

Supporting Information-II

Asymmetric Synthesis of Drug-like Spiro[chroman-3,3'-indolin]-2'-ones through Aminoal-catalysis

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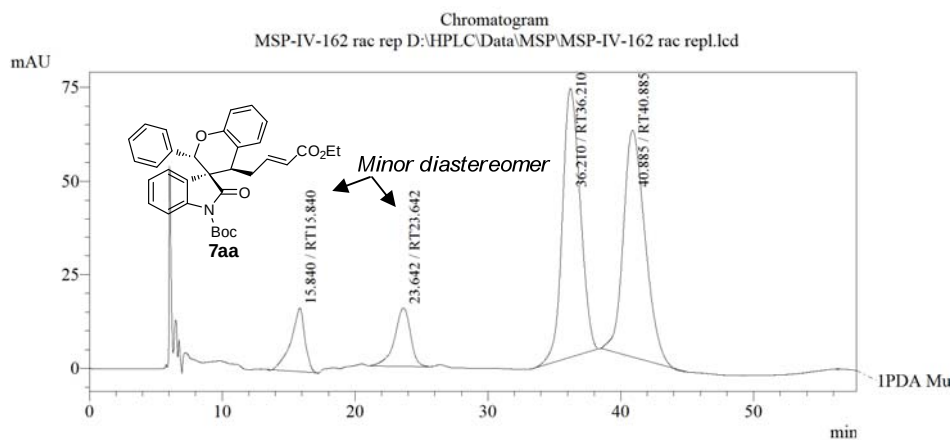
ramsc@uohyd.ernet.in and ramchary.db@gmail.com

General Information:

The enantiomeric excess (*ee*) of the *r*-M products **5**, **7** and **9** was determined by chiral stationary phase HPLC using a Daicel Chiralcel OD-H, Chiralcel OJ-H, Chiralpak AD-H, Chiralpak AS-H, Lux 5u Amylose-2, Lux 5u Cellulose-1, or Lux 5u Cellulose-2 columns and hexane/2-propanol as the eluent. Retention times and solvent ratios are indicated in the respective entries.

General Note Regarding HPLC Chromatograms: In all racemic HPLC chromatograms of **7** and **9**, only four enantiomeric peaks representing the minor and major diastereomers were labeled with retention times. But many of the chiral HPLC chromatograms of **7** and **9** were represented only major diastereomer with retention times. Very few chiral HPLC chromatograms of **7** were represented both minor and major diastereomers with retention times.

RACEMIC 7aa:

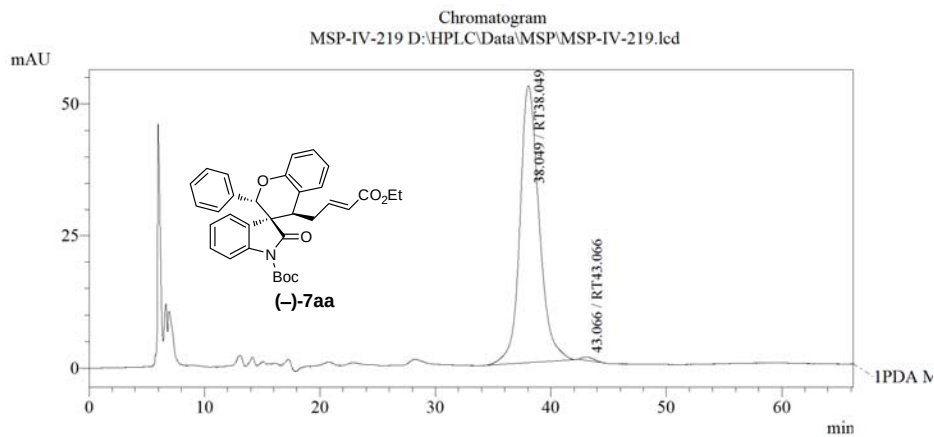


Lux 5u Cellulose-2, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT15.840	15.840	1238028	16954	7.681	10.294
2	RT23.642	23.642	1283180	15461	7.961	9.388
3	RT36.210	36.210	6700426	71718	41.570	43.547
4	RT40.885	40.885	6896845	60557	42.788	36.770
Total			16118478	164689	100.000	100.000

CHIRAL-(-)-7aa (99% ee):

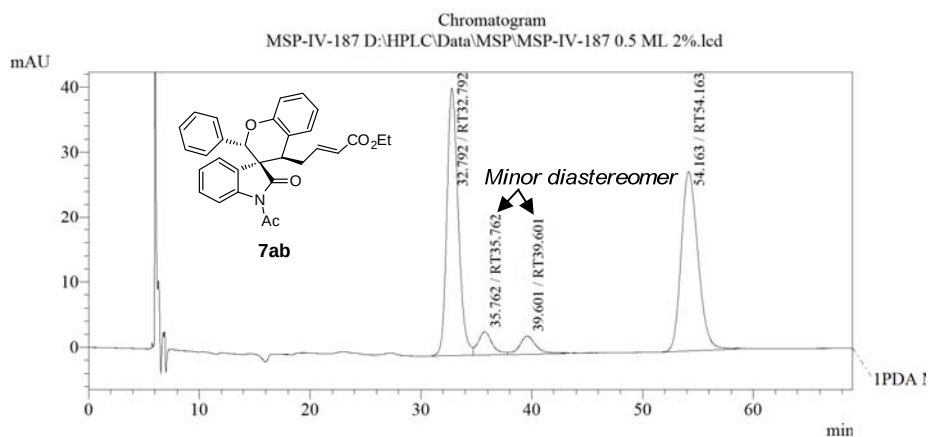


Lux 5u Cellulose-2, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT38.049	38.049	6047641	52401	99.296	98.843
2	RT43.066	43.066	42883	614	0.704	1.157
Total			6090524	53014	100.000	100.000

RACEMIC 7ab:

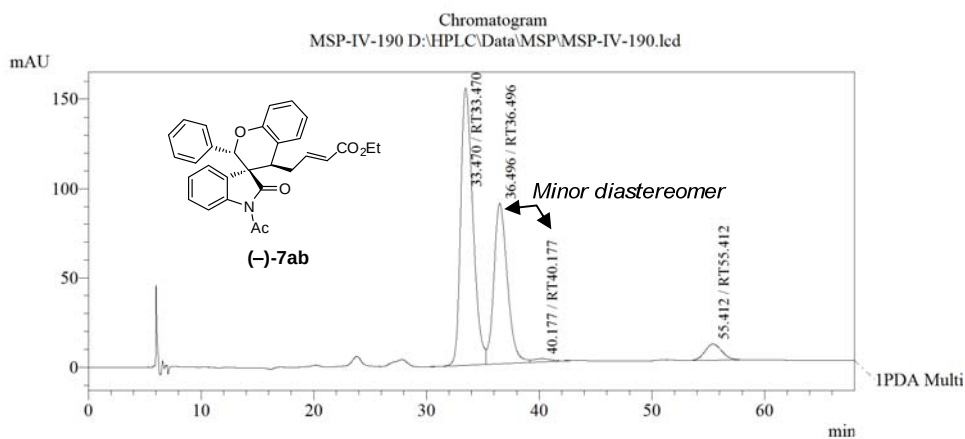


Lux 5u Cellulose-2, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT32.792	32.792	2927307	41100	45.515	54.772
2	RT35.762	35.762	320344	3609	4.981	4.809
3	RT39.601	39.601	287906	2781	4.476	3.706
4	RT54.163	54.163	2896007	27548	45.028	36.713
Total			6431564	75037	100.000	100.000

CHIRAL-(*-*)-7ab (84% ee):

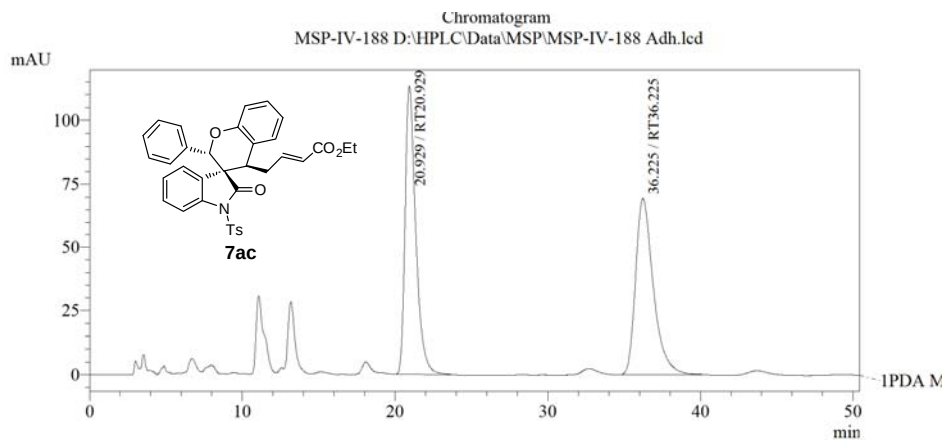


Lux 5u Cellulose-2, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT33.470	33.470	11668237	154849	57.516	60.611
2	RT36.496	36.496	7452920	89747	36.738	35.128
3	RT40.177	40.177	193959	1799	0.956	0.704
4	RT55.412	55.412	971831	9086	4.790	3.557
Total			20286948	255482	100.000	100.000

RACEMIC 7ac:



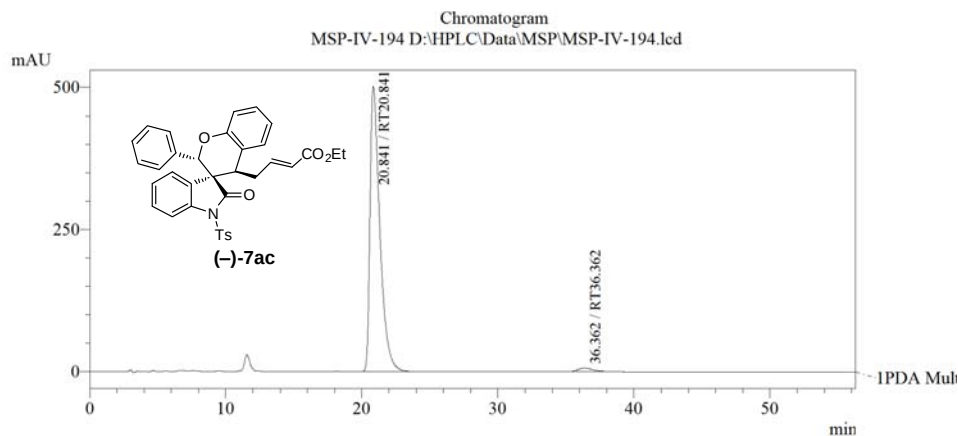
Daicel Chiralpak AD-H, Hexane/*i*-PrOH = 90:10, Flow Rate 1.0 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT20.929	20.929	5488217	113192	49.537	61.948
2	RT36.225	36.225	5590899	69528	50.463	38.052
Total			11079116	182720	100.000	100.000

CHIRAL-(-)-7ac (96% ee):



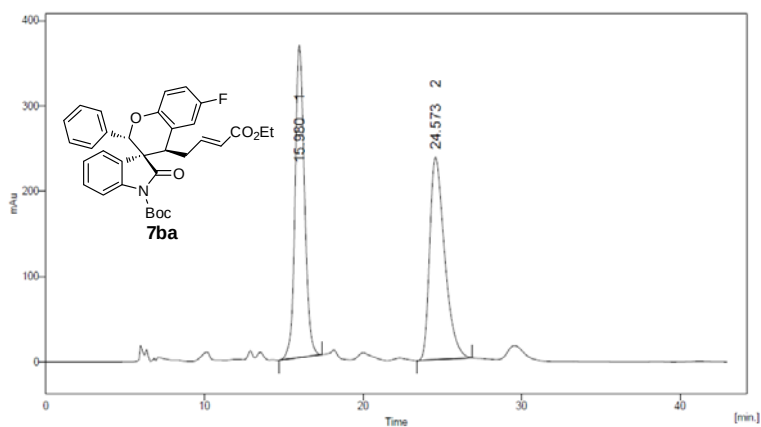
Daicel Chiralpak AD-H, Hexane/*i*-PrOH = 90:10, Flow Rate 1.0 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT20.841	20.841	25206672	501273	98.068	98.750
2	RT36.362	36.362	496665	6343	1.932	1.250
Total			25703337	507616	100.000	100.000

