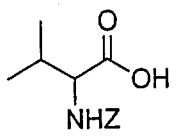
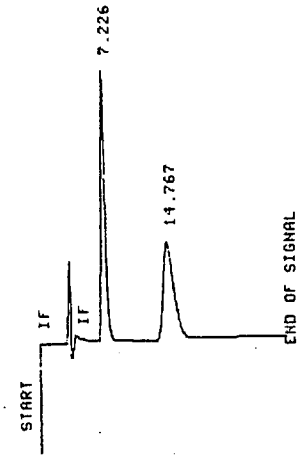
HPLC Conditions: Chiralpak AS, Hexanes:IPA:TFA, 90:10:0.1, 1.0 mL/min, λ 254 nm



Racemic **4h**



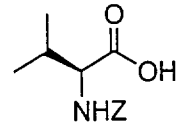
Error storing signal to M:SIGNAL .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL .PRA

RUN# 1112 JUN 5, 2001 09:04:05

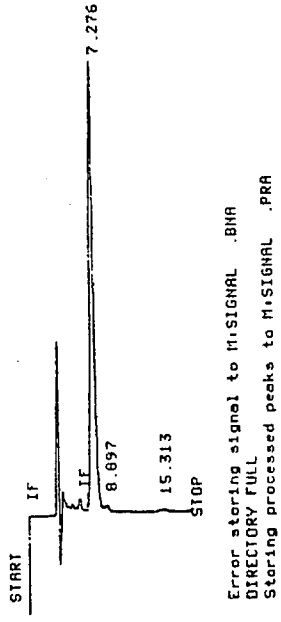
PEAK FILE : M:SIGNAL.PRA
AREA%

	RT	AREA TYPE	WIDTH	AREA%
	7.226	13673504 SPB	.511	50.27509
	14.767	13523864 PB	1.424	49.72490

TOTAL AREA=2.7197E+07
MUL FACTOR=1.0000E+00



Isolated optically active **4h**



Error storing signal to M:SIGNAL .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL .PRA

RUN# 1113 JUN 5, 2001 09:44:14

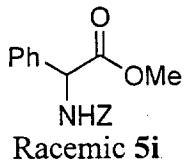
PEAK FILE : M:SIGNAL.PRA
AREA%

	RT	AREA TYPE	WIDTH	AREA%
	7.276	11309704 BU	.529	96.86016
	8.097	136644 VB	.528	1.17027
	15.313	229973 BP	1.275	1.96957

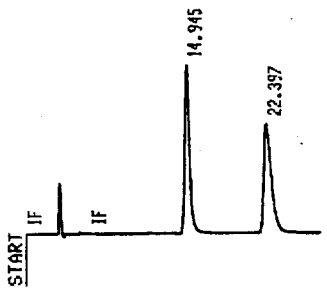
TOTAL AREA=1.1676E+07
MUL FACTOR=1.0000E+00

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HPLC Conditions: Regis (*R,R*)-Whelk-O1, Hexanes:IPA, 90:10, 1.0 mL/min, λ 220 nm



Racemic **5i**



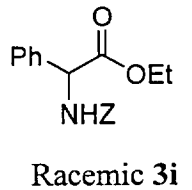
Closing signal file M:SIGNAL .BNC
Storing processed peaks to M:02A38355.PRO
DIRECTORY FULL

RUN# 1925 MAY 17, 2001 09:20:21

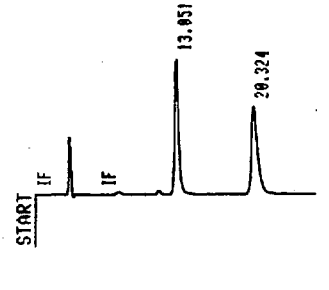
SIGNAL FILE: M:SIGNAL.BNC
AREA%

	RT	AREA TYPE	WIDTH	AREA%
	14.945	110531560 SBB	.515	49.55160
	22.397	112531960 SPB	.804	50.44840

TOTAL AREA=2.2306E+08
MUL FACTOR=1.0000E+00



Racemic **3i**



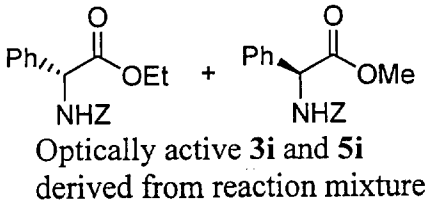
Error storing signal to M:SIGNAL .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL .PRA

