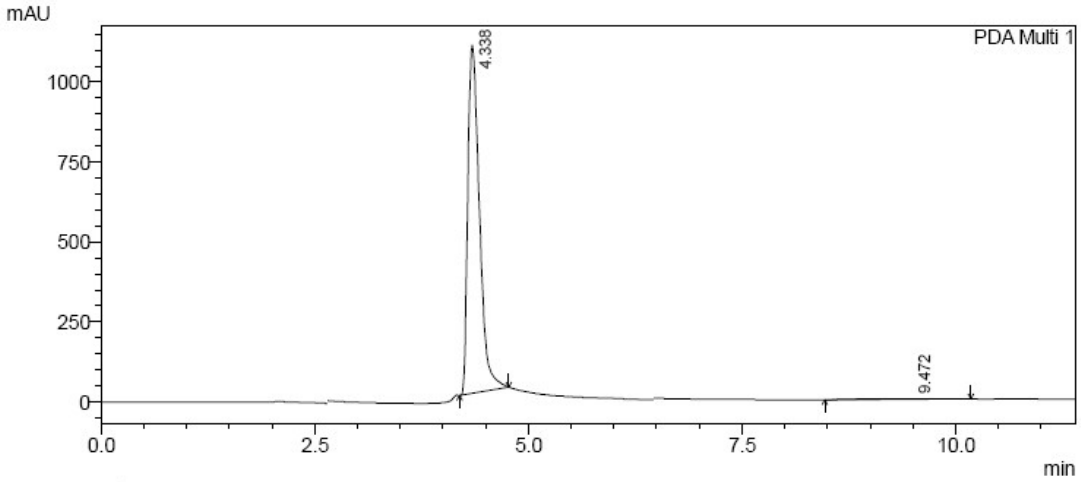
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 244nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	4.338	24997572	2213400	98.378	99.728
2	9.170	412120	6042	1.622	0.272
Total		25409692	2219442	100.000	100.000

S 79: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and THF/ Na_2CO_3 in RT condition (Entry 15, Table 2).



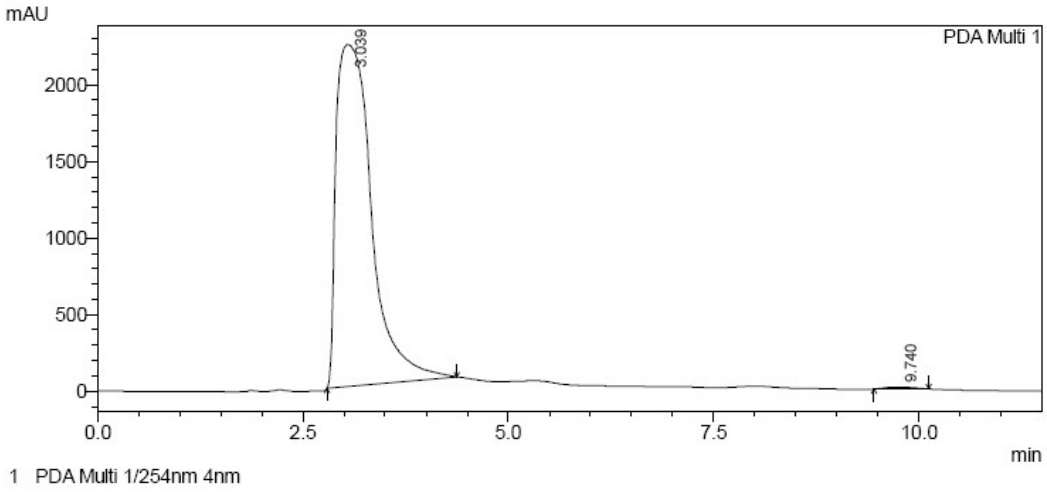
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 264nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	4.338	10322893	1089078	98.544	99.791
2	9.472	152544	2282	1.456	0.209
Total		10475437	1091360	100.000	100.000

S 80: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and THF / Na_2CO_3 in RT condition (Entry 16, Table 2).

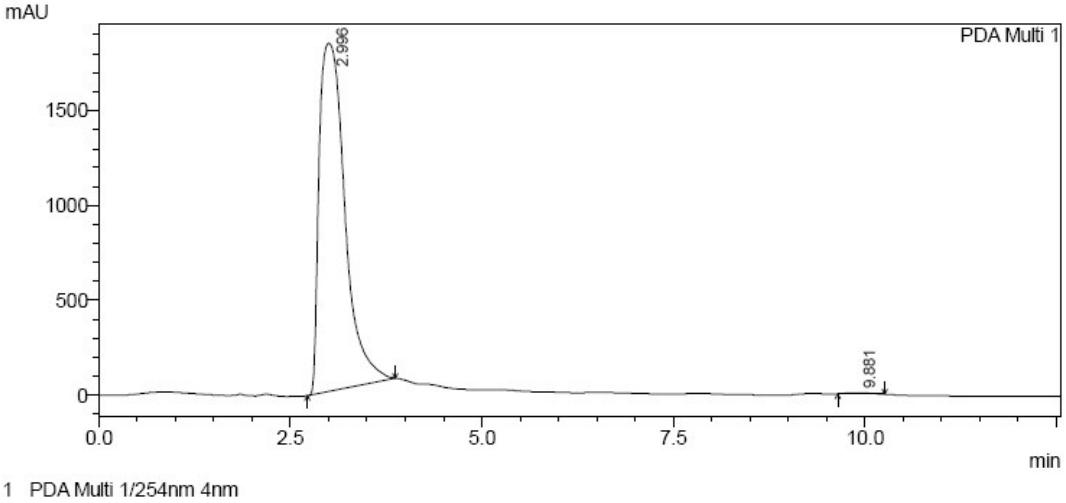


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.039	67208106	2234525	99.530	99.404
2	9.740	317548	13394	0.470	0.596
Total		67525654	2247919	100.000	100.000

S 81: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 1, Table 3).

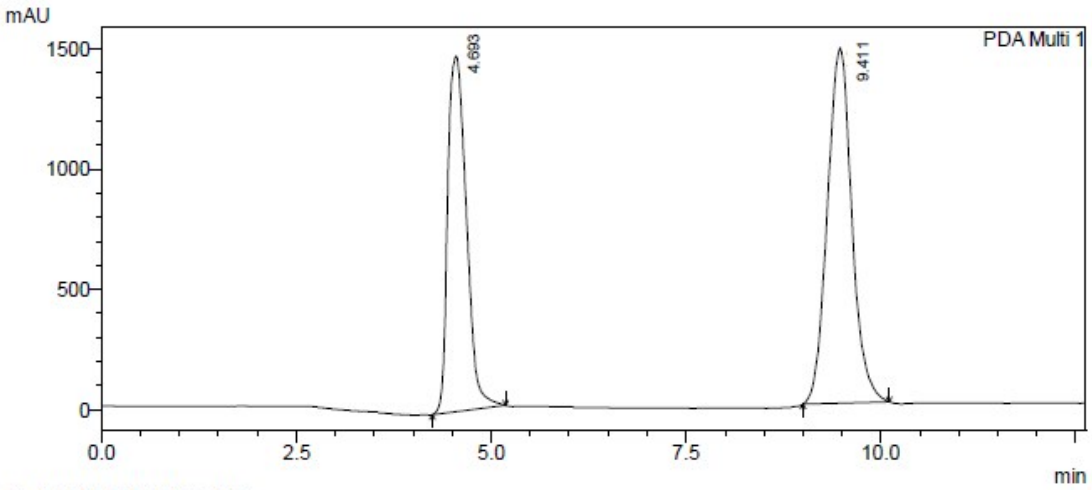


PeakTable

PDA Ch1 264nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	2.996	42746426	1837444	99.650	99.636
2	9.881	150278	6719	0.350	0.364
Total		42896704	1844164	100.000	100.000

S 82: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 2, Table 3).



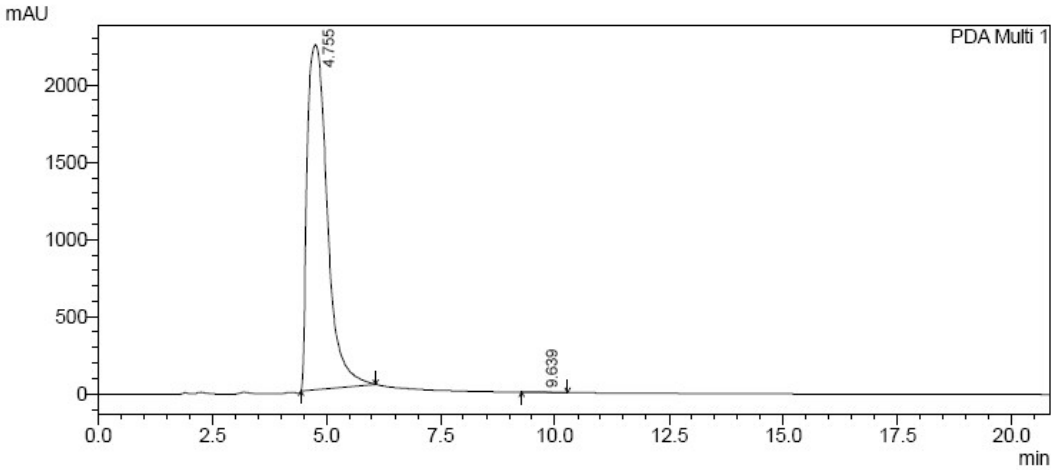
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	4.693	24457575	1476673	49.976	49.442
2	9.411	24481451	533983	50.024	50.558
Total		48939026	2010656	100.000	100.000

S 83: HPLC spectrum of Racemic mixture 9b.



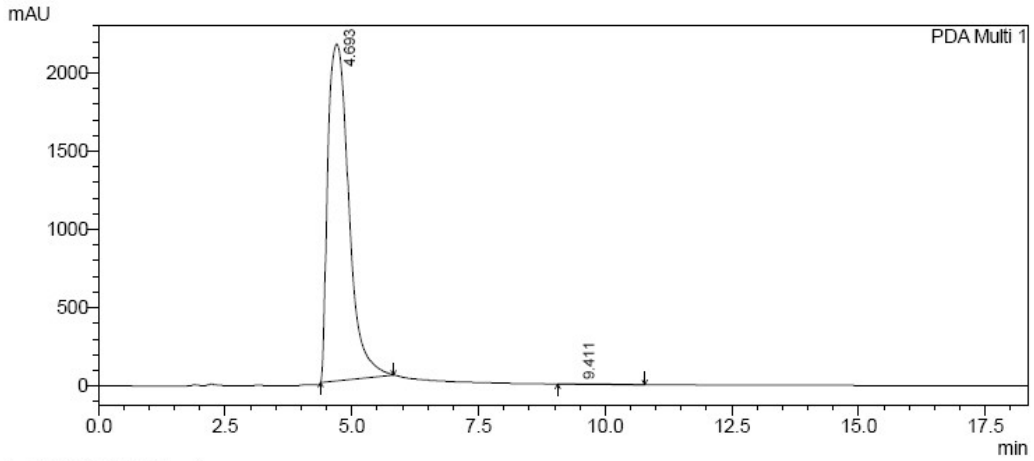
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 244nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	4.755	68095780	2233525	99.928	99.929
2	9.639	49351	1577	0.072	0.071
Total		68145131	2235103	100.000	100.000

S 84: HPLC spectrum of Henry Product (9b) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 3, Table 3).



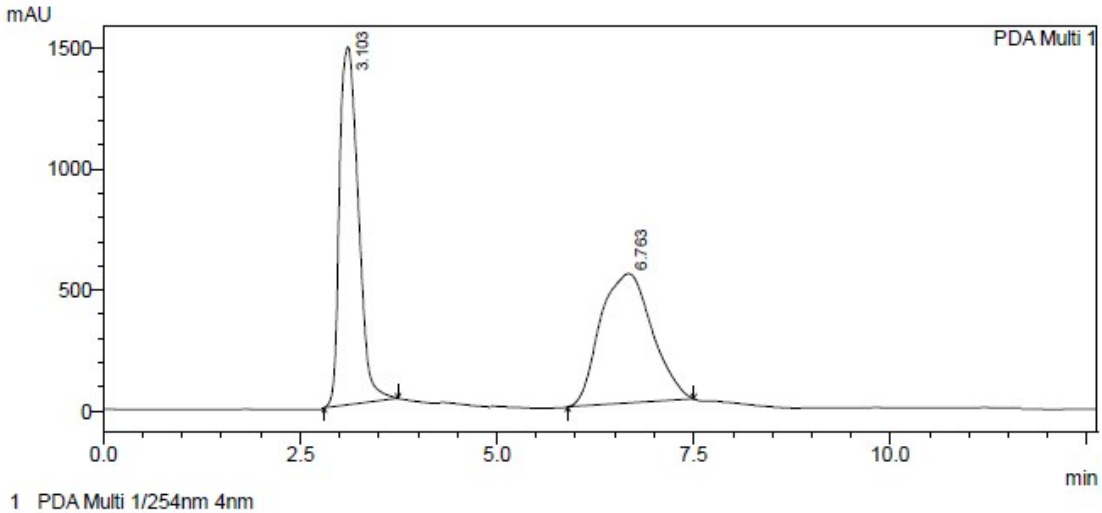
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 244nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	4.693	61995311	2152132	99.907	99.929
2	9.411	57760	1530	0.093	0.071
Total		62053072	2153661	100.000	100.000

S 85: HPLC spectrum of Henry Product (9b) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 4, Table 3).