RACEMIC 7ba:

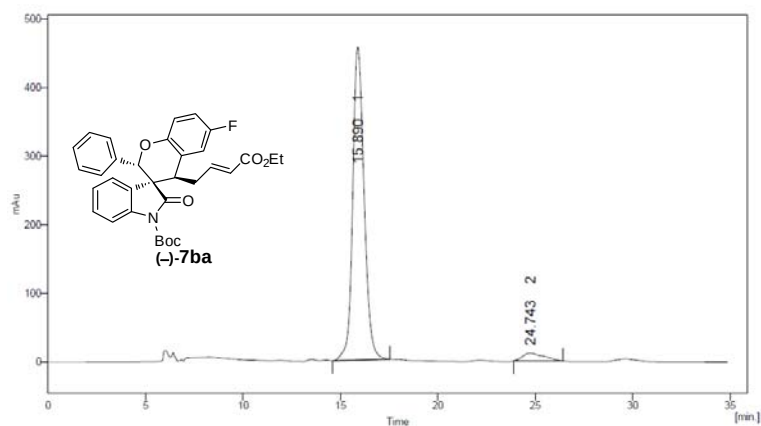


Lux 5u Cellulose-2, Hexane/*i*-PrOH = 95:5, Flow Rate 0.5 mL/Min, 254 nm

Result Table (Uncal - D:\DR.DBR'S LAB\MSP\ISVL\ISVL-I-51)

	Reten. Time [min]	Area [mV.s]	Height [mV]	Area [%]	Height [%]	W05 [min]
1	15.980	15098.643	365.750	49.3	60.7	0.63
2	24.573	15551.312	237.125	50.7	39.3	1.00
	Total	30649.955	602.874	100.0	100.0	

CHIRAL-(–)-7ba (91% ee):

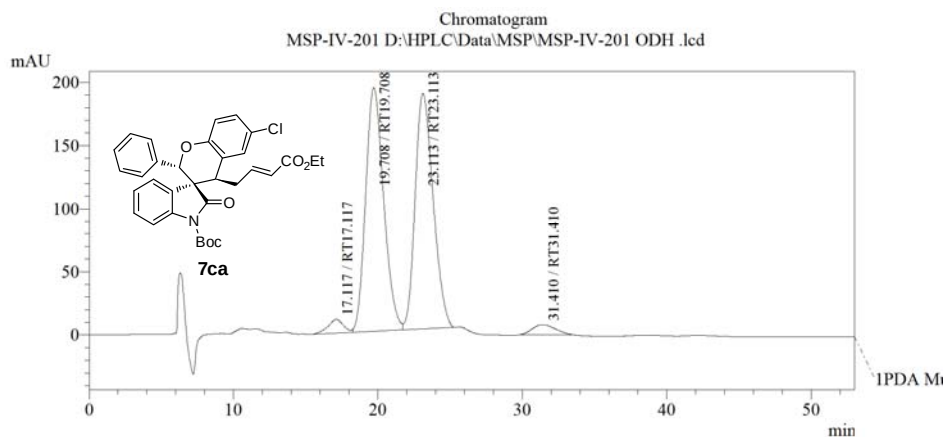


Lux 5u Cellulose-2, Hexane/*i*-PrOH = 95:5, Flow Rate 0.5 mL/Min, 254 nm

Result Table (Uncal - D:\DR.DBR'S LAB\MSP\ISVL\ISVL-I-55)

	Reten. Time [min]	Area [mV.s]	Height [mV]	Area [%]	Height [%]	W05 [min]
1	15.890	18559.305	457.015	95.5	97.6	0.61
2	24.743	882.408	11.433	4.5	2.4	1.33
	Total	19441.713	468.447	100.0	100.0	

RACEMIC 7ca:



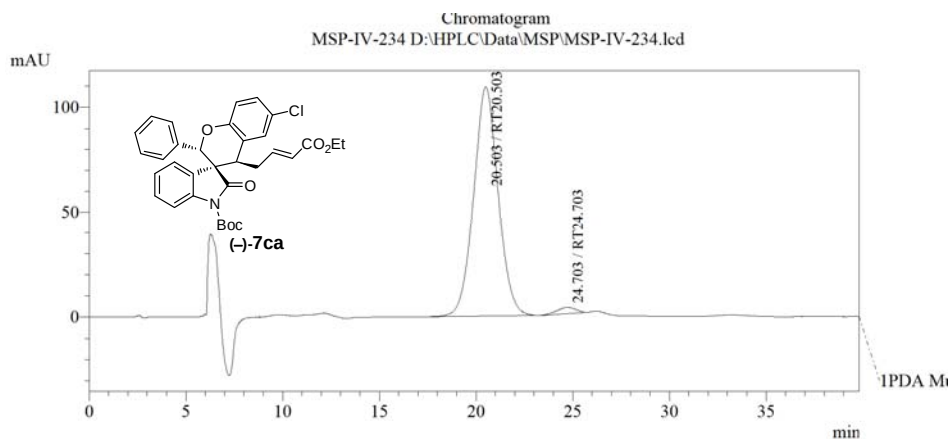
Daicel Chiralcel OD-H, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT17.117	17.117	815869	10893	2.352	2.736
2	RT19.708	19.708	16732019	192824	48.232	48.429
3	RT23.113	23.113	16211403	186275	46.731	46.784
4	RT31.410	31.410	931369	8165	2.685	2.051
Total			34690660	398157	100.000	100.000

CHIRAL-(-)-7ca (96% *ee*):



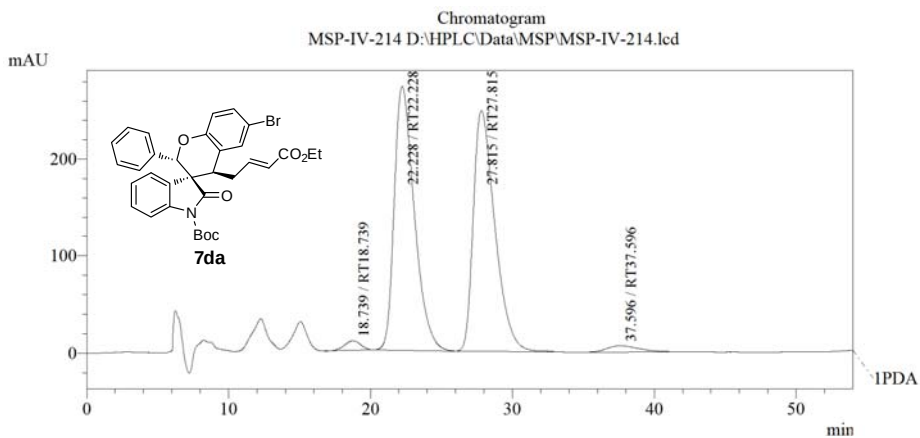
Daicel Chiralcel OD-H, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT20.503	20.503	9622473	109189	98.007	97.369
2	RT24.703	24.703	195725	2951	1.993	2.631
Total			9818197	112140	100.000	100.000

RACEMIC 7da:

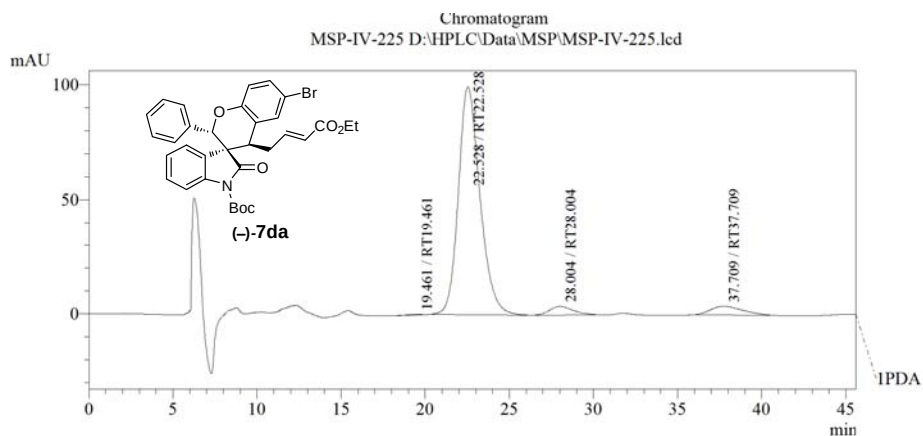


Daicel Chiralcel OD-H, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT18.739	18.739	785474	10042	1.435	1.870
2	RT22.228	22.228	26770335	272063	48.920	50.672
3	RT27.815	27.815	26210872	248471	47.898	46.278
4	RT37.596	37.596	955861	6336	1.747	1.180
Total			54722543	536913	100.000	100.000

CHIRAL-(-)-7da (92% ee):

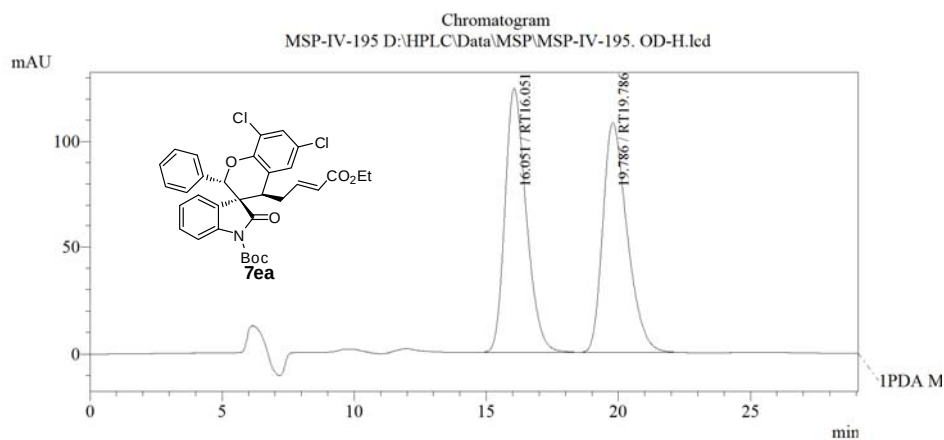


Daicel Chiralcel OD-H, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT19.461	19.461	14219	317	0.145	0.296
2	RT22.528	22.528	8908632	99450	91.004	92.702
3	RT28.004	28.004	354658	3694	3.623	3.444
4	RT37.709	37.709	511760	3818	5.228	3.559
Total			9789269	107280	100.000	100.000

RACEMIC 7ea:



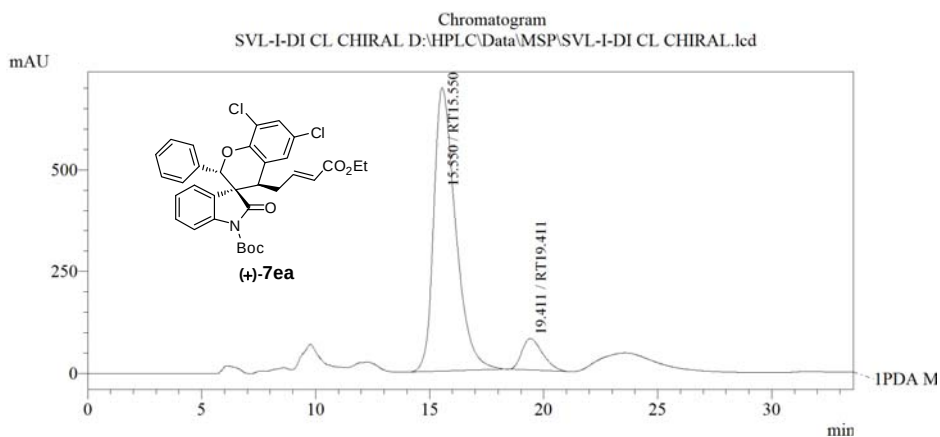
Daicel Chiralcel OD-H, Hexane/*i*-PrOH = 95:5, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT16.051	16.051	6934376	124074	50.136	53.446
2	RT19.786	19.786	6896706	108075	49.864	46.554
Total			13831082	232149	100.000	100.000

CHIRAL-(+)-7ea (81% ee):



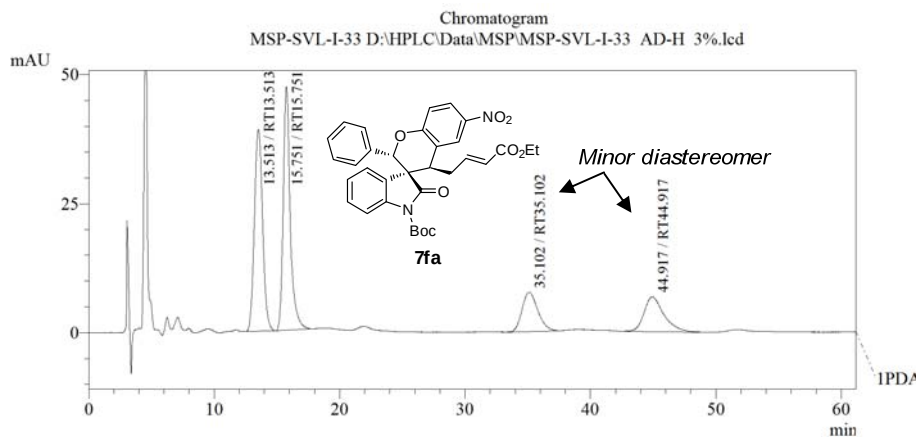
Daicel Chiralcel OD-H, Hexane/*i*-PrOH = 95:5, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT15.550	15.550	46350032	694813	90.401	89.965
2	RT19.411	19.411	4921597	77505	9.599	10.035
Total			51271629	772319	100.000	100.000

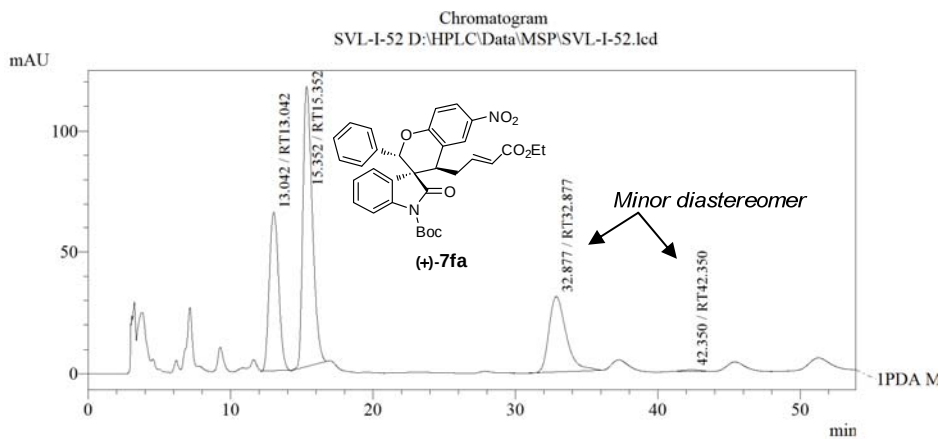
RACEMIC 7fa:



Daicel Chiralpak AD-H, Hexane/i-PrOH = 97:3, Flow Rate 1.0 mL/Min, 254 nm

PeakTable						
Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT13.513	13.513	1783266	39128	35.594	38.903
2	RT15.751	15.751	1831143	47162	36.549	46.890
3	RT35.102	35.102	658206	7580	13.138	7.537
4	RT44.917	44.917	737465	6709	14.720	6.670
Total			5010080	100580	100.000	100.000

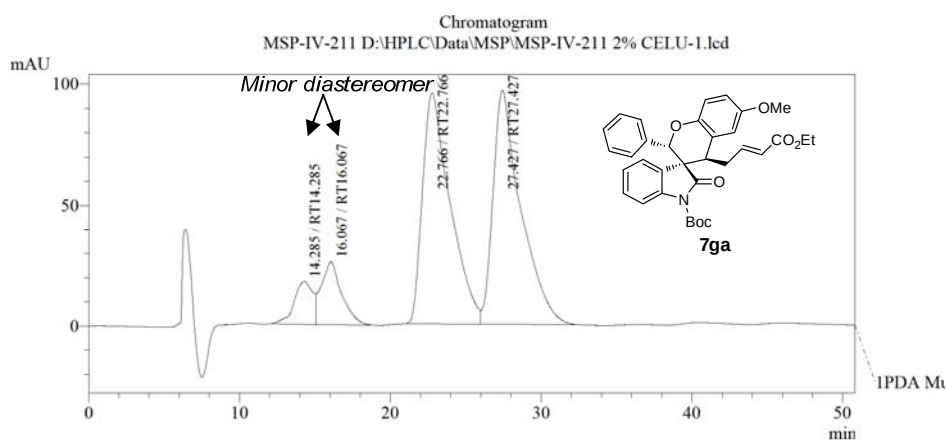
CHIRAL-(+)-7fa [28% ee for major isomer and 96% ee for minor isomer]:



Daicel Chiralpak AD-H, Hexane/i-PrOH = 97:3, Flow Rate 1.0 mL/Min, 254 nm

PeakTable						
Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT13.042	13.042	2966102	65247	27.312	30.819
2	RT15.352	15.352	5276845	115071	48.589	54.354
3	RT32.877	32.877	2563574	30740	23.605	14.520
4	RT42.350	42.350	53633	649	0.494	0.307
Total			10860155	211707	100.000	100.000

RACEMIC 7ga:



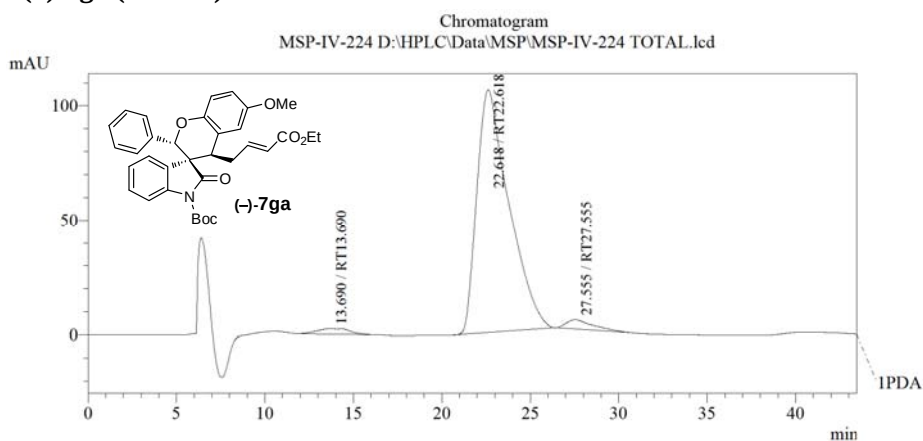
Lux 5u Cellulose-1, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT14.285	14.285	1523224	17752	5.316	7.520
2	RT16.067	16.067	2451025	26109	8.554	11.061
3	RT22.766	22.766	12213050	95546	42.623	40.476
4	RT27.427	27.427	12466383	96647	43.507	40.943
Total			28653682	236054	100.000	100.000

CHIRAL-(−)-7ga (93% ee):



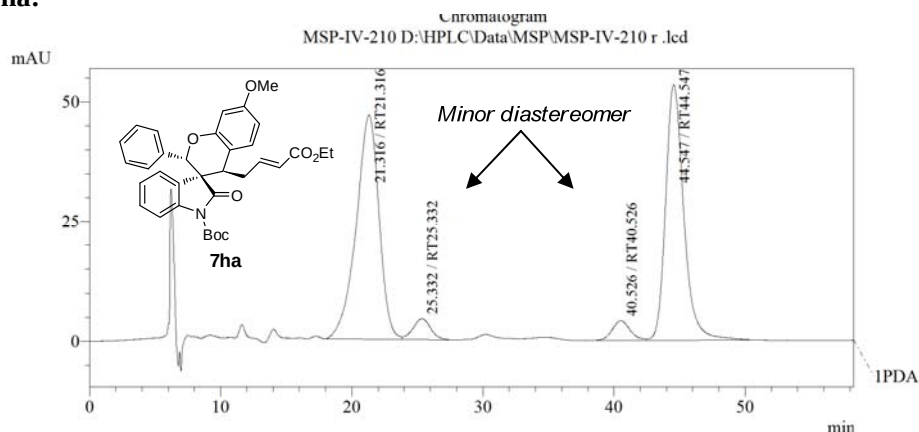
Lux 5u Cellulose-1, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT13.690	13.690	297664	2395	2.110	2.128
2	RT22.618	22.618	13367317	106038	94.768	94.207
3	RT27.555	27.555	440286	4125	3.121	3.665
Total			14105266	112558	100.000	100.000

RACEMIC 7ha:



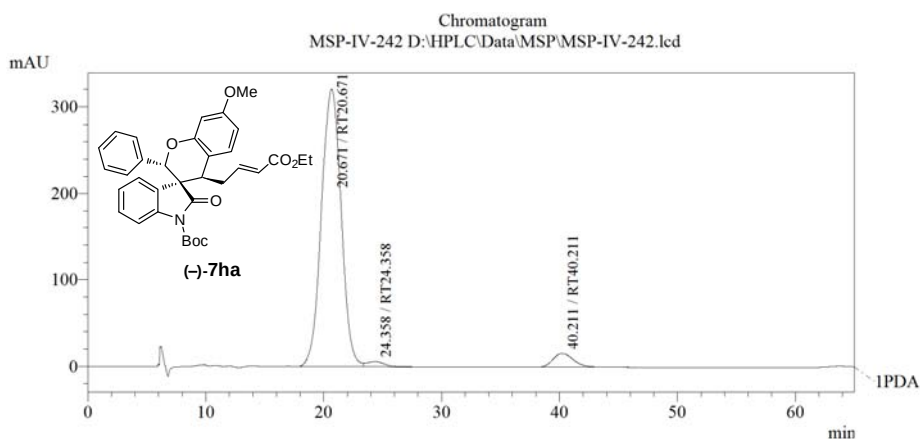
Daicel Chiralpak AD-H, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT21.316	21.316	5675896	46823	48.919	43.078
2	RT25.332	25.332	412633	4382	3.556	4.031
3	RT40.526	40.526	389056	4124	3.353	3.794
4	RT44.547	44.547	5125126	53366	44.172	49.097
Total			11602712	108695	100.000	100.000

CHIRAL-(-)-7ha (>99% ee):