RUN# 1924 MAY 17, 2001 08:40:34

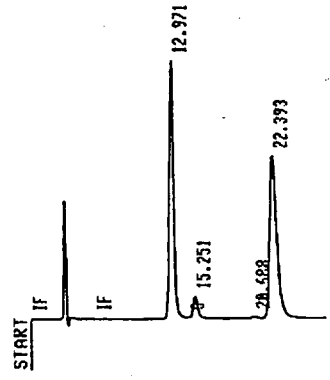
PEAK FILE : M:SIGNAL.PRA
AREA%

	RT	AREA TYPE	WIDTH	AREA%
	13.051	76222912 SBB	.435	49.63003
	20.324	77359296 SPB	.680	50.36997

TOTAL AREA=1.5358E+08
MUL FACTOR=1.0000E+00



Optically active **3i** and **5i** derived from reaction mixture



Error storing signal to M:SIGNAL .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL .PRA

RUN# 1926 MAY 17, 2001 13:49:58

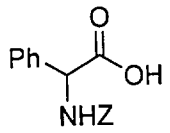
PEAK FILE : M:SIGNAL.PRA
AREA%

	RT	AREA TYPE	WIDTH	AREA%
	12.971	72565056 SBB	.438	44.98701
	15.251	7074698 BB	.503	4.37819
	20.688	929322 VH	.612	.57511
	22.393	81020544 ISHP	.774	50.13971

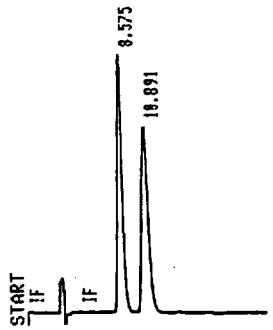
TOTAL AREA=1.6159E+08
MUL FACTOR=1.0000E+00

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HPLC Conditions: Chiralpak OJ, Hexanes:IPA:TFA, 75:25:0.1, 1.0 mL/min, λ 254 nm



Racemic **4i**



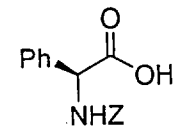

```
Error storing signal to M:SIGNAL  .BHA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL  .PRA

RUN#   22        JUL 24, 2001  17:32:14

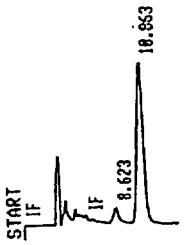
PEAK FILE  : M:SIGNAL.PRA
AREA%

        RT     AREA TYPE  WIDTH     AREA%
     8.575  10350648  BB    .502   49.85598
    10.891  10410448  BB    .699   50.14402

TOTAL AREA=2.0761E+07
MUL FACTOR=1.0000E+00
```



Isolated optically active **4i**




```
Error storing signal to M:SIGNAL  .BHA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL  .PRA

RUN#   23        JUL 24, 2001  17:59:40

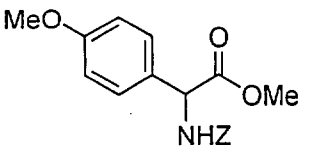
PEAK FILE  : M:SIGNAL.PRA
AREA%

        RT     AREA TYPE  WIDTH     AREA%
     8.623   769220  PV    .616    7.81710
    10.863  9071002  VB    .695   92.18288

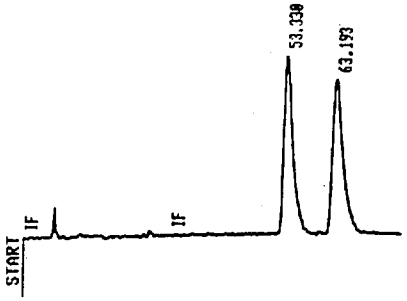
TOTAL AREA=9.8402E+06
MUL FACTOR=1.0000E+00
```