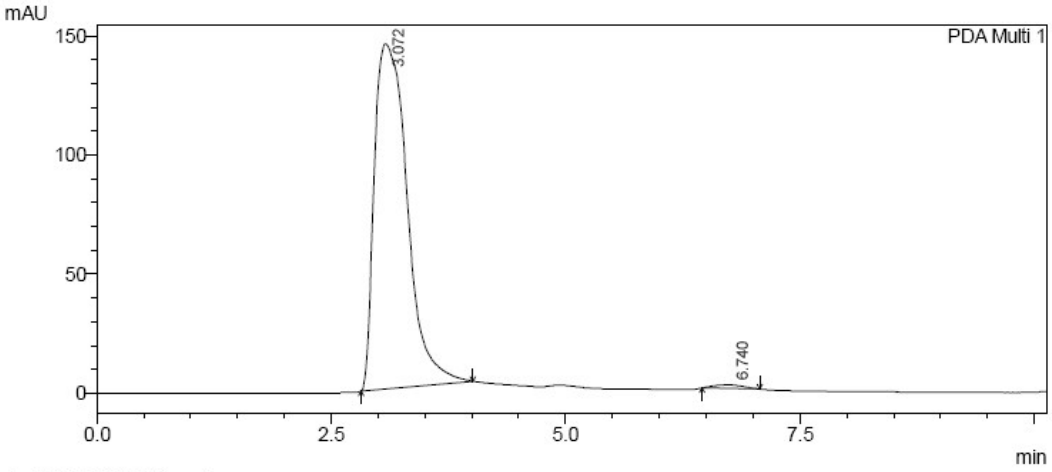
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.103	24457575	1476673	49.976	73.442
2	6.763	24481451	533983	50.024	26.558
Total		48939026	2010656	100.000	100.000

S 86: HPLC spectrum of Racemic mixture 9c.

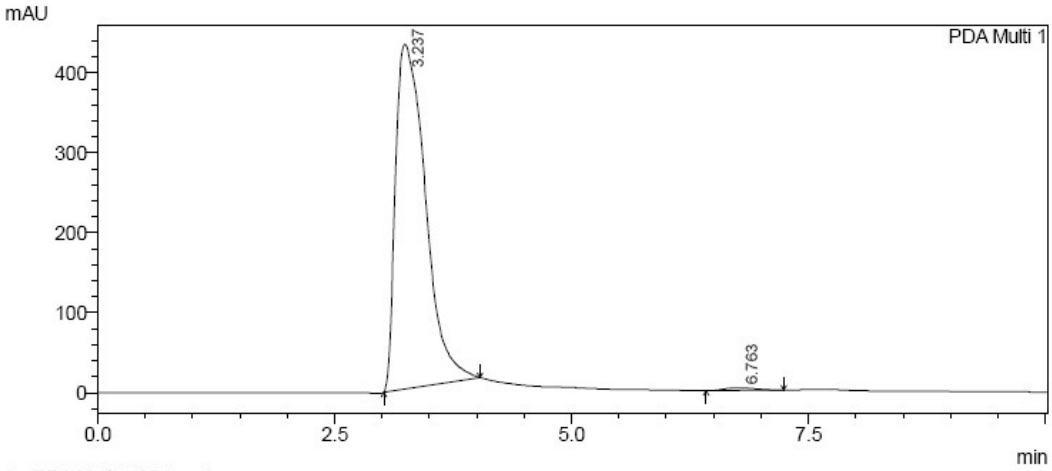


PeakTable

PDA Ch1 294nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.072	3530071	144820	99.026	98.910
2	6.740	34731	1597	0.974	1.090
Total		3564802	146416	100.000	100.000

S 87: HPLC spectrum of Henry Product (9c) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 5, Table 3).

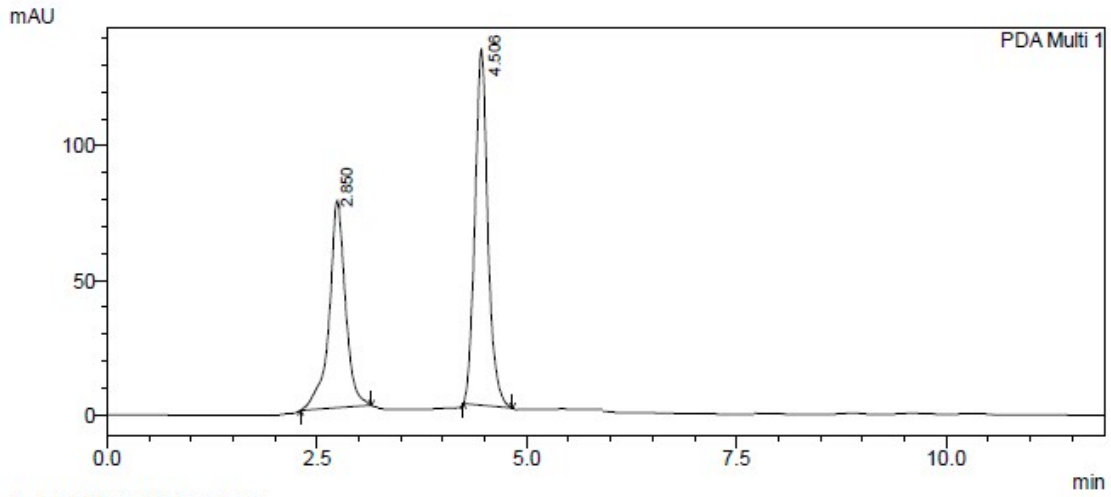


PeakTable

PDA Ch1 284nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.237	9433248	430944	99.195	99.241
2	6.763	76550	3295	0.805	0.759
Total		9509798	434239	100.000	100.000

S 88: HPLC spectrum of Henry Product (9c) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 6, Table 3).

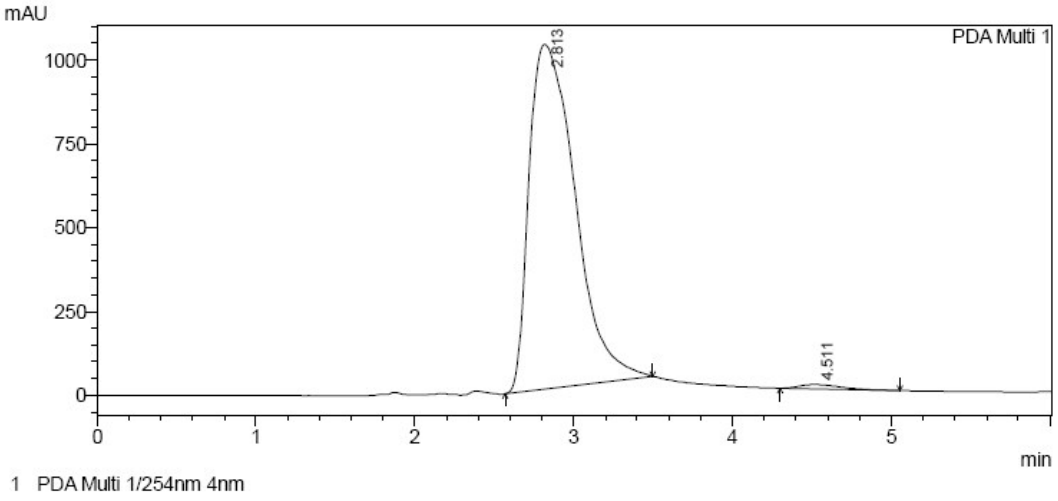


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	2.850	1038116	77030	49.200	36.788
2	4.506	1421893	132360	50.800	63.212
Total		2460009	209390	100.000	100.000

S 89: HPLC spectrum of Racemic mixture 9d.

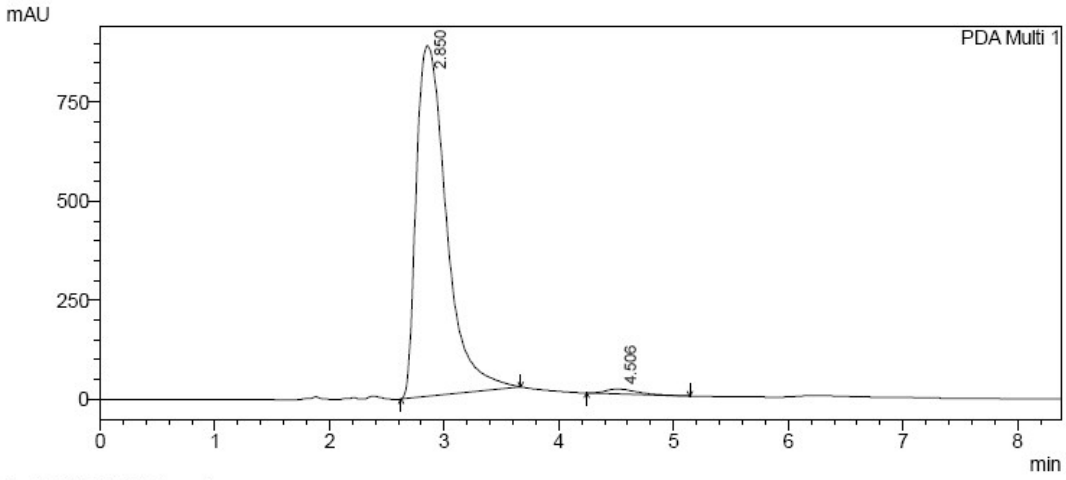


PeakTable

PDA Ch1 284nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	2.813	20729983	1027802	98.950	98.823
2	4.511	219918	12245	1.050	1.177
Total		20949901	1040048	100.000	100.000

S 90: HPLC spectrum of Henry Product (9d) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 7, Table 3).



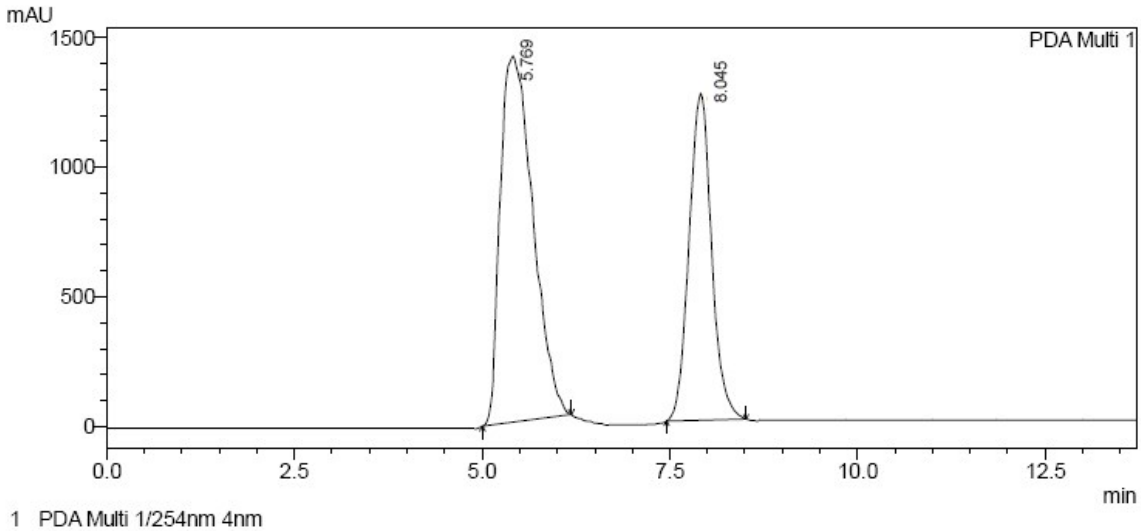
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 284nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	2.850	16241439	886876	98.645	98.695
2	4.506	223096	11728	1.355	1.305
Total		16464535	898604	100.000	100.000

S 91: HPLC spectrum of Henry Product (9d) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 8, Table 3).



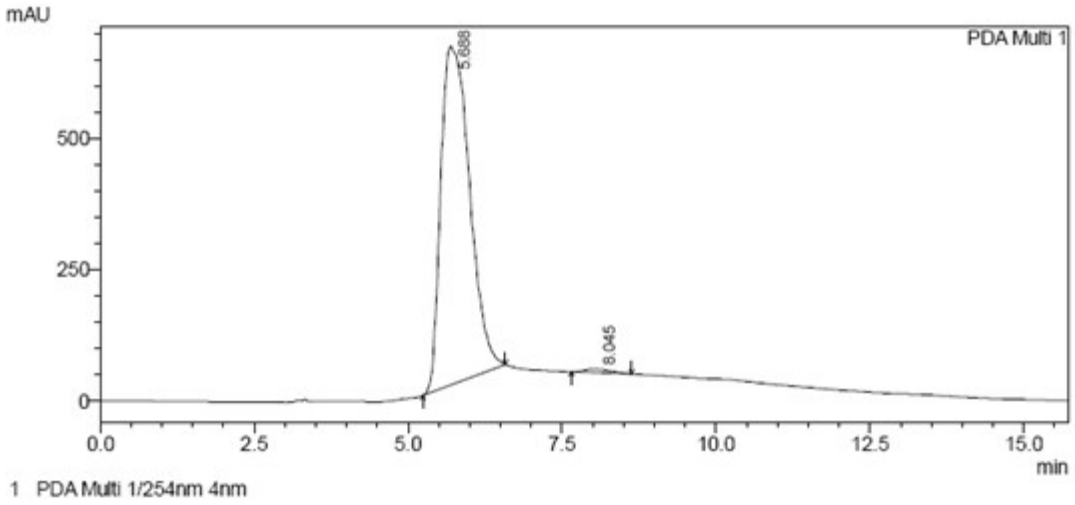
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.769	23708664	1424512	50.592	56.399
2	8.045	22245647	516275	49.408	43.601
Total		45954311	1940787	100.000	100.000

S 92: HPLC spectrum of Racemic mixture 9e.

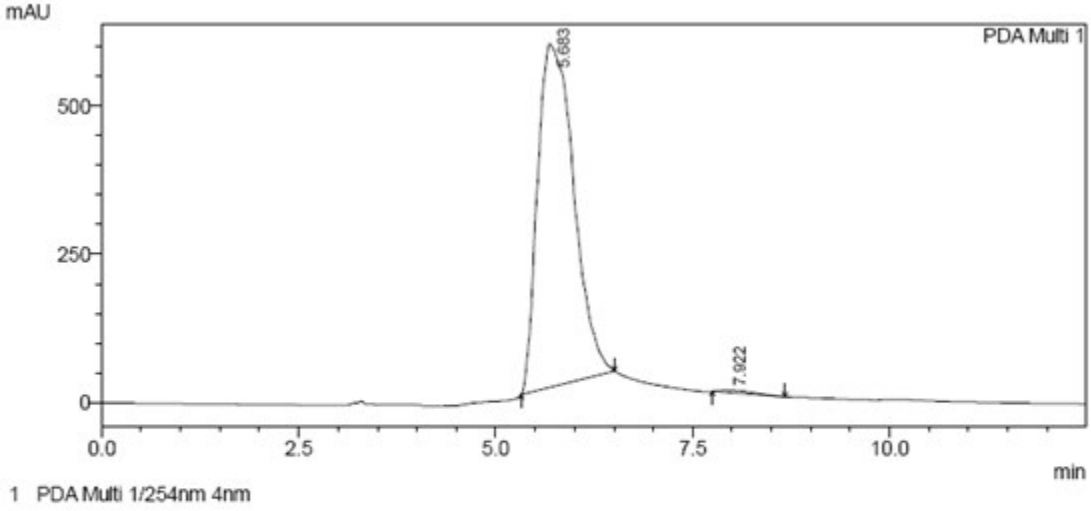


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.688	21009297	646002	99.059	98.923
2	8.045	199533	7033	0.941	1.077
Total		21208830	653035	100.000	100.000

S 93: HPLC spectrum of Henry Product (9e) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 9, Table 3).