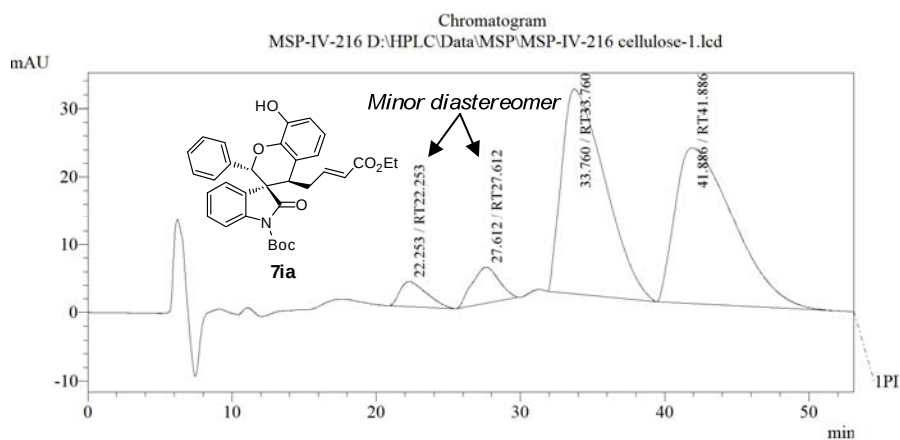
Daicel Chiralpak AD-H, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT20.671	20.671	37345898	320834	93.739	93.641
2	RT24.358	24.358	621702	5870	1.560	1.713
3	RT40.211	40.211	1872512	15918	4.700	4.646
Total			39840112	342622	100.000	100.000

RACEMIC 7ia:

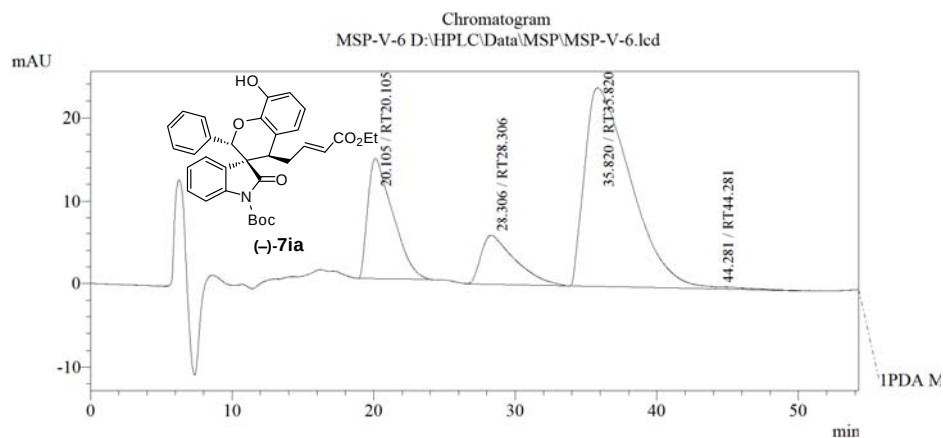


Lux 5u Cellulose-1, Hexane/*i*-PrOH = 97:3, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT22.253	22.253	469087	3662	3.357	5.901
2	RT27.612	27.612	691849	5294	4.951	8.530
3	RT33.760	33.760	6329251	30104	45.294	48.511
4	RT41.886	41.886	6483431	22997	46.398	37.058
Total			13973619	62057	100.000	100.000

CHIRAL-(*-*)-7ia (98% ee):

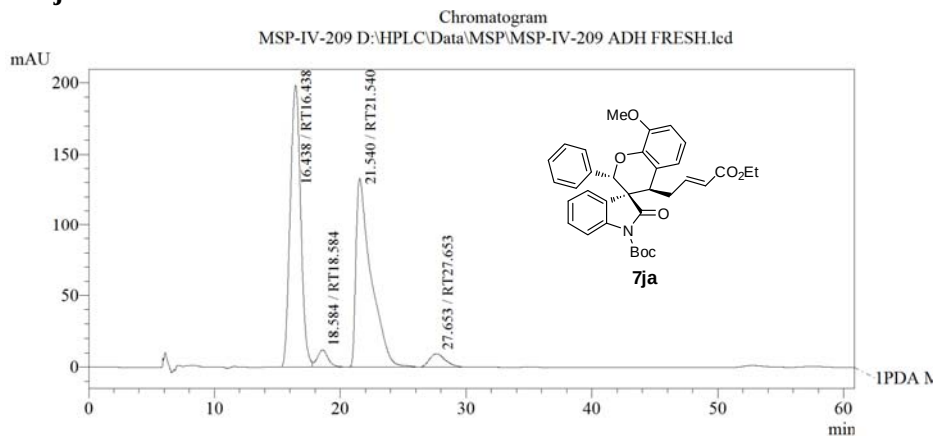


Lux 5u Cellulose-1, Hexane/*i*-PrOH = 97:3, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT20.105	20.105	1789381	14560	21.718	32.620
2	RT28.306	28.306	982470	5886	11.924	13.188
3	RT35.820	35.820	5424622	23933	65.840	53.619
4	RT44.281	44.281	42669	256	0.518	0.574
Total			8239143	44635	100.000	100.000

RACEMIC 7ja:



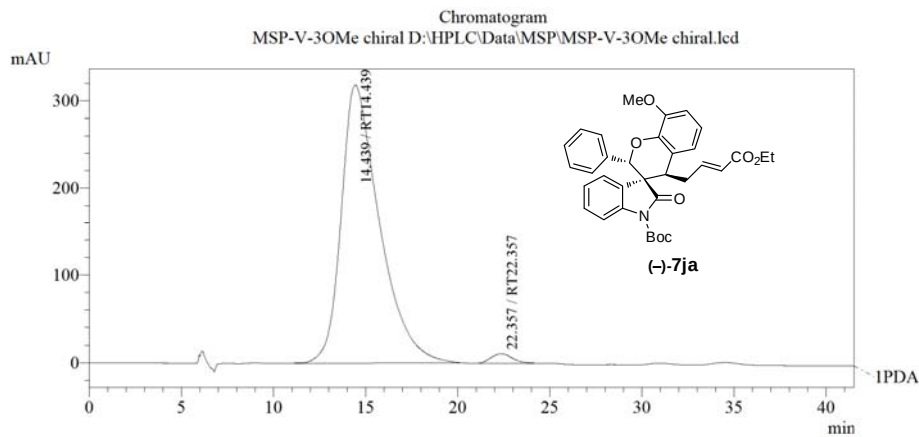
Daicel Chiralpak AD-H, Hexane/*i*-PrOH = 95:5, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT16.438	16.438	11484278	198214	47.736	56.281
2	RT18.584	18.584	727123	11940	3.022	3.390
3	RT21.540	21.540	11054460	132818	45.949	37.712
4	RT27.653	27.653	792207	9217	3.293	2.617
Total			24058067	352189	100.000	100.000

CHIRAL-(-)-7ja (96% ee):



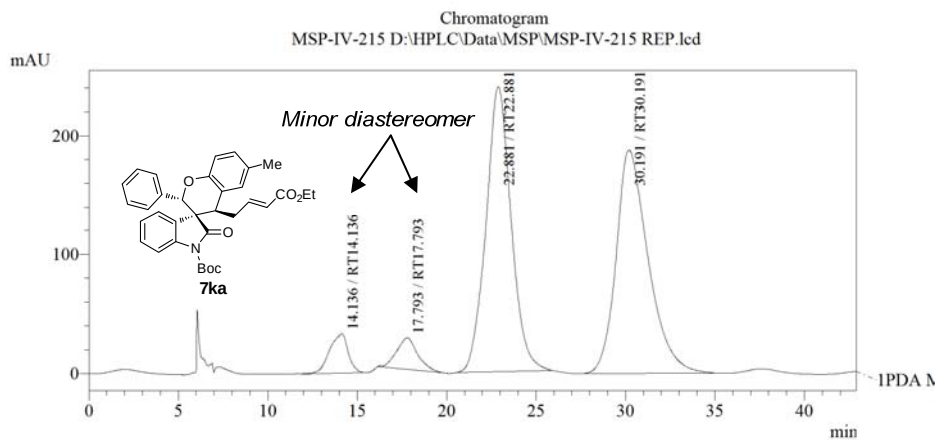
Daicel Chiralpak AD-H, Hexane/*i*-PrOH = 95:5, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT14.439	14.439	46127766	318699	98.091	96.670
2	RT22.357	22.357	897732	10977	1.909	3.330
Total			47025498	329676	100.000	100.000

RACEMIC 7ka:



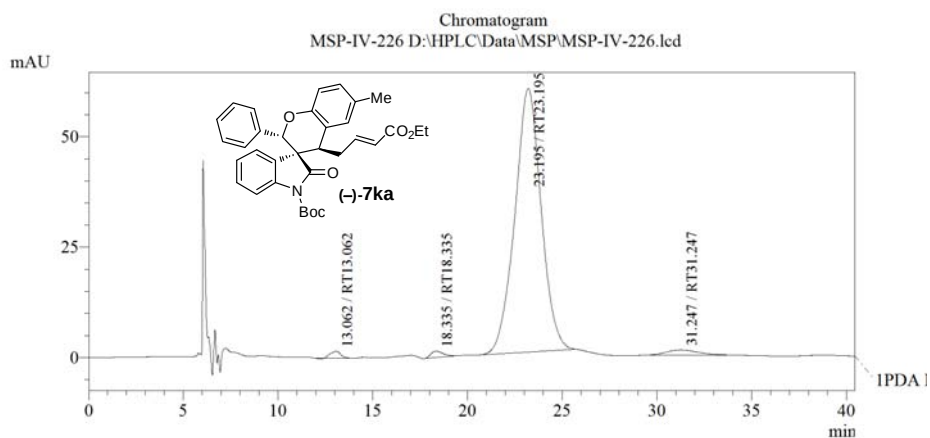
Lux 5u Cellulose-2, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT14.136	14.136	2345973	32864	4.571	6.757
2	RT17.793	17.793	2144278	26301	4.178	5.407
3	RT22.881	22.881	23449007	239314	45.693	49.203
4	RT30.191	30.191	23379445	187906	45.557	38.633
Total			51318704	486385	100.000	100.000

PDA Ch1 254nm 4nm

CHIRAL-(-)-7ka (95% ee):



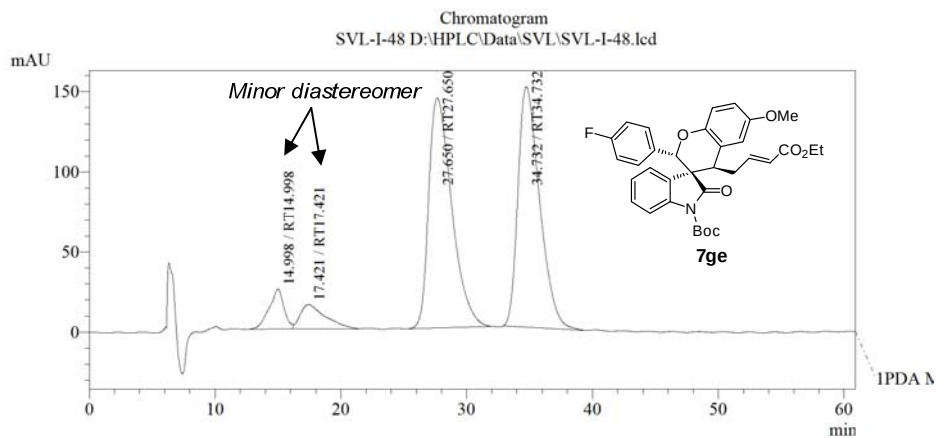
Lux 5u Cellulose-2, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT13.062	13.062	64374	1634	1.067	2.558
2	RT18.335	18.335	63221	1423	1.048	2.227
3	RT23.195	23.195	5765940	59649	95.583	93.354
4	RT31.247	31.247	138852	1189	2.302	1.861
Total			6032388	63895	100.000	100.000

PDA Ch1 254nm 4nm

RACEMIC 7ge:

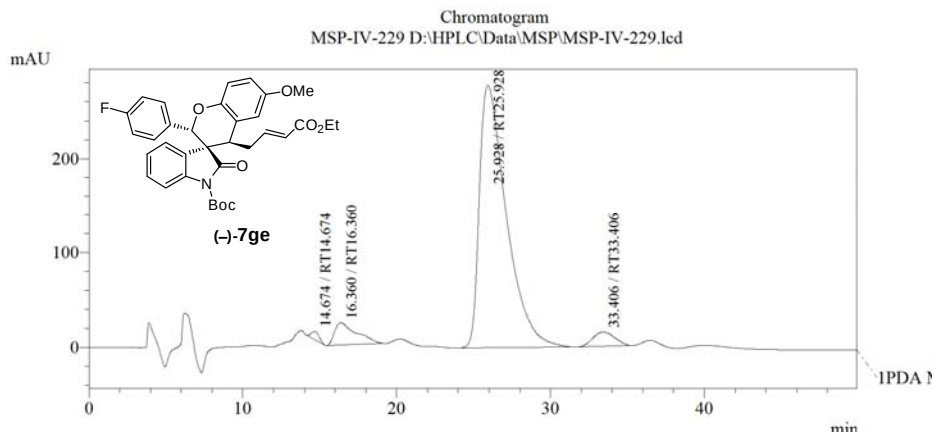


Daicel Chiralcel OD-H, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT14.998	14.998	2066332	25087	5.114	7.520
2	RT17.421	17.421	2094239	15190	5.183	4.553
3	RT27.650	27.650	18296413	143372	45.285	42.978
4	RT34.732	34.732	17945435	149946	44.417	44.949
Total			40402419	333595	100.000	100.000

CHIRAL-(-)-7ge (91% ee):

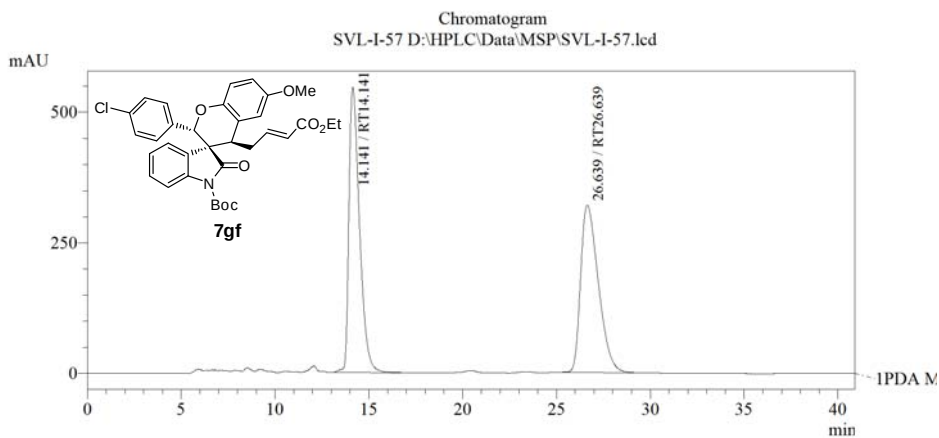


Daicel Chiralcel OD-H, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT14.674	14.674	300712	8530	0.794	2.634
2	RT16.360	16.360	2306097	22758	6.088	7.027
3	RT25.928	25.928	33760252	277339	89.121	85.638
4	RT33.406	33.406	1514303	15224	3.997	4.701
Total			37881364	323851	100.000	100.000

RACEMIC 7gf:

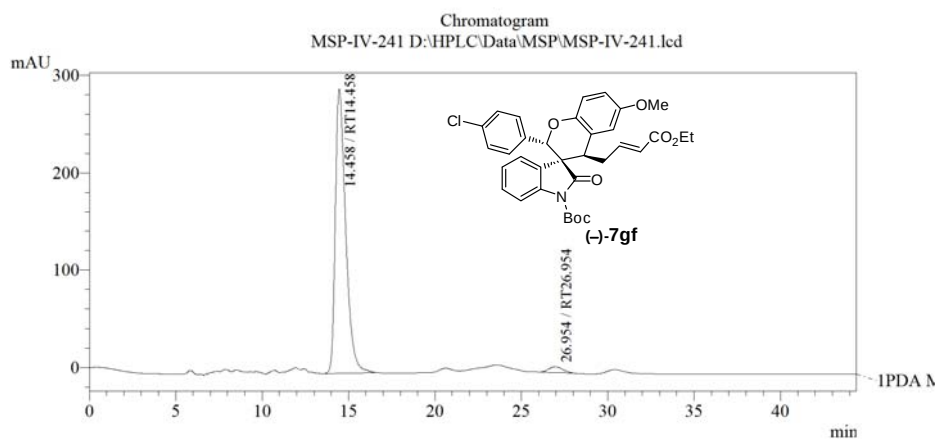


Lux 5u Cellulose-2, Hexane/*i*-PrOH = 90:10, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT14.141	14.141	21457639	545569	50.457	62.928
2	RT26.639	26.639	21069299	321410	49.543	37.072
Total			42526938	866979	100.000	100.000

CHIRAL-(*-*)-7gf (94% *ee*):

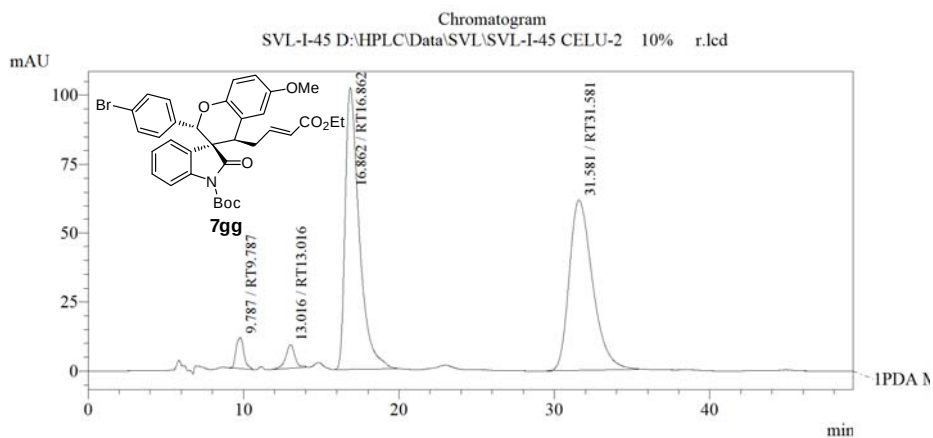


Lux 5u Cellulose-2, Hexane/*i*-PrOH = 90:10, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT14.458	14.458	12178192	291986	97.296	98.009
2	RT26.954	26.954	338500	5931	2.704	1.991
Total			12516692	297917	100.000	100.000

RACEMIC 7gg:



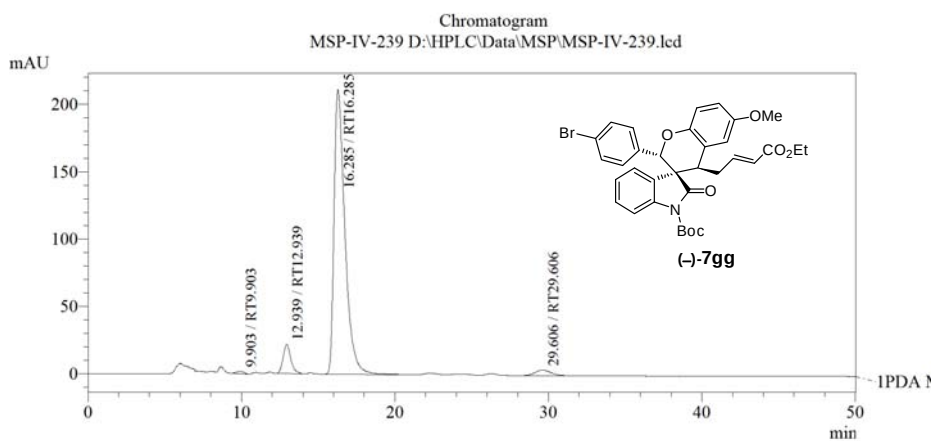
Lux 5u Cellulose-2, Hexane/*i*-PrOH = 90:10, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT9.787	9.787	391743	11174	2.882	6.082
2	RT13.016	13.016	357661	8617	2.631	4.690
3	RT16.862	16.862	6397380	102022	47.067	55.526
4	RT31.581	31.581	6445159	61923	47.419	33.702
Total			13591944	183737	100.000	100.000

CHIRAL-(-)-7gg (94% ee):



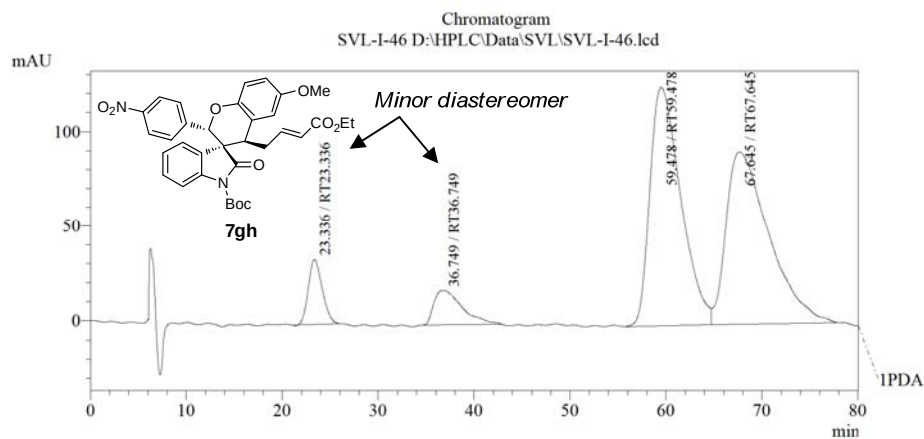
Lux 5u Cellulose-2, Hexane/*i*-PrOH = 90:10, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT9.903	9.903	57646	1762	0.501	0.738
2	RT12.939	12.939	745634	21542	6.483	9.022
3	RT16.285	16.285	10400586	211352	90.431	88.513
4	RT29.606	29.606	297326	4124	2.585	1.727
Total			11501192	238779	100.000	100.000

RACEMIC 7gh:



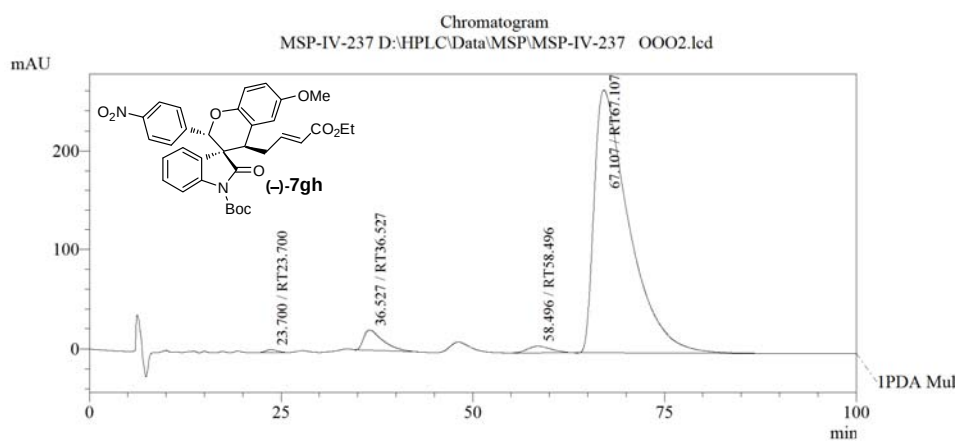
Daicel Chiralcel OD-H, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT23.336	23.336	3409856	33987	5.351	12.614
2	RT36.749	36.749	3720127	18159	5.838	6.739
3	RT59.478	59.478	28266197	125999	44.357	46.762
4	RT67.645	67.645	28328819	91305	44.455	33.886
Total			63724999	269451	100.000	100.000