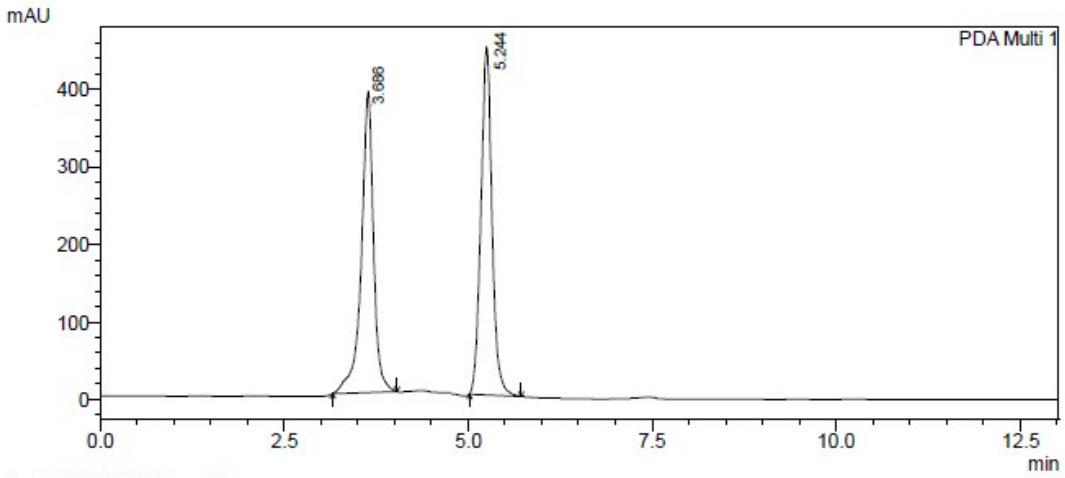


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.683	18420536	577485	99.309	99.294
2	7.922	128238	4106	0.691	0.706
Total		18548774	581592	100.000	100.000

S 94: HPLC spectrum of Henry Product (9e) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 10, Table 3).



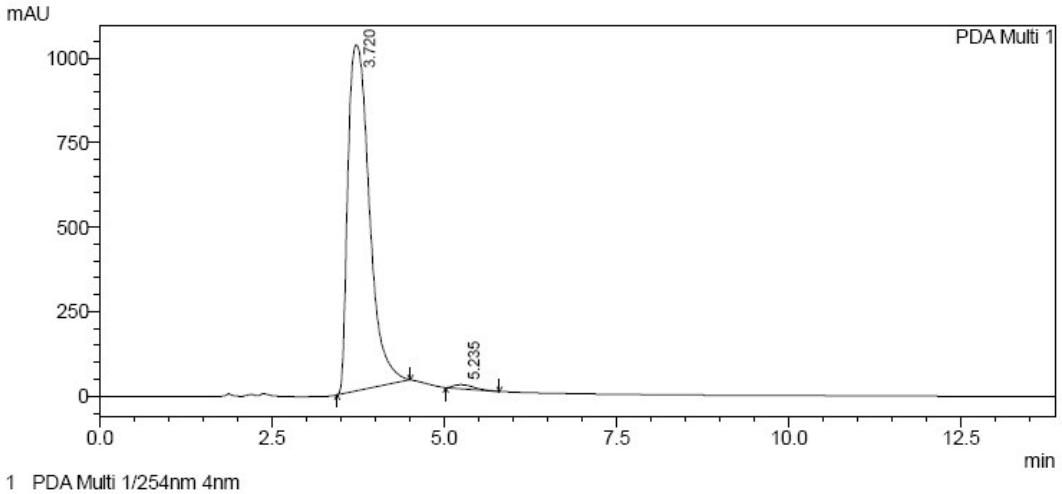
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.686	4460751	388532	49.606	46.429
2	5.244	4716671	448307	50.394	53.571
Total		9177422	836839	100.000	100.000

S 95: HPLC spectrum of Racemic mixture 9f.



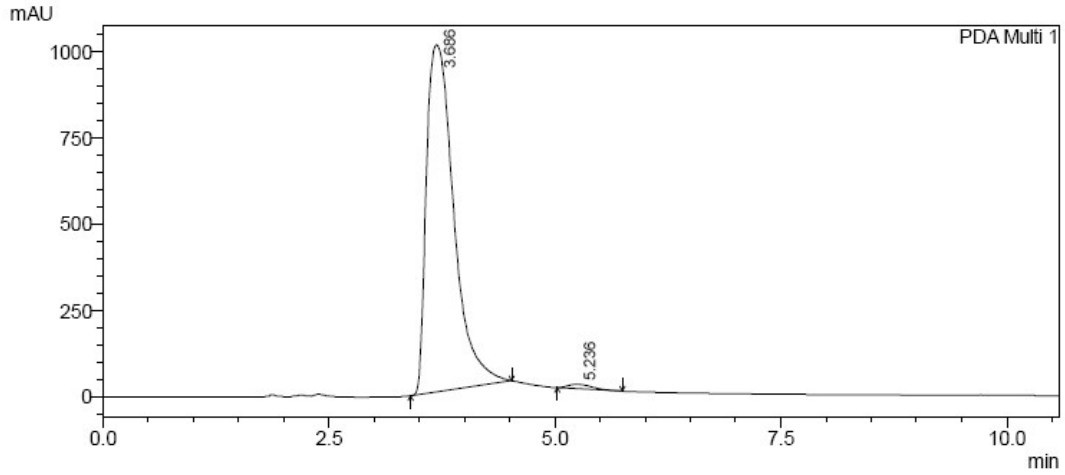
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 284nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.720	22124502	1023138	98.987	98.901
2	5.235	226315	11365	1.013	1.099
Total		22350817	1034503	100.000	100.000

S 96: HPLC spectrum of Henry Product (9f) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 11, Table 3).



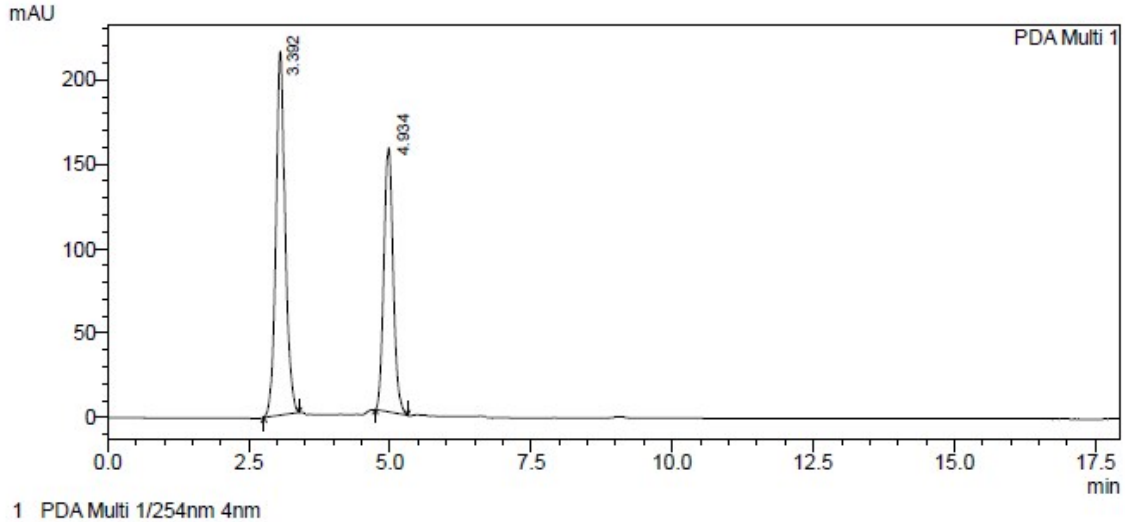
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 284nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.686	21211139	1005929	98.904	98.775
2	5.236	235096	12479	1.096	1.225
Total		21446235	1018408	100.000	100.000

S 97: HPLC spectrum of Henry Product (9f) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 12, Table 3).



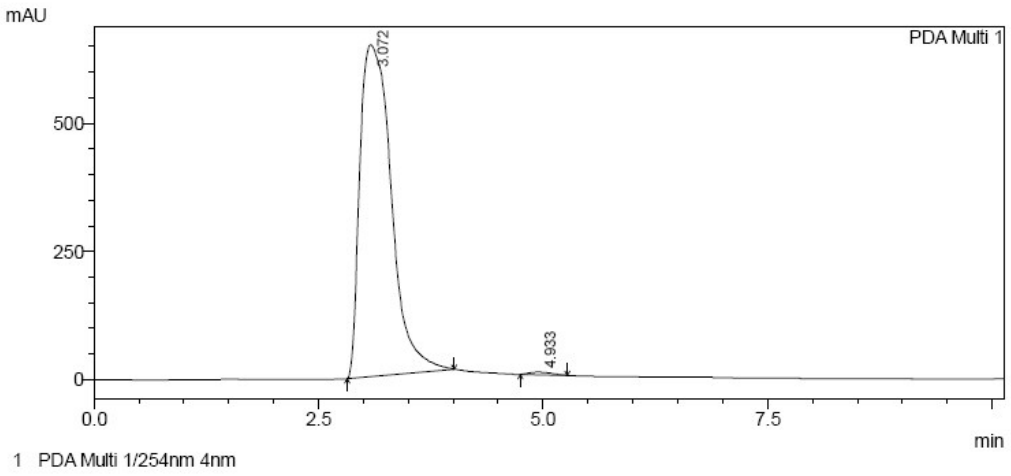
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.392	2467790	215102	50.013	57.860
2	4.934	1786088	156661	49.987	42.140
Total		4253878	371763	100.000	100.000

S 98: HPLC spectrum of Racemic mixture 9g.

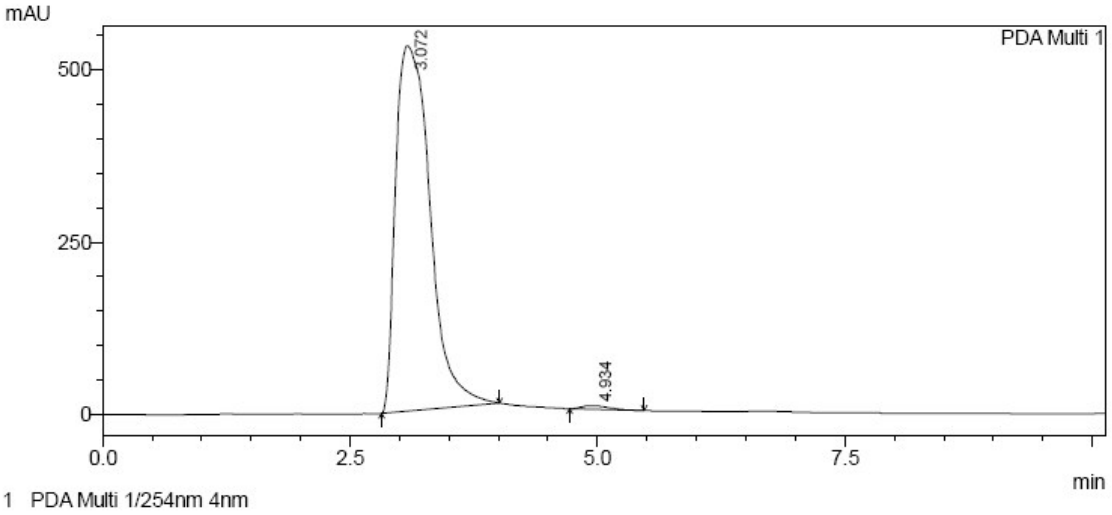


PeakTable

PDA Ch1 280nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.072	15721810	645970	99.449	99.224
2	4.933	87151	5049	0.551	0.776
Total		15808961	651019	100.000	100.000

S 99: HPLC spectrum of Henry Product (9g) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 13, Table 3).

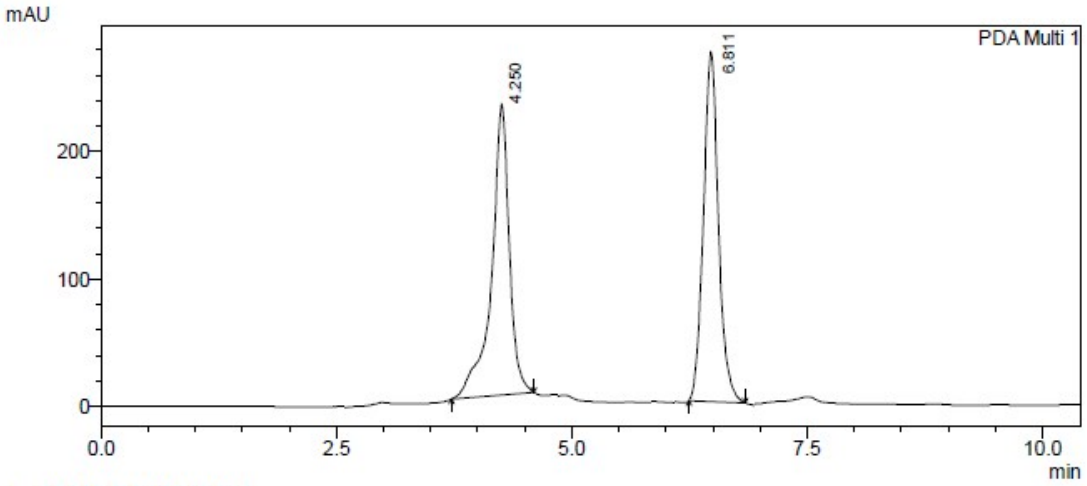


PeakTable

PDA Ch1 284nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.072	12840927	529467	99.233	99.030
2	4.934	99231	5185	0.767	0.970
Total		12940158	534652	100.000	100.000

S 100: HPLC spectrum of Henry Product (9g) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 14, Table 3).



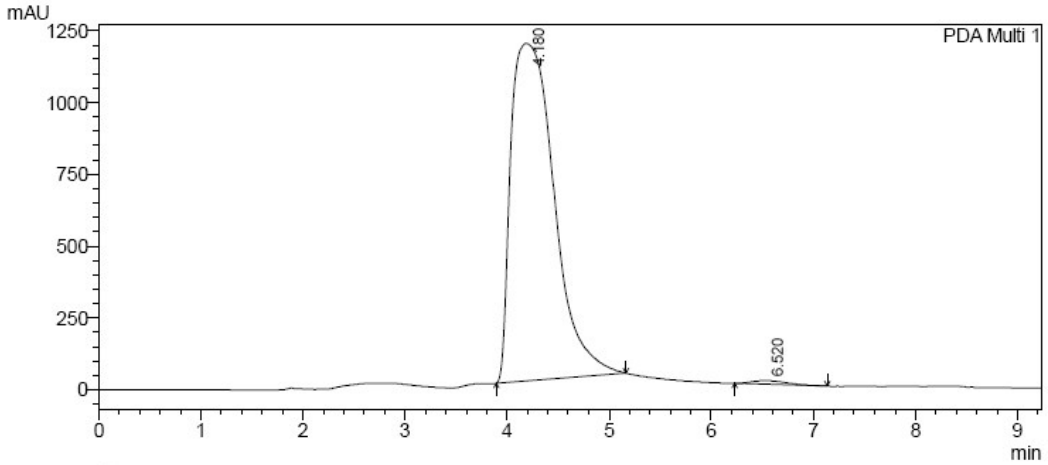
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	4.250	3004331	228818	49.625	45.432
2	6.811	3049796	274830	50.375	54.568
Total		6054127	503648	100.000	100.000

S 101: HPLC spectrum of Racemic mixture 9h.



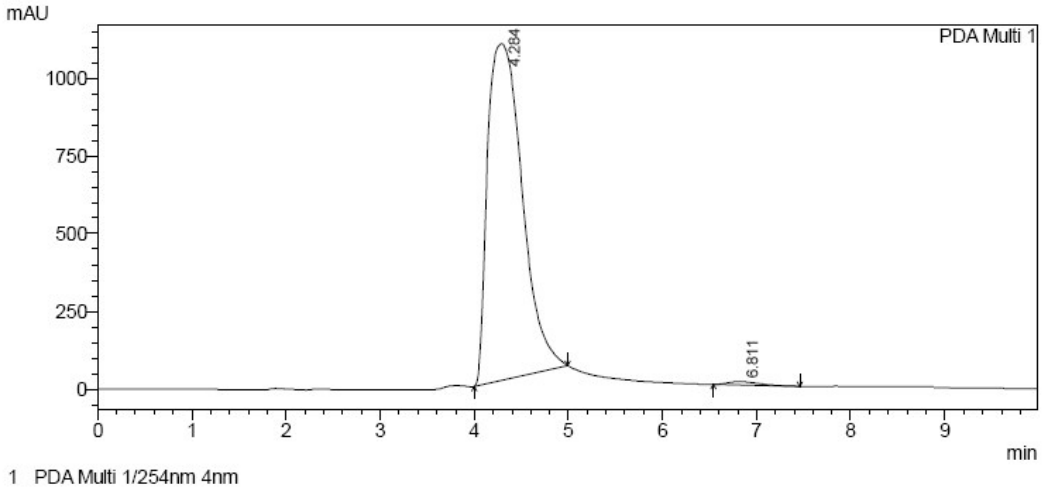
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 294nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	4.180	34692802	1175482	99.109	98.916
2	6.520	311724	12883	0.891	1.084
Total		35004526	1188365	100.000	100.000

S 102: HPLC spectrum of Henry Product (9h) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 15, Table 3).

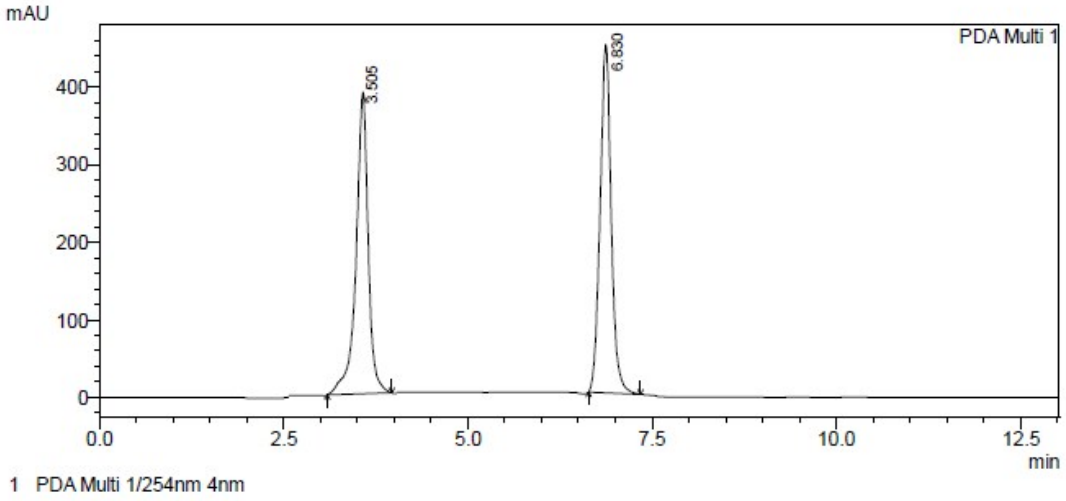


PeakTable

PDA Ch1 294nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	4.284	27729310	1082570	99.130	99.020
2	6.811	243258	10717	0.870	0.980
Total		27972568	1093286	100.000	100.000

S 103: HPLC spectrum of Henry Product (9h) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 16, Table 3).

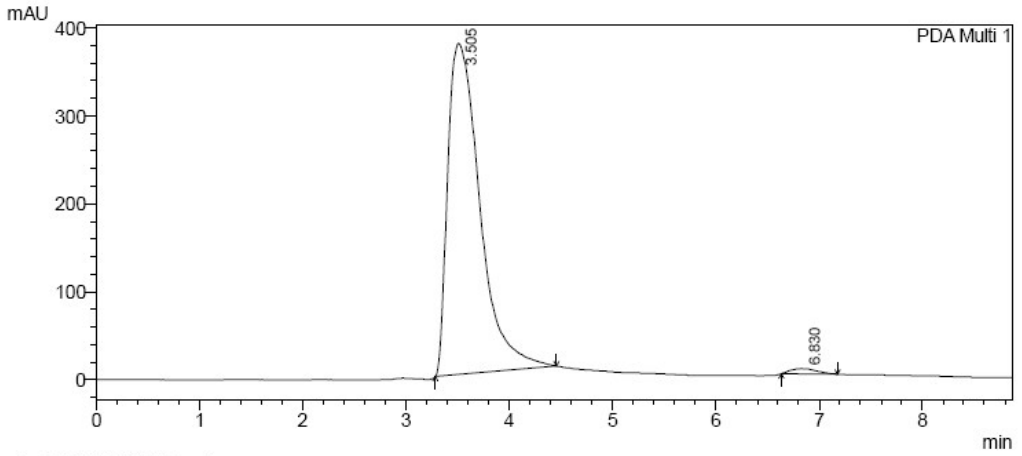


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.505	4460751	388532	49.606	46.429
2	6.830	4716671	448307	50.394	53.571
Total		9177422	836839	100.000	100.000

S 104: HPLC spectrum of Racemic mixture 9i.



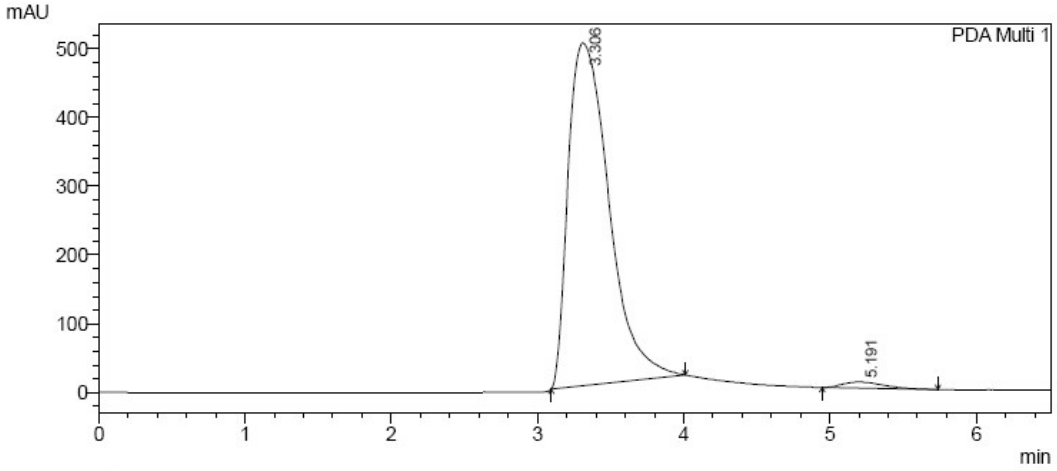
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 274nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.505	8161357	376407	98.738	98.482
2	6.830	104313	5803	1.262	1.518
Total		8265670	382211	100.000	100.000

S 105: HPLC spectrum of Henry Product (9i) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 17, Table 3).



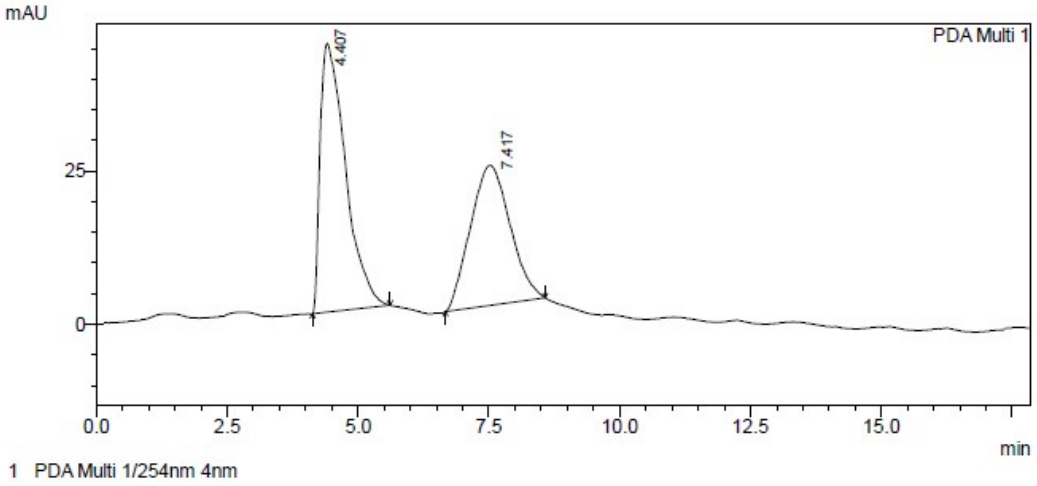
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 274nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.306	9689699	498843	98.254	98.295
2	5.191	172141	8651	1.746	1.705
Total		9861840	507494	100.000	100.000

S 106: HPLC spectrum of Henry Product (9i) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 18, Table 3).



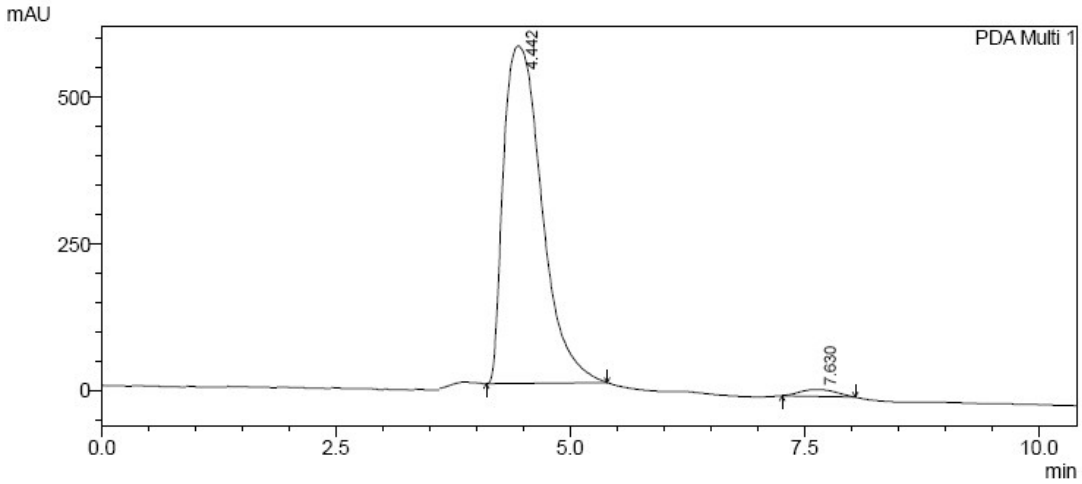
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	4.407	1473267	43820	50.031	65.779
2	7.417	1203875	22797	49.969	34.221
Total		2677142	66617	100.000	100.000

S 107: HPLC spectrum of Racemic mixture 9j.