CHIRAL-(-)-7gh (96% ee):



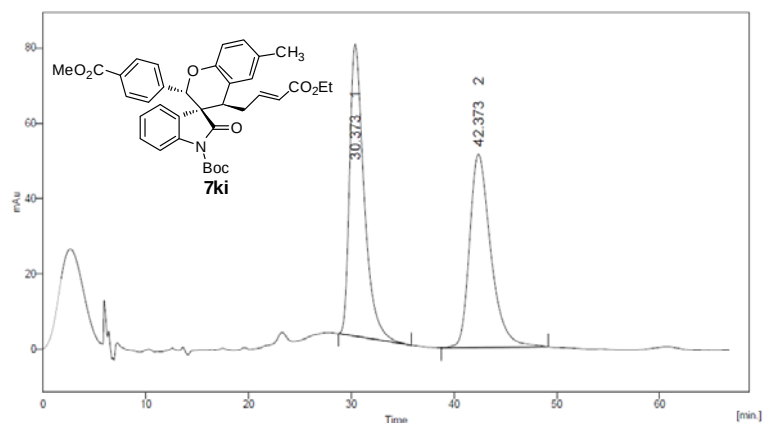
Daicel Chiralcel OD-H, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT23.700	23.700	261745	2865	0.296	0.975
2	RT36.527	36.527	3514352	19581	3.971	6.666
3	RT58.496	58.496	1425260	6685	1.611	2.276
4	RT67.107	67.107	83288786	264614	94.122	90.083
Total			88490144	293744	100.000	100.000

RACEMIC 7ki:

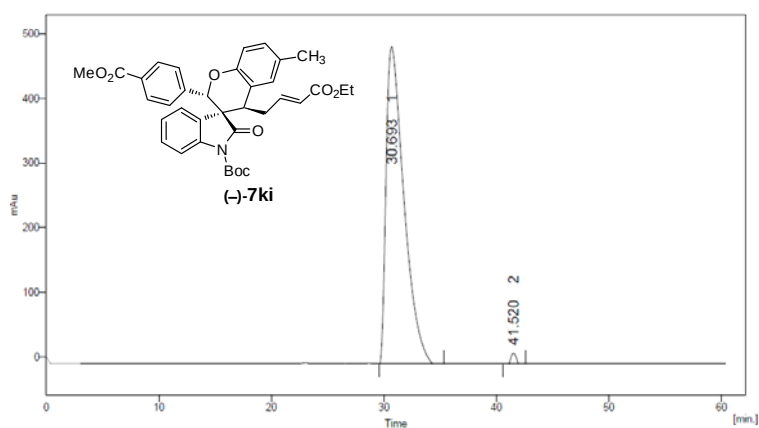


Lux 5u Cellulose-2, Hexane/*i*-PrOH = 95:5, Flow Rate 0.5 mL/Min, 254 nm

Result Table (Uncal - D:\DR.DBR'S LAB\MSPISVLISVL-I-63LUXCELLULOSE2--000001)

	Reten. Time [min]	Area [mV.s]	Height [mV]	Area [%]	Height [%]	W05 [min]
1	30.373	7583.013	77.463	50.8	60.2	1.44
2	42.373	7338.545	51.255	49.2	39.8	2.13
	Total	14921.558	128.719	100.0	100.0	

CHIRAL-(-)-7ki (98% ee):

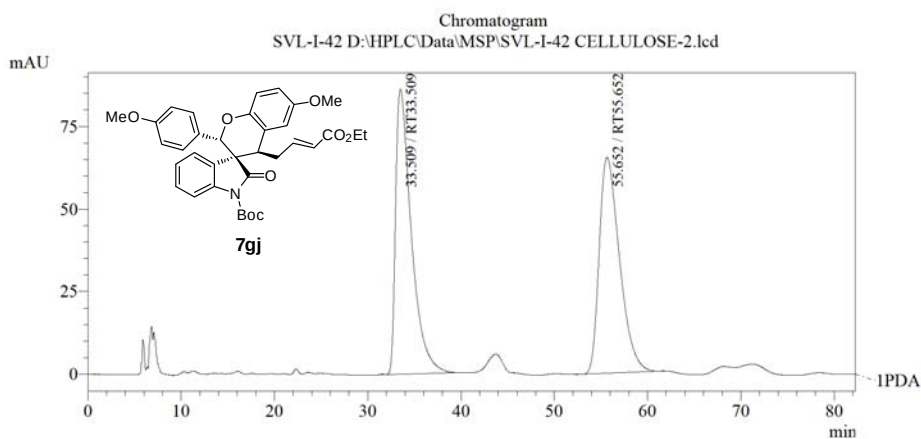


Lux 5u Cellulose-2, Hexane/*i*-PrOH = 95:5, Flow Rate 0.5 mL/Min, 254 nm

Result Table (Uncal - D:\DR.DBR'S LAB\MSPISVLISVL-I-65)

	Reten. Time [min]	Area [mV.s]	Height [mV]	Area [%]	Height [%]	W05 [min]
1	30.693	53797.205	489.648	99.1	96.8	1.70
2	41.520	467.909	15.975	0.9	3.2	0.51
	Total	54265.114	505.622	100.0	100.0	

RACEMIC 7gj:

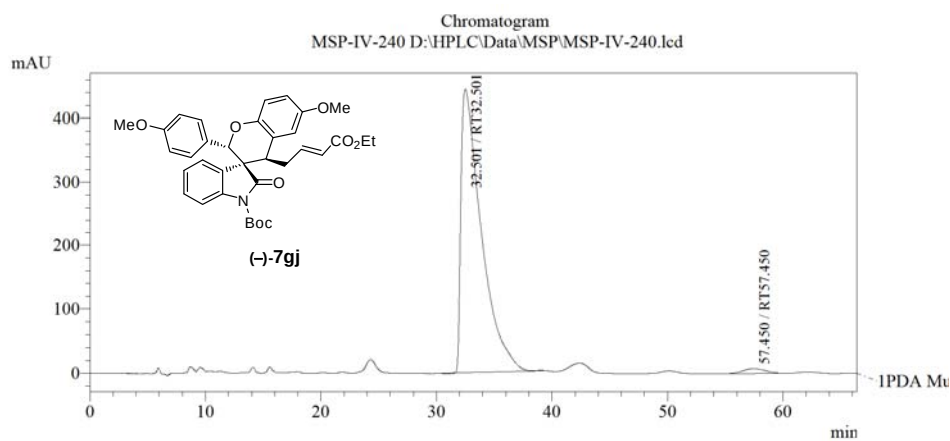


Lux 5u Cellulose-2, Hexane/*i*-PrOH = 95:5, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT33.509	33.509	10057361	86271	50.418	56.894
2	RT55.652	55.652	9890589	65363	49.582	43.106
Total			19947950	151634	100.000	100.000

CHIRAL-(*-*)-7gj (96% *ee*):

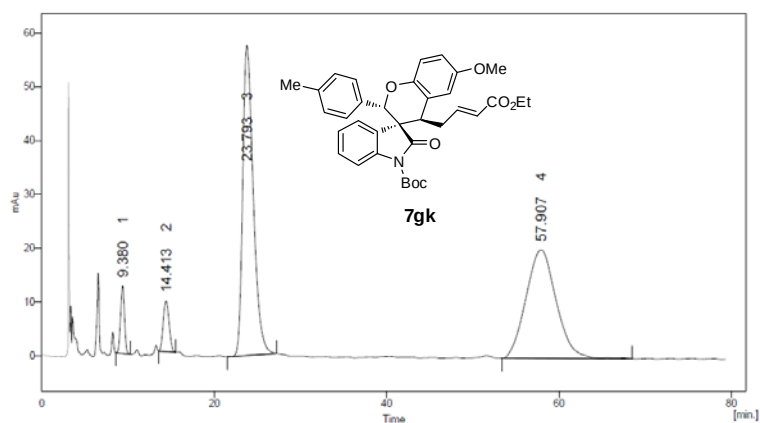


Lux 5u Cellulose-2, Hexane/*i*-PrOH = 95:5, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT32.501	32.501	54729756	444345	98.273	98.342
2	RT57.450	57.450	961805	7491	1.727	1.658
Total			55691561	451835	100.000	100.000

RACEMIC 7gk:

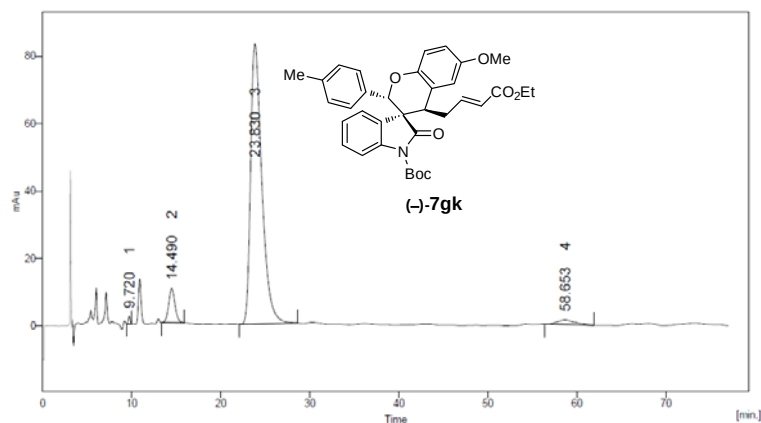


Lux 5u Cellulose-2, Hexane/*i*-PrOH = 98:2, Flow Rate 1.0 mL/Min, 254 nm

Result Table (Uncal - D:\DR.DBR'S LAB\MSP\ISVL\ISVL-I-43.....000002)

	Reten. Time [min]	Area [mV.s]	Height [mV]	Area [%]	Height [%]	W05 [min]
1	9.380	400.223	12.598	3.7	12.6	0.51
2	14.413	445.654	9.382	4.2	9.4	0.76
3	23.793	4896.988	57.641	45.9	57.8	1.29
4	57.907	4930.917	20.176	46.2	20.2	3.77
Total		10673.782	99.807	100.0	100.0	

CHIRAL-(-)-7gk (96% ee):



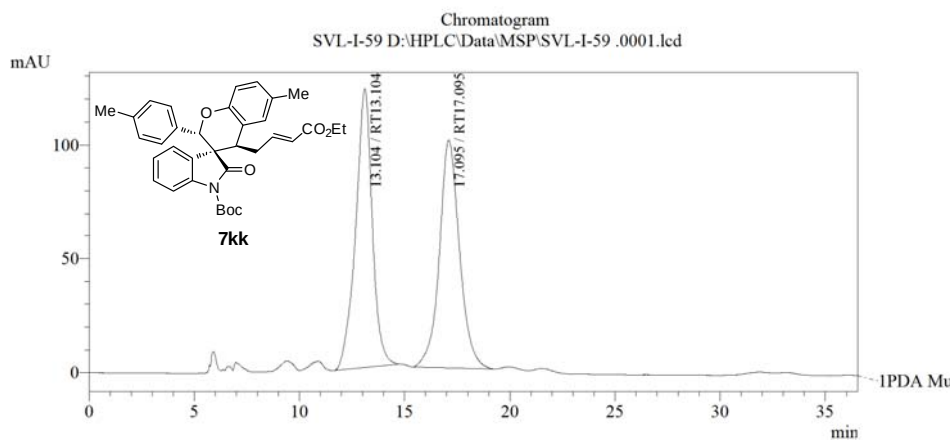
Lux 5u Cellulose-2, Hexane/*i*-PrOH = 98:2, Flow Rate 1.0 mL/Min, 254 nm