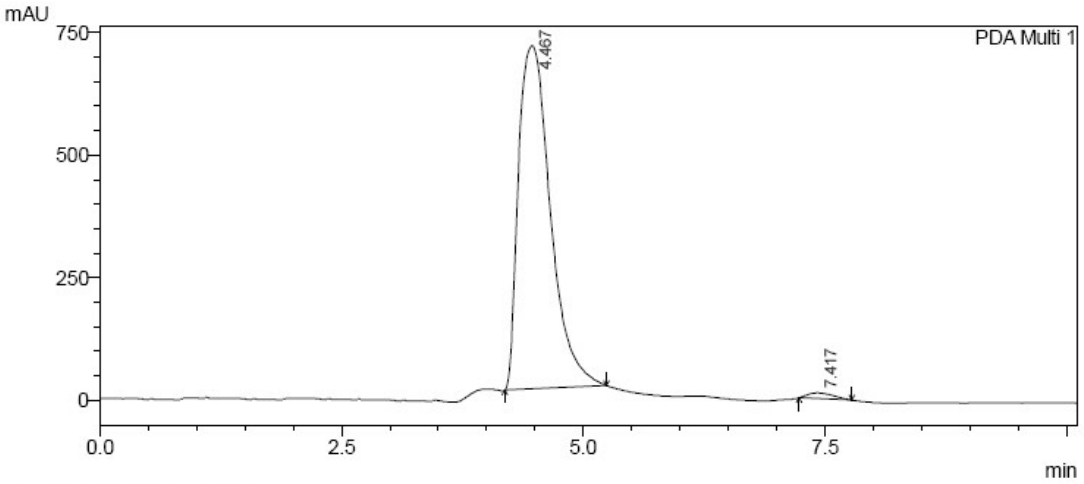
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 234nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	4.442	16432583	575697	98.108	98.004
2	7.630	316943	11724	1.892	1.996
Total		16749527	587421	100.000	100.000

S 108: HPLC spectrum of Henry Product (9j) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 19, Table 3).



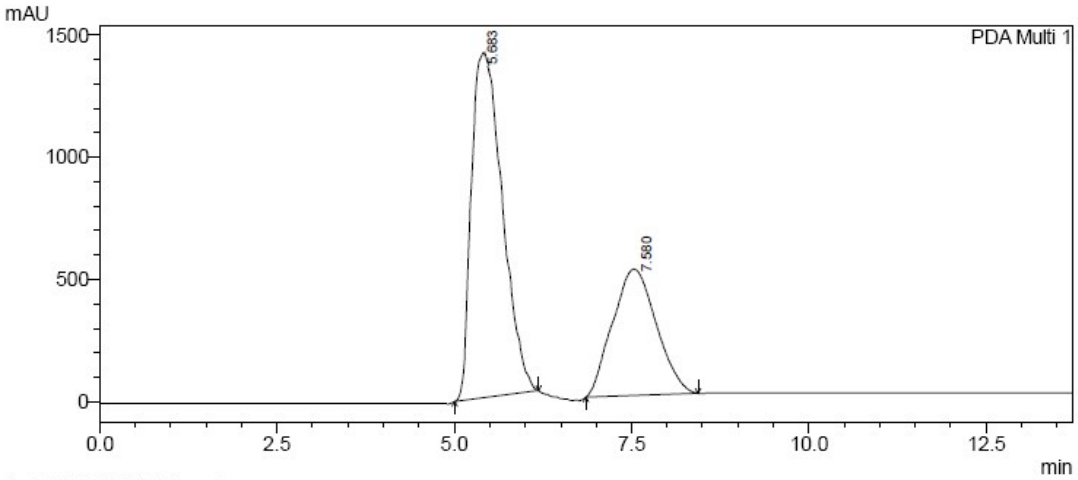
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 234nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	4.467	16086322	700274	98.687	98.383
2	7.417	214038	11512	1.313	1.617
Total		16300359	711786	100.000	100.000

S 109: HPLC spectrum of Henry Product (9j) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 20, Table 3).



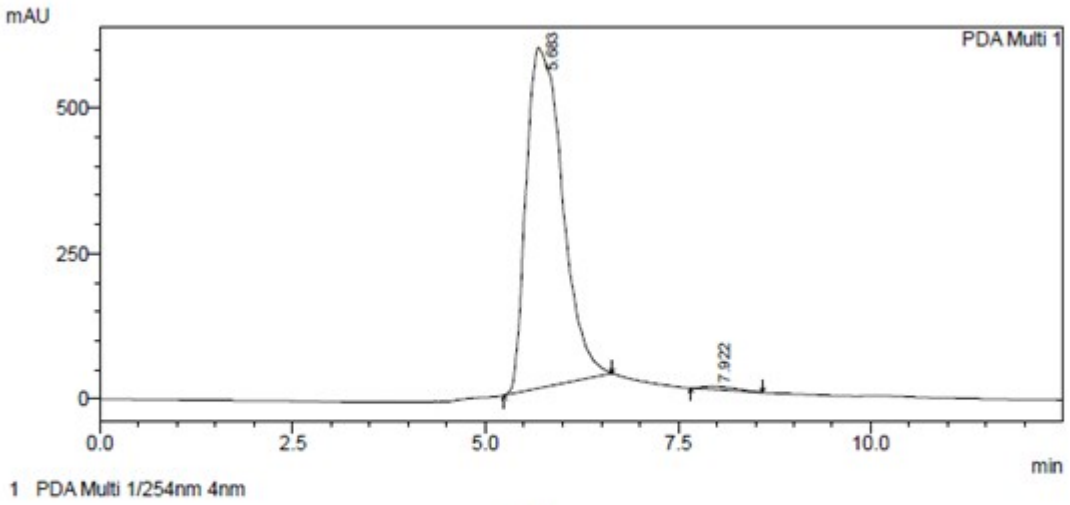
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.683	23708664	1424512	50.592	73.399
2	7.580	22245647	516275	49.408	26.601
Total		45954311	1940787	100.000	100.000

S 110: HPLC spectrum of Racemic mixture 9k.



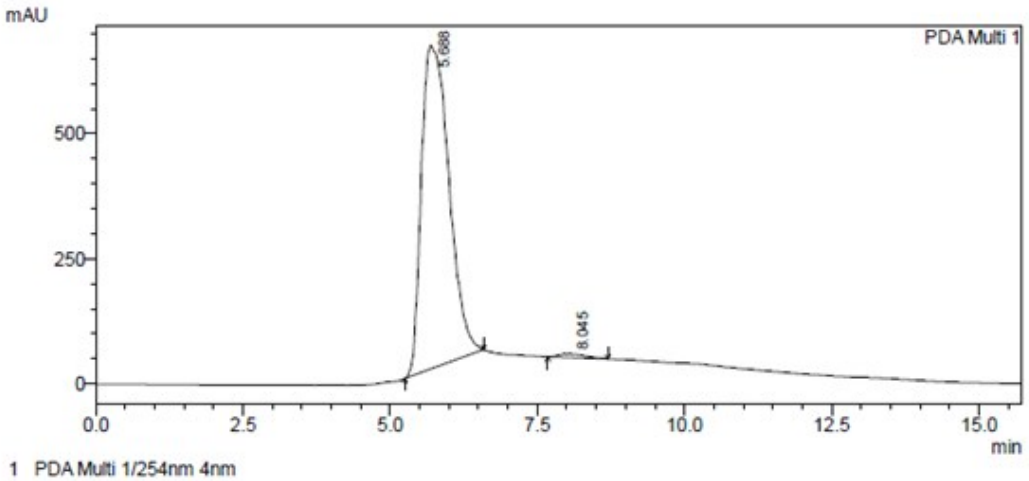
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.683	19145795	585414	99.202	99.162
2	7.922	154071	4950	0.798	0.838
Total		19299865	590364	100.000	100.000

S 111: HPLC spectrum of Henry Product (9k) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 21, Table 3).



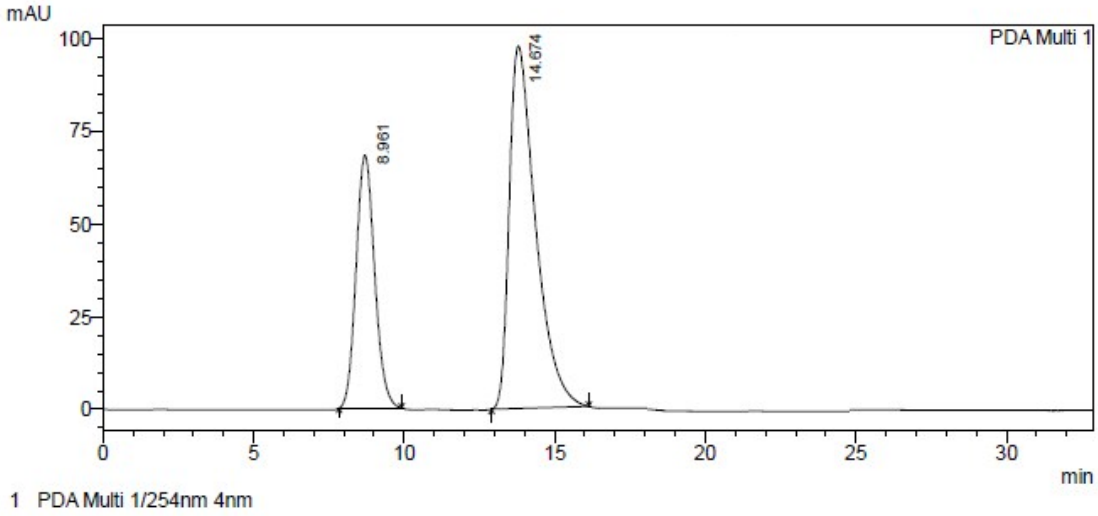
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.688	21041860	646237	98.938	98.860
2	8.045	225850	7452	1.062	1.140
Total		21267710	653689	100.000	100.000

S 112: HPLC spectrum of Henry Product (9k) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 22, Table 3).

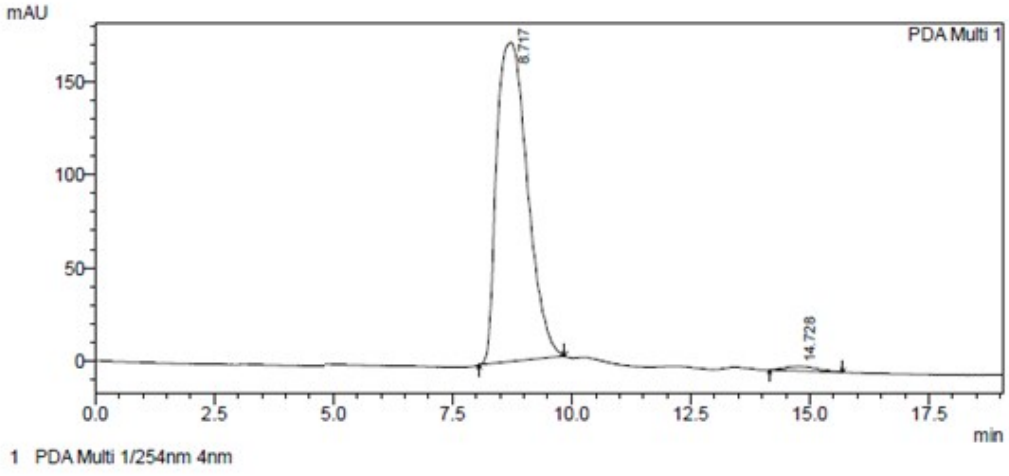


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	8.961	2921504	68179	49.200	41.114
2	14.674	5945230	97650	50.800	58.886
Total		8866734	165829	100.000	100.000

S 113: HPLC spectrum of Racemic mixture 9l.

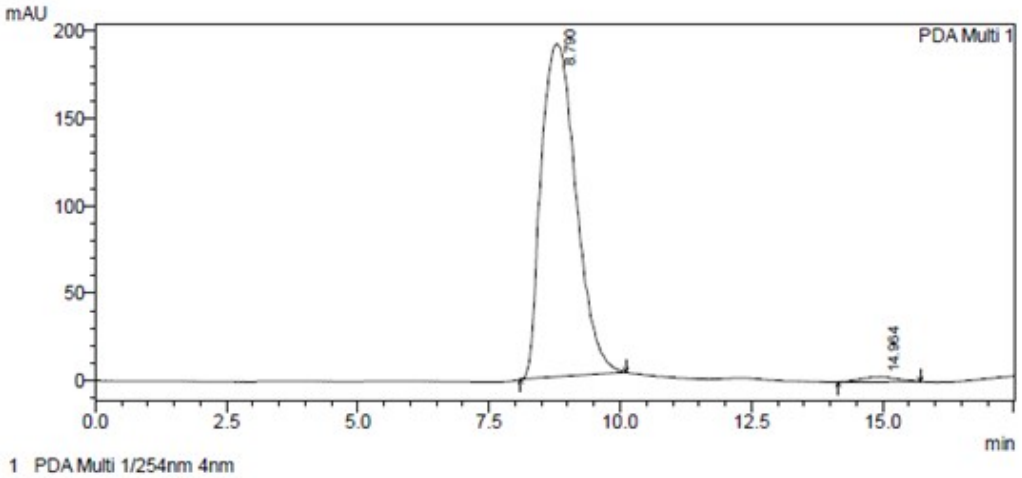


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	8.717	7726365	171726	98.509	98.602
2	14.728	116938	2434	1.491	1.398
Total		7843303	174160	100.000	100.000

S 114: HPLC spectrum of Henry Product (9l) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 23, Table 3).



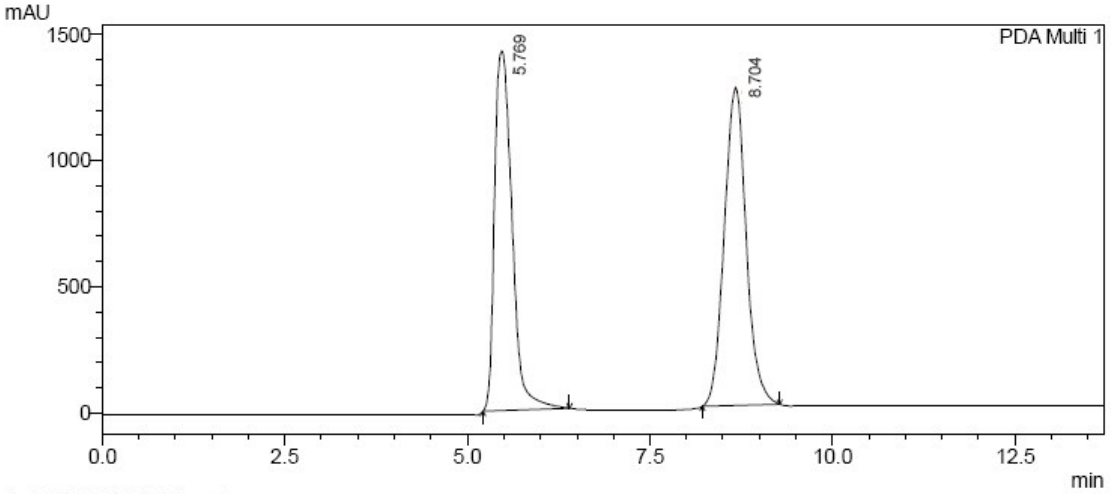
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	8.790	8789405	190365	98.447	98.483
2	14.964	138690	2933	1.553	1.517
Total		8928094	193297	100.000	100.000

S 115: HPLC spectrum of Henry Product (9l) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 24, Table 3).



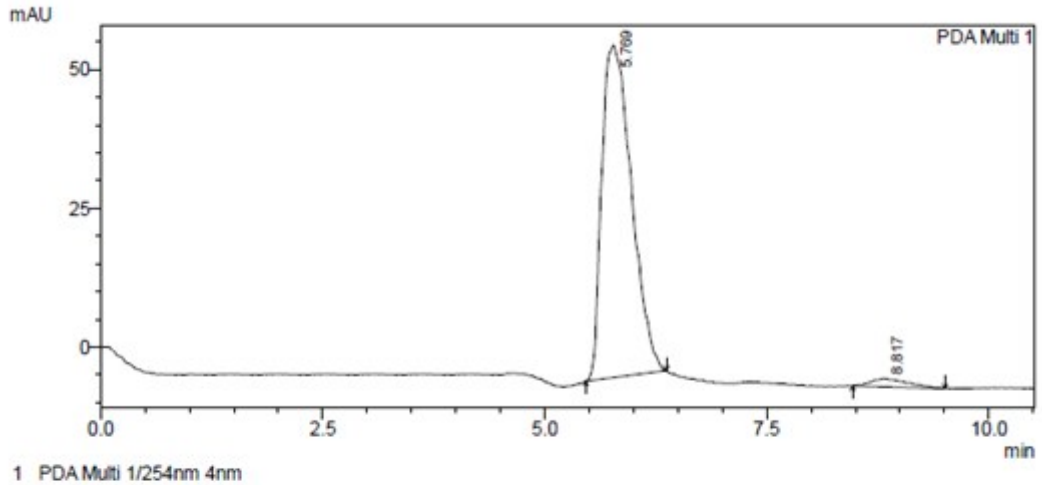
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.769	23708664	1424512	50.592	55.399
2	8.704	22245647	516275	49.408	44.601
Total		45954311	1940787	100.000	100.000

S 116: HPLC spectrum of Racemic mixture 9m.

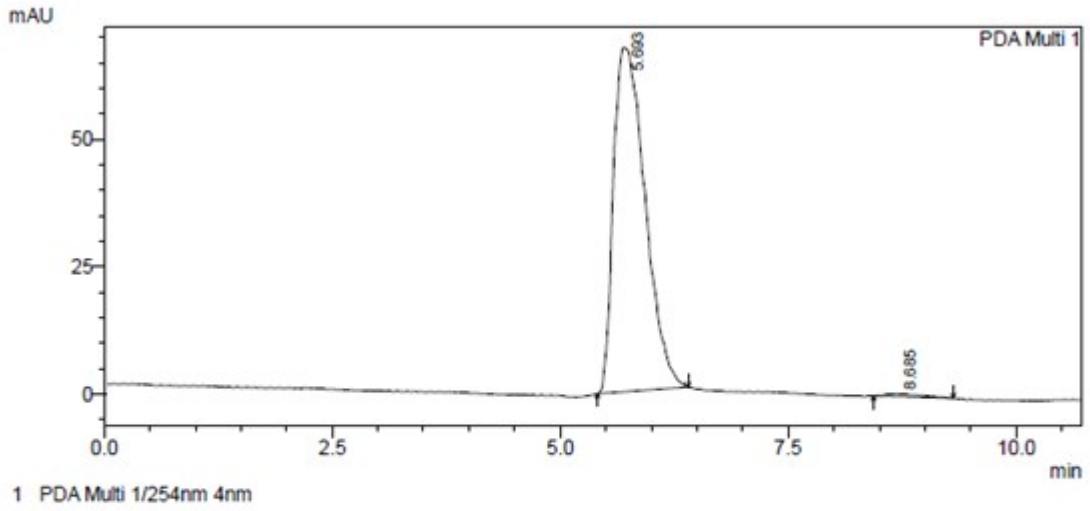


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.769	1389880	59922	97.065	97.621
2	8.817	42033	1461	2.935	2.379
Total		1431913	61383	100.000	100.000

S 117: HPLC spectrum of Henry Product (9m) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 25, Table 3).

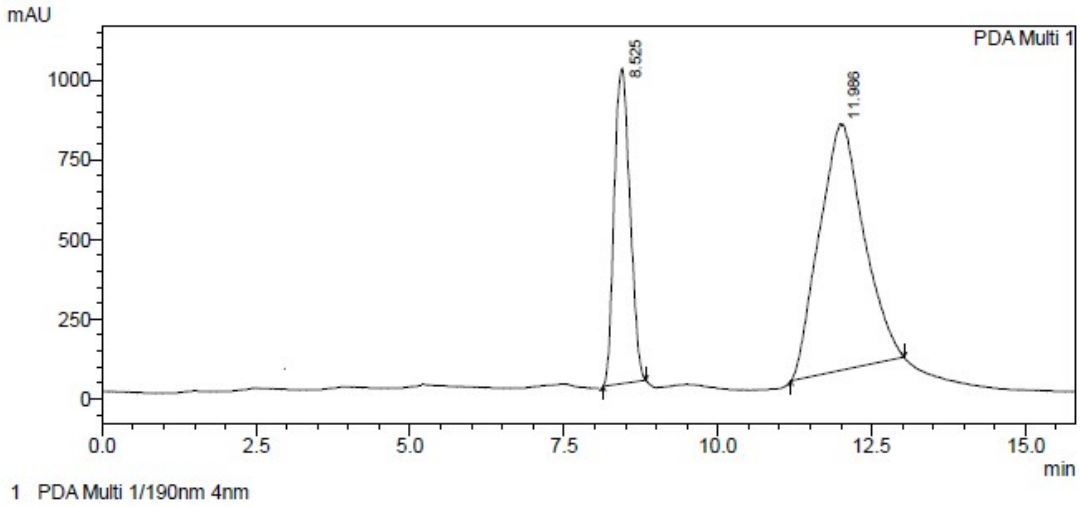


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.693	1626969	67543	99.041	99.180
2	8.685	15756	558	0.959	0.820
Total		1642724	68101	100.000	100.000

S 118: HPLC spectrum of Henry Product (9m) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 26, Table 3).



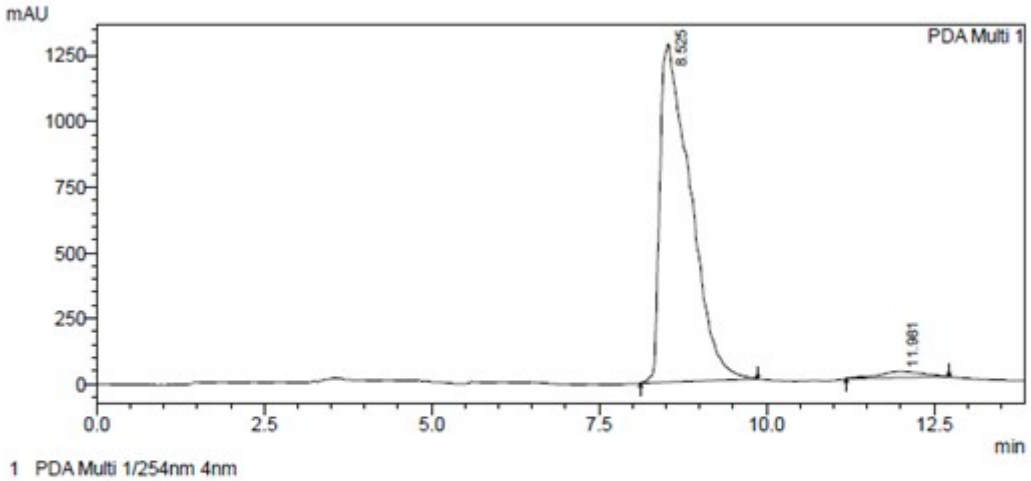
1 PDA Multi 1/190nm 4nm

PeakTable

PDA Ch1 190nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	8.525	17550190	989072	49.102	56.088
2	11.986	38878562	774358	50.898	43.912
Total		56428752	1763431	100.000	100.000

S 119: HPLC spectrum of Racemic mixture 9n.



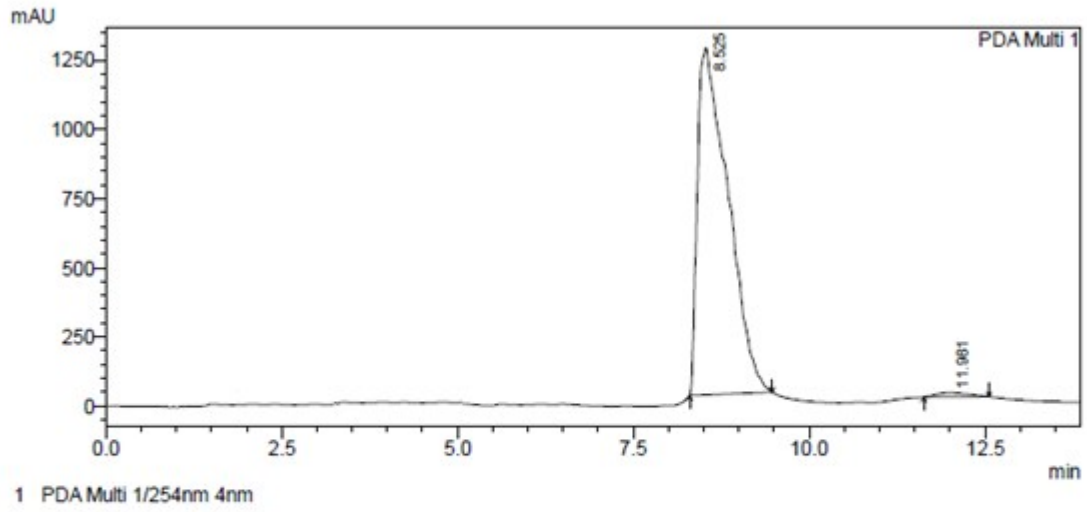
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	8.525	40612983	1285034	97.393	98.224
2	11.981	1086982	23239	2.607	1.776
Total		41699964	1308273	100.000	100.000

S 120: HPLC spectrum of Henry Product (9n) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 27, Table 3).

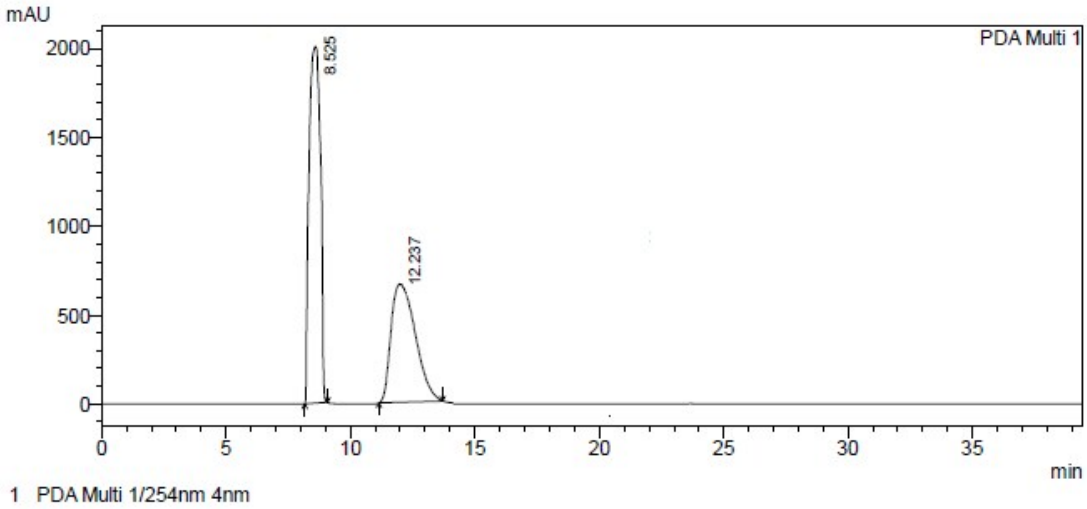


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	8.525	37861576	1252561	98.750	98.797
2	11.981	479367	15253	1.250	1.203
Total		38340944	1267813	100.000	100.000

S 121: HPLC spectrum of Henry Product (9n) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 28, Table 3).

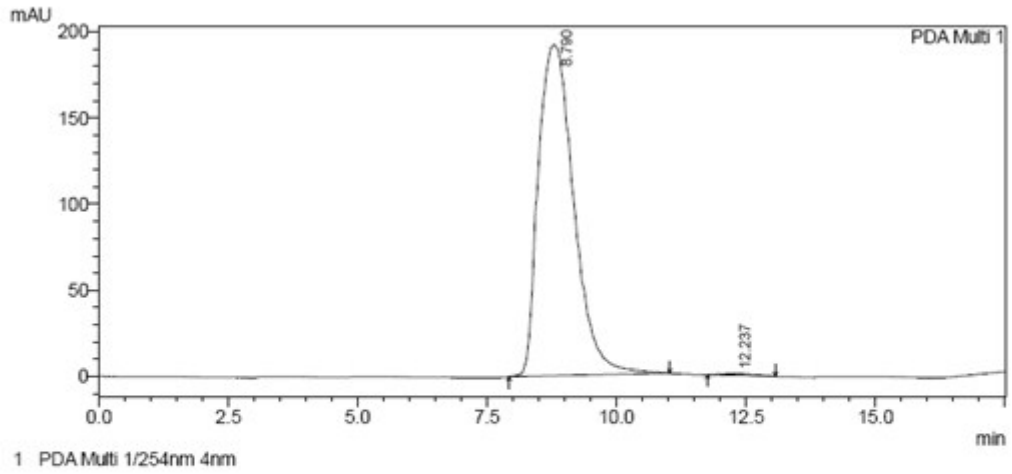


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	8.525	63325278	2007387	50.272	75.038
2	12.237	45346012	667764	49.728	24.962
Total		108671290	2675151	100.000	100.000

S 122: HPLC spectrum of Racemic mixture 9o.