Result Table (Uncal - D:\DR.DBR'S LAB\MSP\IMSP-IV-238)

Drift (0.26-76.86 min.): 0.0756 [mV/h]

	Reten. Time [min]	Area [mV.s]	Height [mV]	Area [%]	Height [%]	W05 [min]
1	9.720	33.310	2.151	0.4	2.2	0.25
2	14.490	500.089	10.115	6.2	10.5	0.76
3	23.830	7287.461	83.078	90.9	85.9	1.31
4	58.653	193.000	1.332	2.4	1.4	2.20
Total		8013.860	96.676	100.0	100.0	

RACEMIC 7kk:



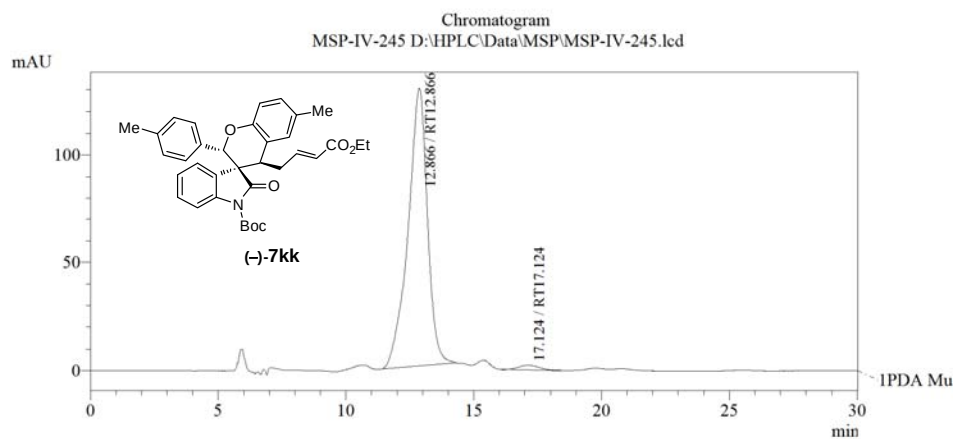
Lux 5u Cellulose-2, Hexane/*i*-PrOH = 95:5, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT13.104	13.104	6724156	122260	50.281	55.011
2	RT17.095	17.095	6648907	99989	49.719	44.989
Total			13373063	222249	100.000	100.000

CHIRAL-(-)-7kk (96% ee):



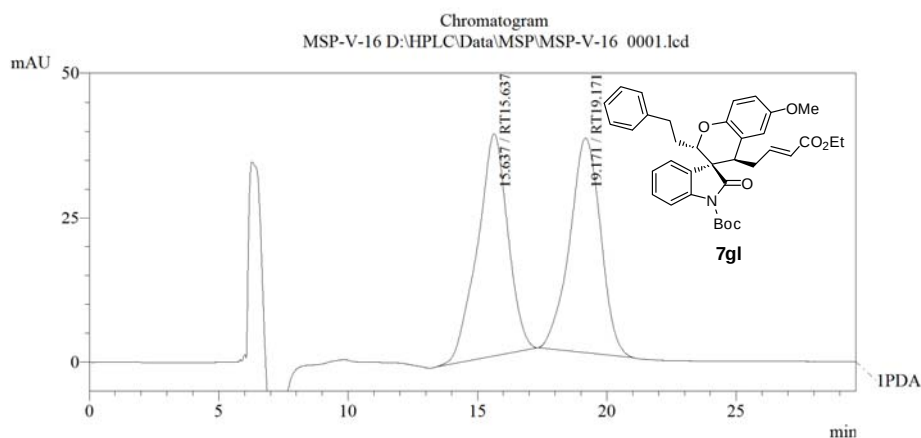
Lux 5u Cellulose-2, Hexane/*i*-PrOH = 95:5, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT12.866	12.866	6764294	128343	98.245	98.286
2	RT17.124	17.124	120807	2238	1.755	1.714
Total			6885102	130581	100.000	100.000

RACEMIC 7gl:



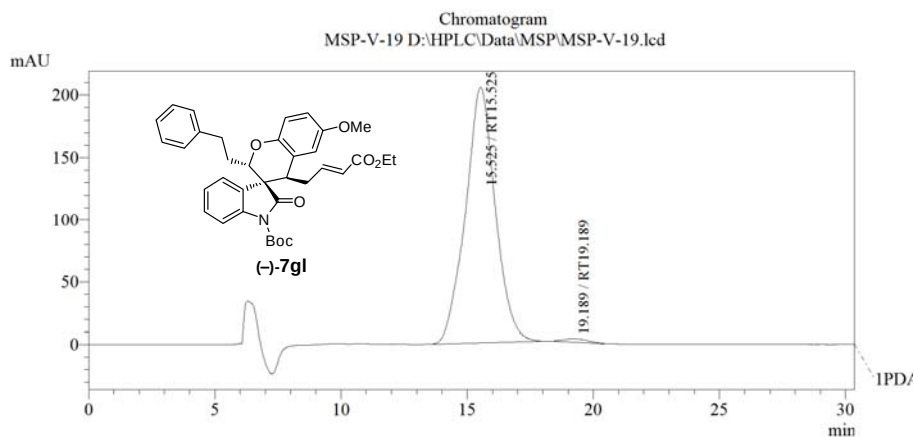
Daicel Chiralcel OD-H, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT15.637	15.637	3136418	38457	50.428	50.879
2	RT19.171	19.171	3083169	37128	49.572	49.121
Total			6219586	75586	100.000	100.000

CHIRAL-(-)-7gl (98% *ee*):



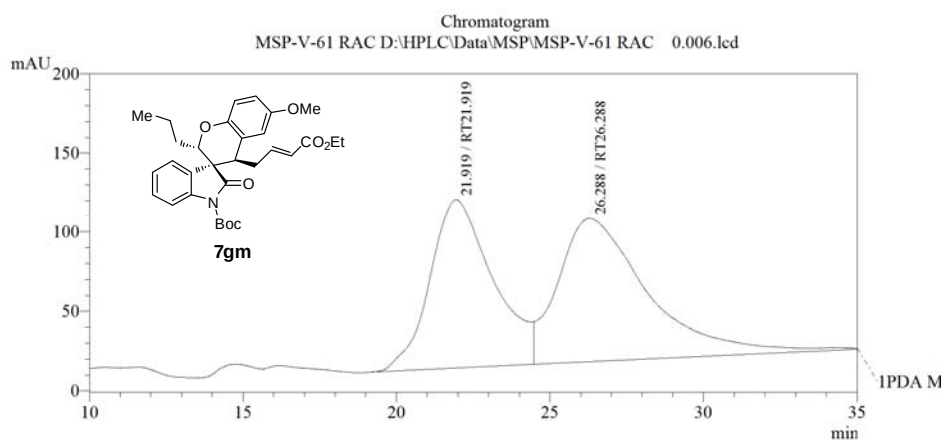
Daicel Chiralcel OD-H, Hexane/*i*-PrOH = 98:2, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT15.525	15.525	16828126	204957	99.010	98.741
2	RT19.189	19.189	168311	2613	0.990	1.259
Total			16996437	207570	100.000	100.000

RACEMIC 7gm:

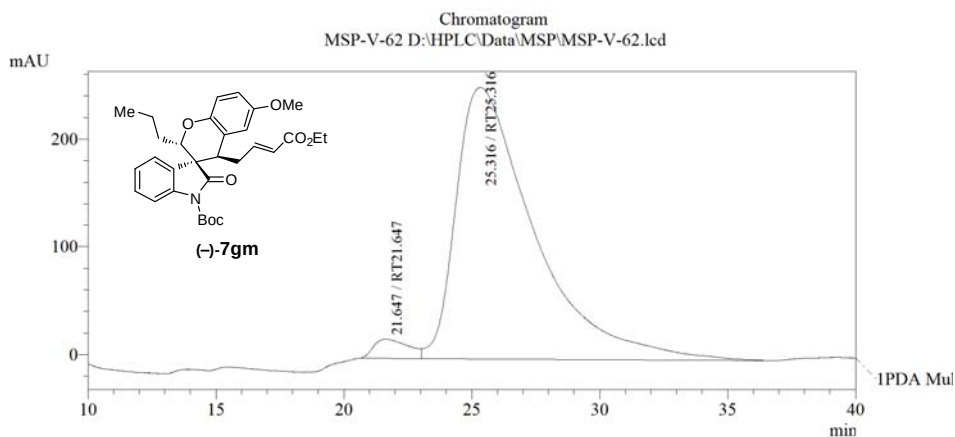


Lux 5u Amylose-2, Hexane/*i*-PrOH = 99.4:0.6, Flow Rate 1.0 mL/Min, 220 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT21.919	21.919	15156097	106357	45.250	54.106
2	RT26.288	26.288	18337760	90217	54.750	45.894
Total			33493857	196574	100.000	100.000

CHIRAL-(*-*)-7gm (94% *ee*):

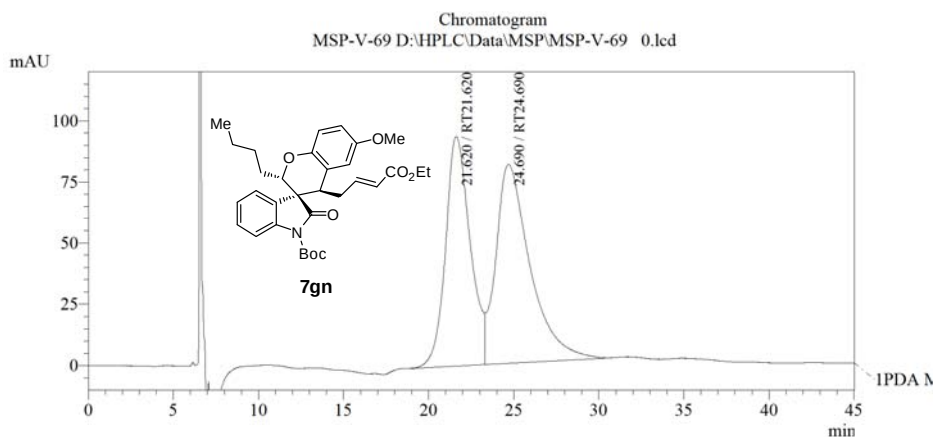


Lux 5u Amylose-2, Hexane/*i*-PrOH = 99.4:0.6, Flow Rate 1.0 mL/Min, 200 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT21.647	21.647	1714809	17936	3.099	6.652
2	RT25.316	25.316	53624090	251702	96.901	93.348
Total			55338899	269638	100.000	100.000

RACEMIC 7gn:



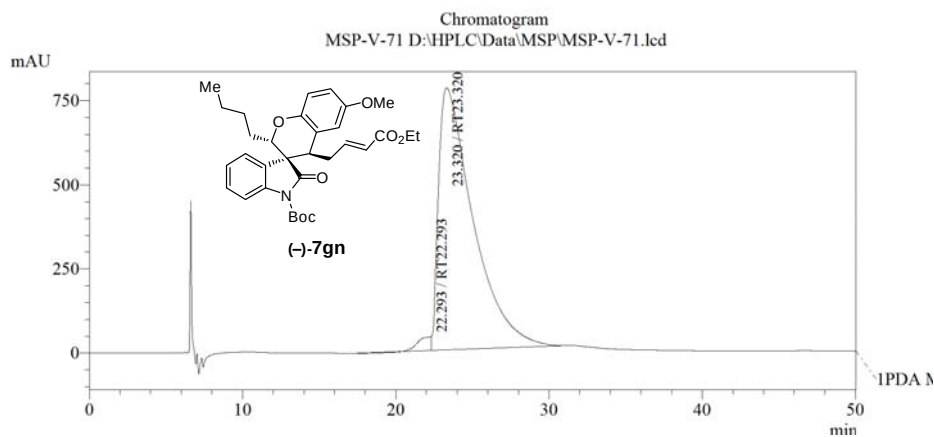
Lux 5u Amylose-2, Hexane/*i*-PrOH = 98.5:1.5, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT21.620	21.620	9427210	93742	45.441	53.593
2	RT24.690	24.690	11318704	81172	54.559	46.407
Total			20745914	174915	100.000	100.000