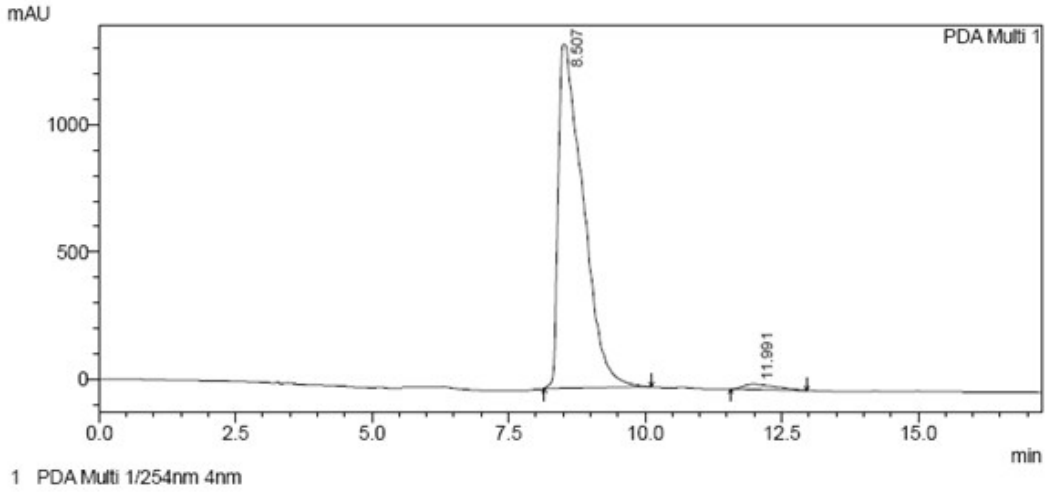


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	8.790	9158259	192252	99.481	99.430
2	12.237	47768	1101	0.519	0.570
Total		9206026	193353	100.000	100.000

S 123: HPLC spectrum of Henry Product (9o) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 29, Table 3).

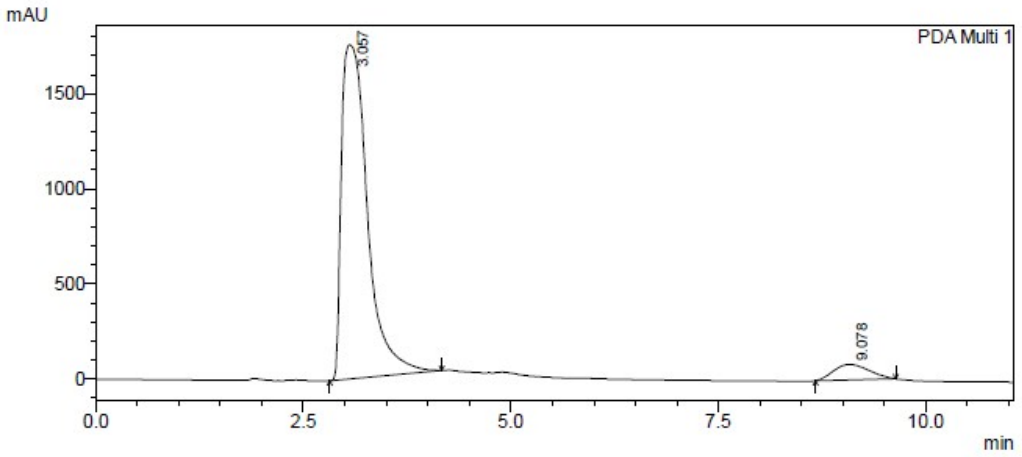


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	8.507	42740623	1352871	98.002	98.486
2	11.991	871488	20791	1.998	1.514
Total		43612111	1373662	100.000	100.000

S 124: HPLC spectrum of Henry Product (9o) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 30, Table 3).



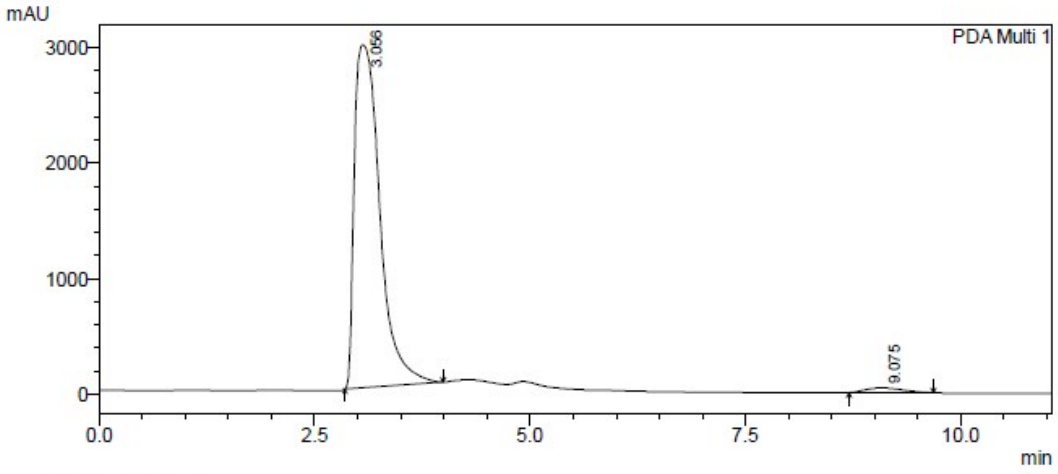
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 270nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.057	38280256	1757129	94.040	95.578
2	9.078	2426167	81304	5.960	4.422
Total		40706424	1838433	100.000	100.000

S 125: HPLC spectrum of Henry Product (9a) in presence of CPTC (10a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 1, Table S1).



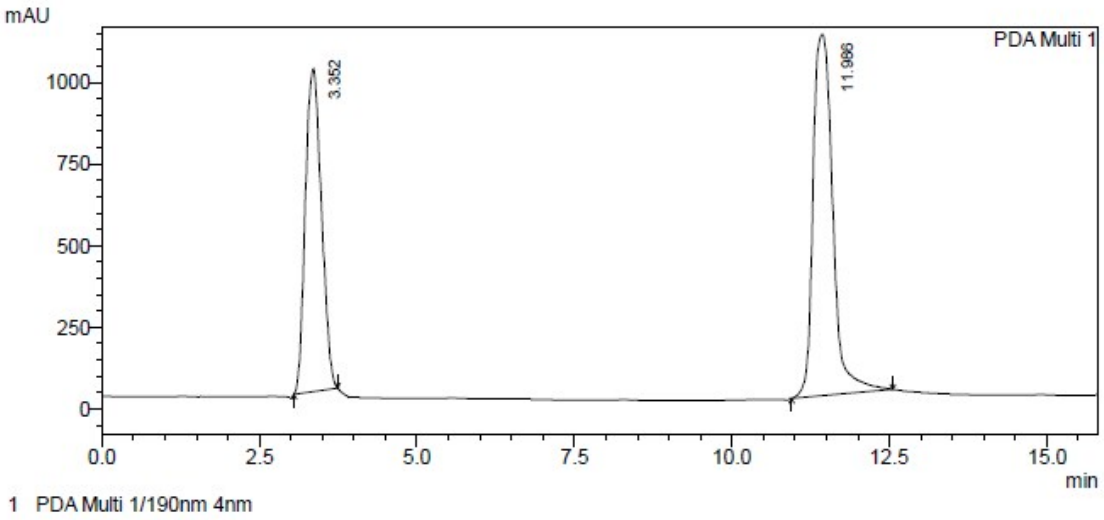
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 230nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.056	60934901	2961678	97.988	98.610
2	9.075	1251024	41756	2.012	1.390
Total		62185925	3003435	100.000	100.000

S 126: HPLC spectrum of Henry Product (9a) in presence of CPTC (10b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 2, Table S1).

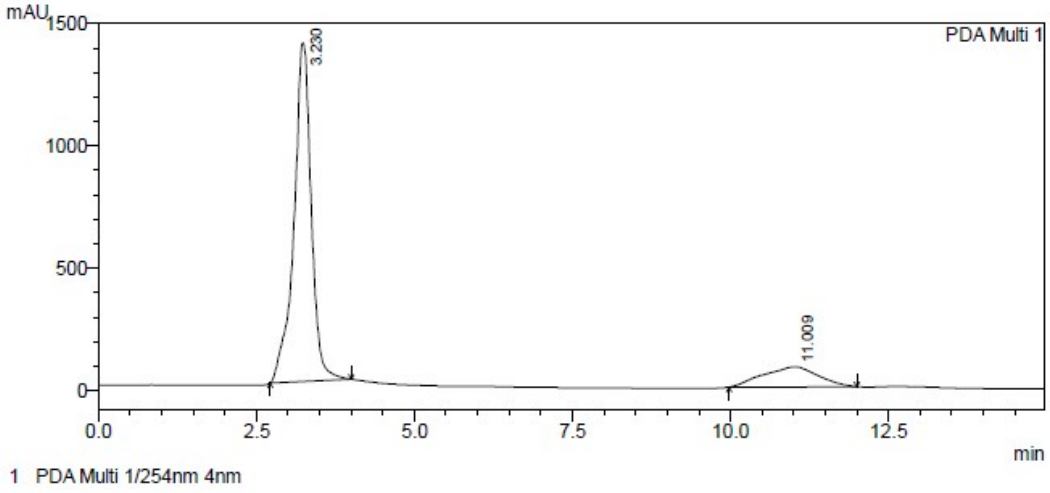


PeakTable

PDA Ch1 190nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.352	17550190	989072	49.102	43.088
2	11.986	38878562	774358	50.898	56.912
Total		56428752	1763431	100.000	100.000

S 127: HPLC spectrum of Racemic Mixture 9p.

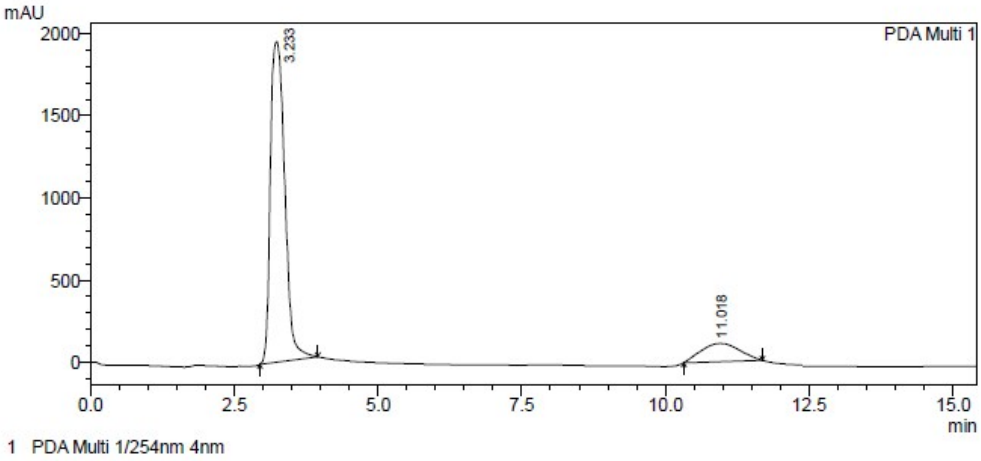


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.230	26458421	1382413	84.301	94.395
2	11.009	4927263	82086	15.699	5.605
Total		31385685	1464500	100.000	100.000

S 128: HPLC spectrum of Henry Product (9p) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 1, Table S2).

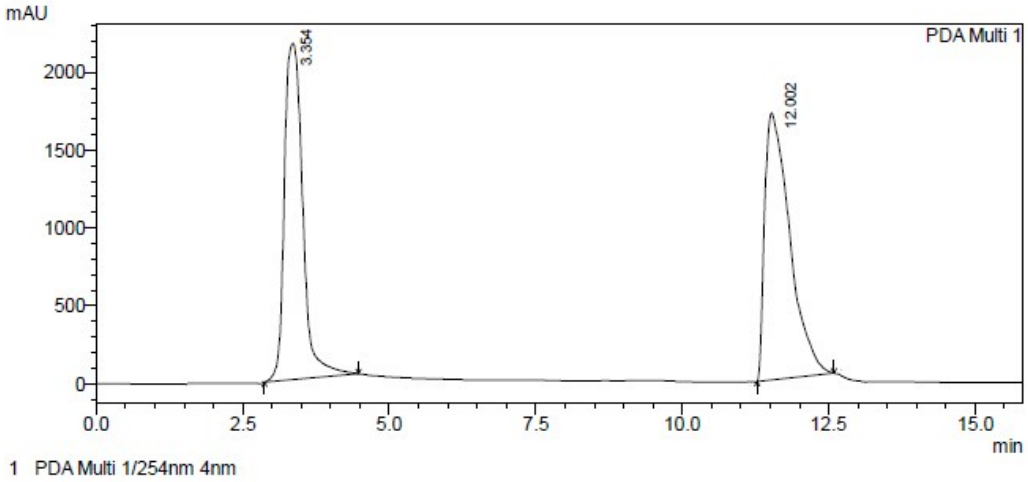


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.233	33911508	1948780	86.287	98.179
2	11.018	1307832	36142	13.713	1.821
Total		35219340	1984922	100.000	100.000

S 129: HPLC spectrum of Henry Product (9p) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 2, Table S2).

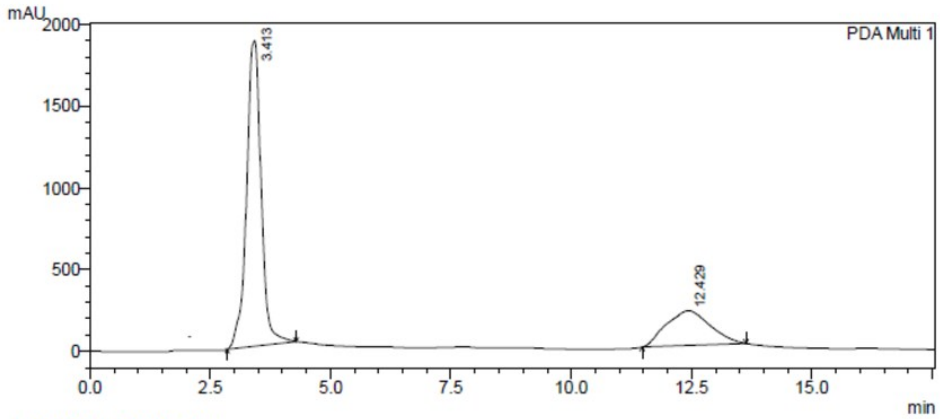


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.354	3004331	228818	49.625	55.568
2	12.002	3049796	274830	50.375	44.432
Total		6054127	503648	100.000	100.000

S 130: HPLC spectrum of Racemic Mixture 9q.

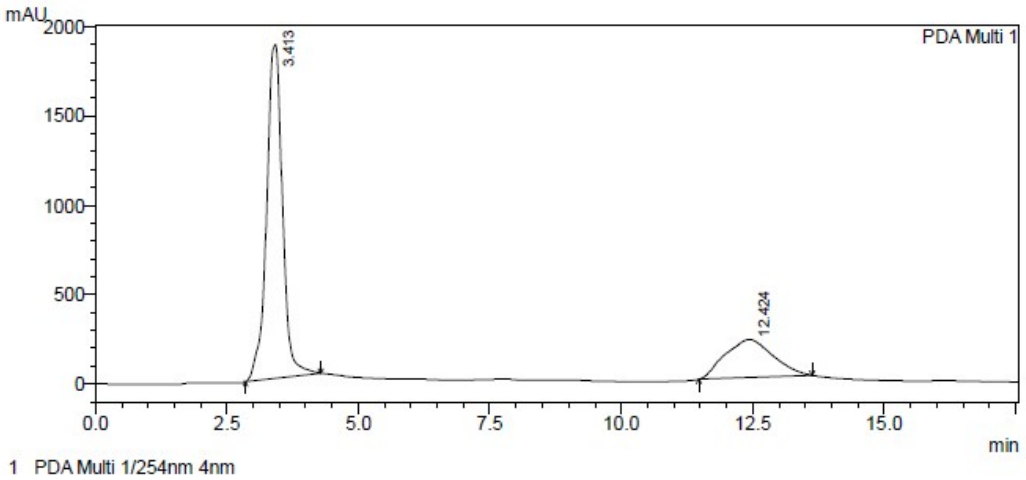


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.413	39323886	1866138	74.421	89.755
2	12.429	13515667	213017	25.579	10.245
Total		52839552	2079155	100.000	100.000

S 131: HPLC spectrum of Henry Product (9q) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 3, Table S2).

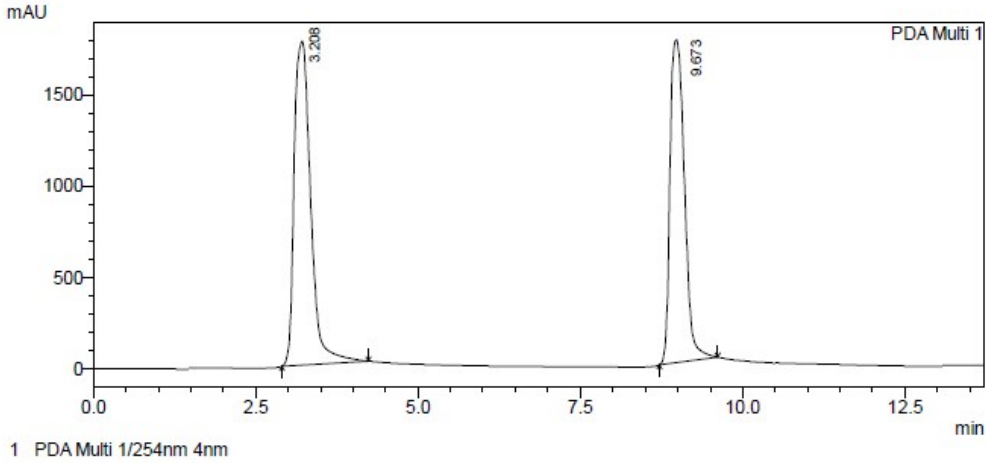


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.413	39323886	1866138	75.421	89.755
2	12.424	13515667	213017	24.579	10.245
Total		52839552	2079155	100.000	100.000

S 132: HPLC spectrum of Henry Product (9q) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 4, Table S2).

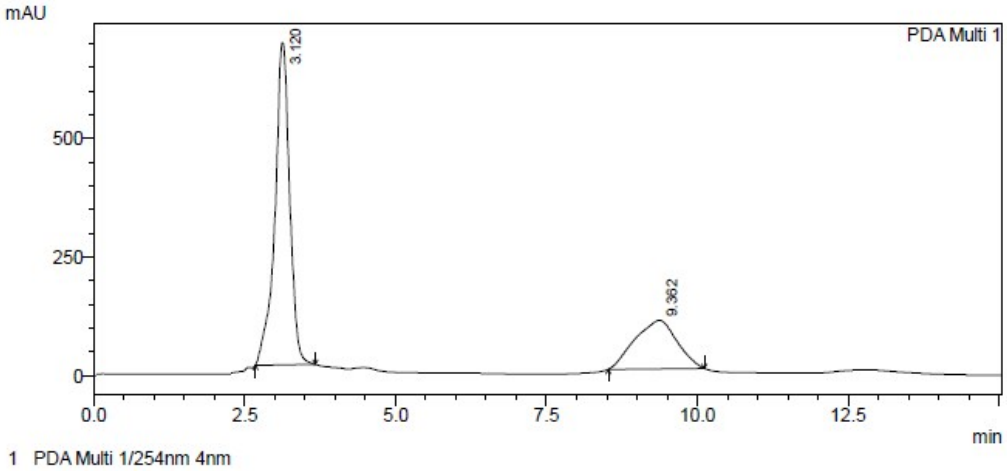


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.208	3004331	228818	49.625	50.432
2	9.673	3049796	274830	50.375	49.568
Total		6054127	503648	100.000	100.000

S 133: HPLC spectrum of Racemic Mixture 9r.

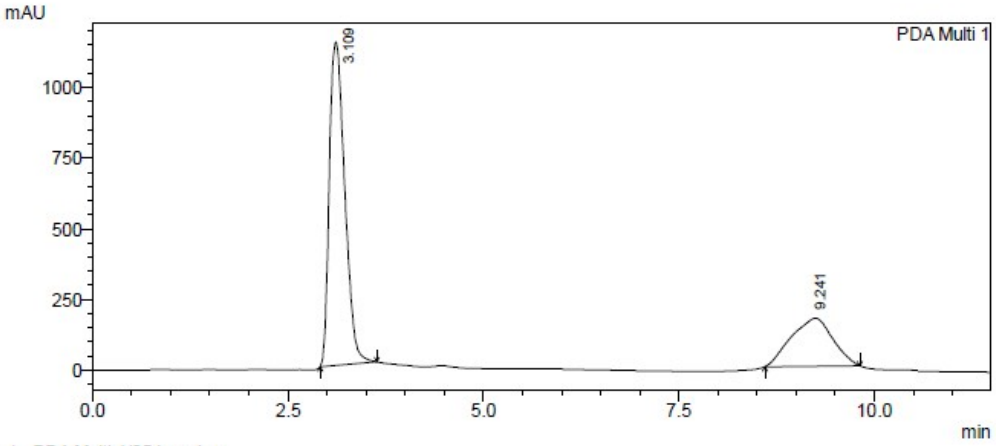


PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.120	11601862	679103	70.110	86.922
2	9.362	4946307	102174	29.890	13.078
Total		16548170	781277	100.000	100.000

S 134: HPLC spectrum of Henry Product (9r) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 1, Table S3).



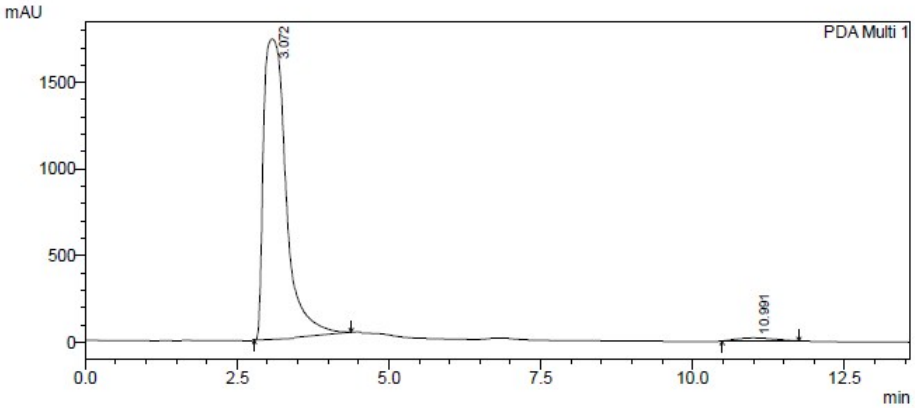
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.109	15726254	1143802	76.110	86.922
2	9.241	896892	30617	23.890	13.078
Total		16623146	1174419	100.000	100.000

S 135: HPLC spectrum of Henry Product (9r) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition (Entry 2, Table S3).



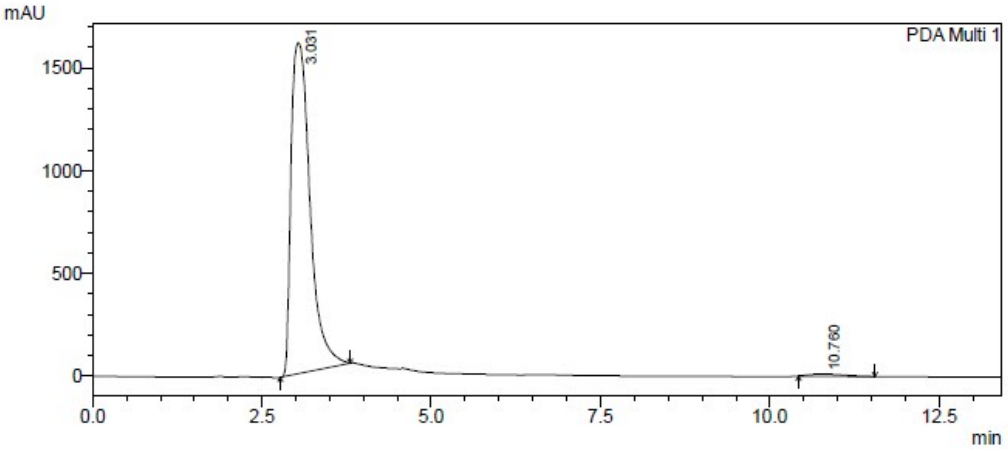
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 270nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.072	50630172	1730979	98.565	99.021
2	10.991	737171	17115	1.435	0.979
Total		51367343	1748094	100.000	100.000

S 136: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition at first cycle (Entry 1, Table S4).



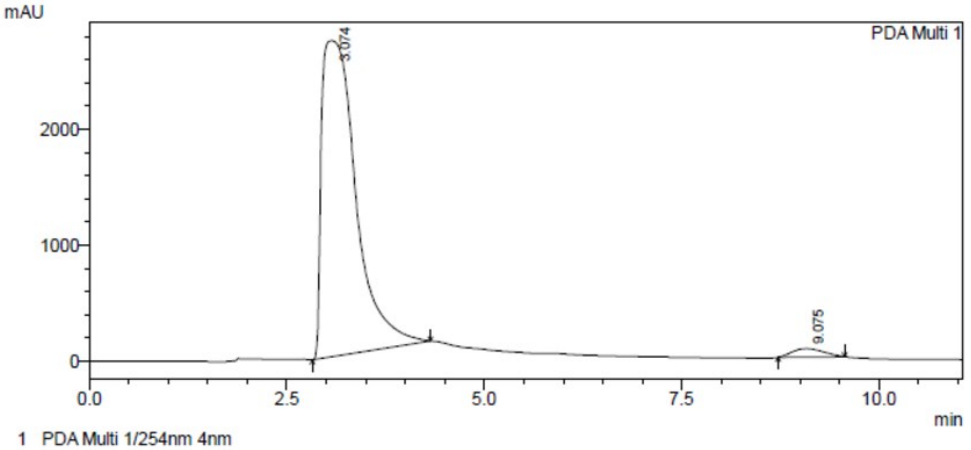
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 270nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.031	31350676	1609119	98.826	99.336
2	10.760	372498	10752	1.174	0.664
Total		31723174	1619871	100.000	100.000

S 137: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition at first cycle (Entry 2, Table S4).



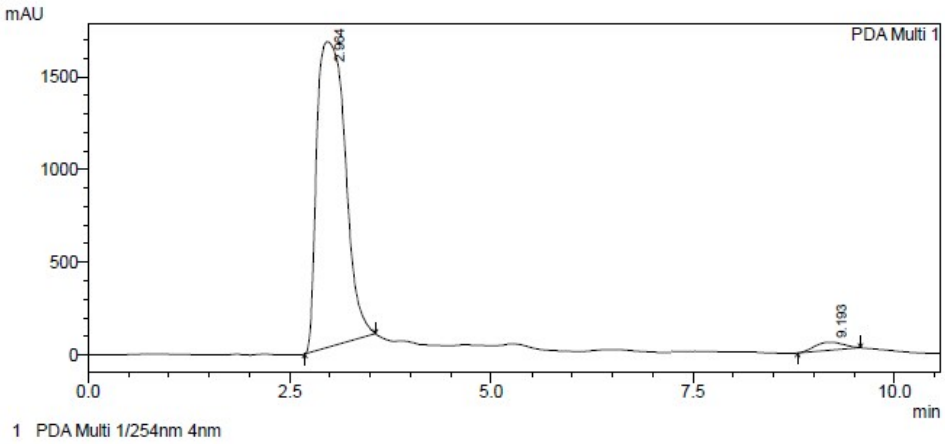
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 240nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	3.074	82461709	2721870	97.316	97.398
2	9.075	2014062	72705	2.684	2.602
Total		84475771	2794575	100.000	100.000

S 138: HPLC spectrum of Henry Product (9a) in presence of CPTC (6a) and Cyclohexane/ Na_2CO_3 (5%) in RT condition at second cycle (Entry 3, Table S4).



1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 274nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	2.964	40451358	1647802	97.354	97.384
2	9.193	1099337	44261	2.646	2.616
Total		41550695	1692063	100.000	100.000

S 139: HPLC spectrum of Henry Product (9a) in presence of CPTC (6b) and Cyclohexane/ Na_2CO_3 (5%) in RT condition at second cycle (Entry 4, Table S4).