PDA Ch1 254nm 4nm

CHIRAL-(-)-7gn (96% ee):



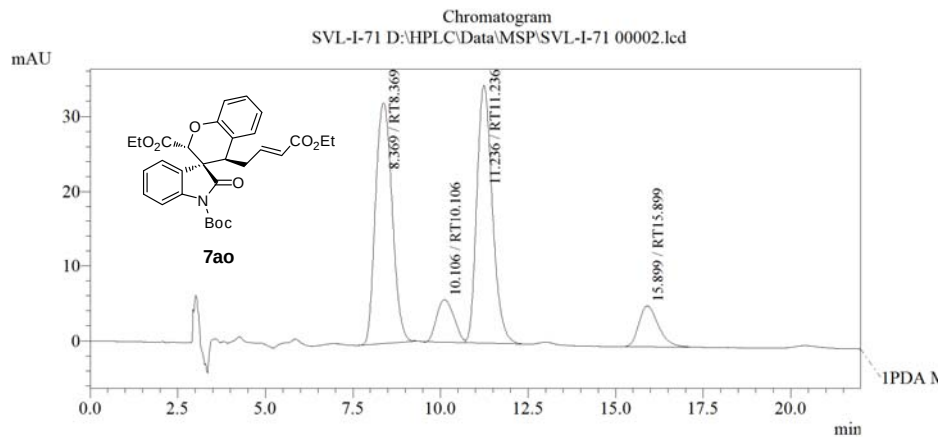
Lux 5u Amylose-2, Hexane/*i*-PrOH = 98.5:1.5, Flow Rate 0.5 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT22.293	22.293	2381701	41256	1.913	5.034
2	RT23.320	23.320	122133212	778273	98.087	94.966
Total			124514913	819529	100.000	100.000

PDA Ch1 254nm 4nm

RACEMIC 7ao:

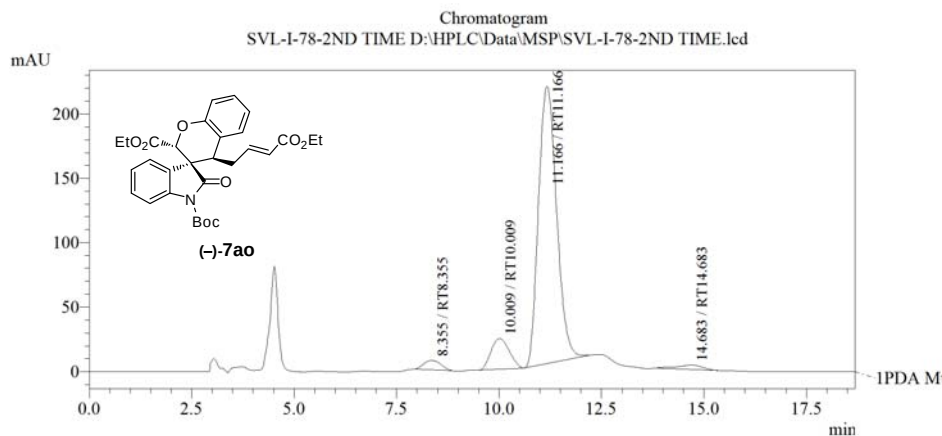


Daicel Chiralpak AD-H, Hexane/*i*-PrOH = 95:5, Flow Rate 1.0 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT8.369	8.369	1061428	32076	42.115	41.415
2	RT10.106	10.106	191339	5611	7.592	7.245
3	RT11.236	11.236	1060145	34368	42.064	44.375
4	RT15.899	15.899	207398	5395	8.229	6.965
Total			2520311	77450	100.000	100.000

CHIRAL-(-)-7ao (94% ee):

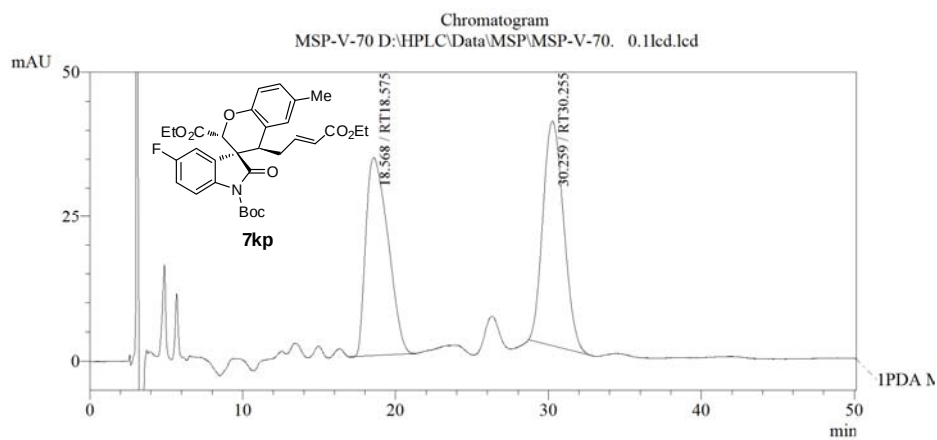


Daicel Chiralpak AD-H, Hexane/*i*-PrOH = 95:5, Flow Rate 1.0 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT8.355	8.355	209351	7176	2.708	2.874
2	RT10.009	10.009	739259	23761	9.562	9.515
3	RT11.166	11.166	6621238	215215	85.643	86.183
4	RT14.683	14.683	161356	3566	2.087	1.428
Total			7731204	249718	100.000	100.000

RACEMIC 7kp:

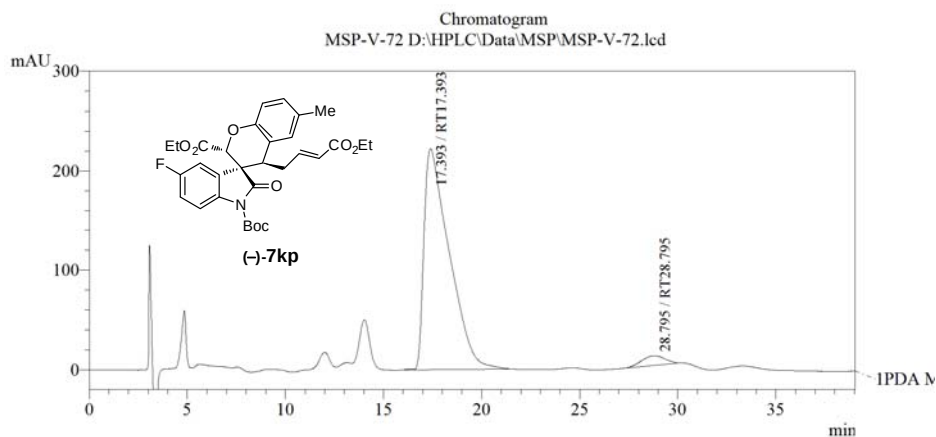


Daicel Chiralpak AD-H, Hexane/*i*-PrOH = 97:3, Flow Rate 1.0 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT18.575	18.568	3438654	34253	48.432	46.838
2	RT30.255	30.259	3661289	38878	51.568	53.162
Total			7099943	73132	100.000	100.000

CHIRAL-(-)-7kp (92% ee):

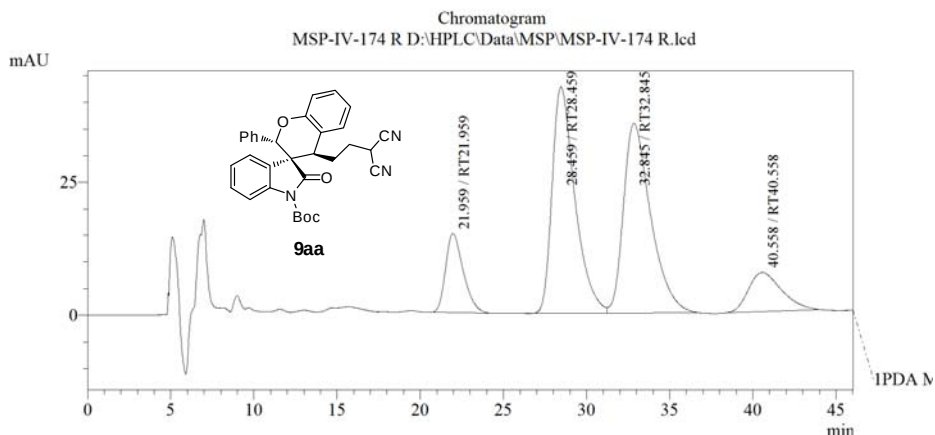


Daicel Chiralpak AD-H, Hexane/*i*-PrOH = 97:3, Flow Rate 1.0 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT17.393	17.393	19926257	222488	96.128	95.870
2	RT28.795	28.795	802539	9586	3.872	4.130
Total			20728797	232074	100.000	100.000

RACEMIC 9aa:

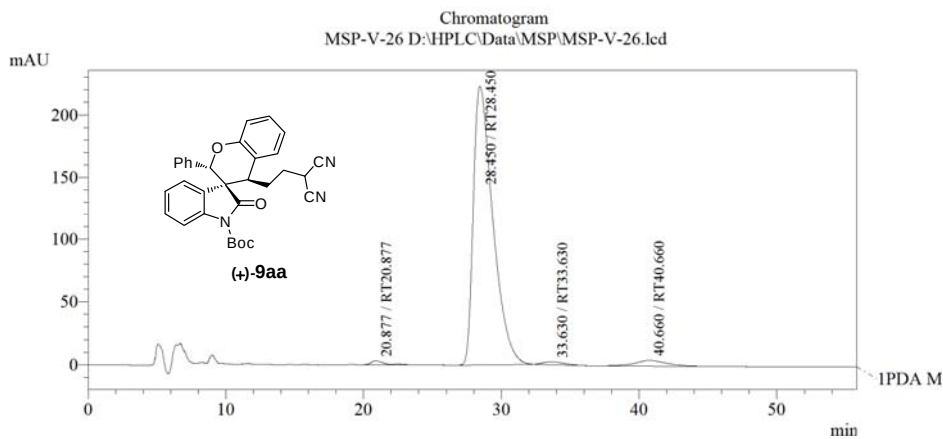


Daicel Chiralcel OD-H, Hexane/*i*-PrOH = 95:5, Flow Rate 0.6 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT21.959	21.959	1093383	14824	10.694	14.784
2	RT28.459	28.459	4050797	42491	39.619	42.376
3	RT32.845	32.845	4064831	35628	39.756	35.532
4	RT40.558	40.558	1015375	7328	9.931	7.308
Total			10224386	100271	100.000	100.000

CHIRAL-(+)-9aa (98% ee):



Daicel Chiralcel OD-H, Hexane/*i*-PrOH = 95:5, Flow Rate 0.6 mL/Min, 254 nm

PeakTable

Peak#	Name	Ret. Time	Area	Height	Area %	Height %
1	RT20.877	20.877	219583	3283	0.954	1.411
2	RT28.450	28.450	21901213	222797	95.133	95.724
3	RT33.630	33.630	222215	2253	0.965	0.968
4	RT40.660	40.660	678717	4417	2.948	1.898
Total			23021727	232750	100.000	100.000