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HPLC Conditions: Chiralpak OD + Hypersil, Hexanes:IPA, 96.8:3.2, 1.0 mL/min, λ 220 nm



Racemic **5j**



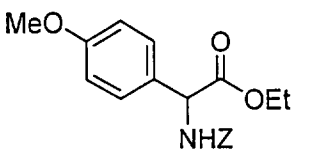
Error storing signal to M:SIGNAL .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL .PRA

RUN# 1479 OCT 25, 2000 18:50:22

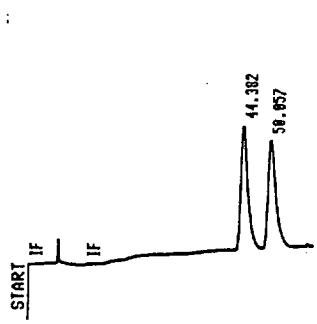
PEAK FILE : M:SIGNAL.PRA
AREA%

	RT	AREA TYPE	WIDTH	AREA%
	53.330	15382392 BV	2.022	49.25149
	63.193	15849952 PV	2.416	50.74853

TOTAL AREA=3.1232E+07
MUL FACTOR=1.0000E+00



Racemic **3j**



END OF SIGNAL

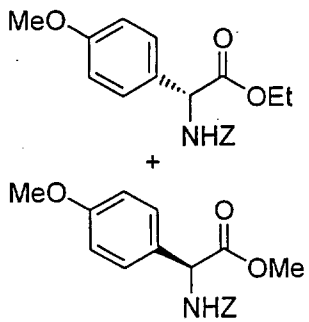
Error storing signal to M:SIGNAL .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL .PRA

RUN# 1478 OCT 25, 2000 17:48:28

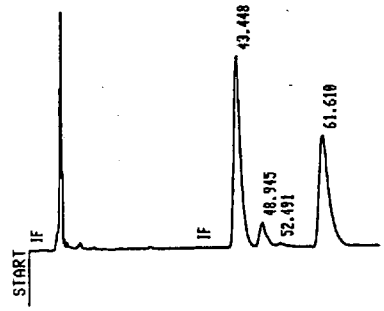
PEAK FILE : M:SIGNAL.PRA
AREA%

	RT	AREA TYPE	WIDTH	AREA%
	44.382	8931706 PV	1.626	50.50571
	50.057	8752845 VB	1.834	49.49430

TOTAL AREA=1.7685E+07
MUL FACTOR=1.0000E+00



Optically active **3j** and **5j** derived from reaction mixture



END OF SIGNAL

Error storing signal to M:SIGNAL .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL .PRA

RUN# 1480 OCT 25, 2000 20:18:24

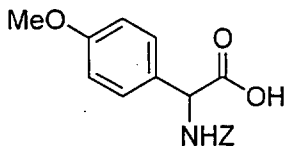
PEAK FILE : M:SIGNAL.PRA
AREA%

	RT	AREA TYPE	WIDTH	AREA%
	43.448	27988992 PV	1.622	49.07174
	48.945	4242818 VV	1.855	7.43871
	52.491	643319 VV	1.686	1.12790
	61.610	24161760 PB	2.401	42.36165

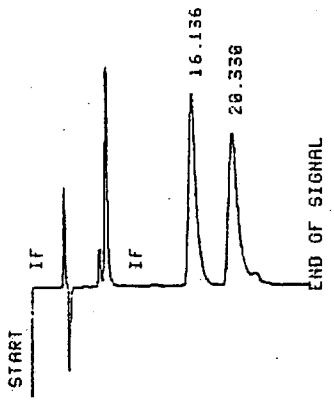
TOTAL AREA=5.7037E+07
MUL FACTOR=1.0000E+00

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HPLC Conditions: Chiralpak OD, Hexanes:IPA:TFA, 90:10:0.45, 1.0 mL/min, λ 254 nm



Racemic **4j**



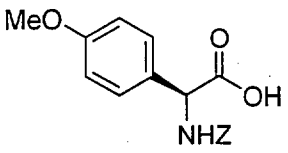
Error storing signal to M:SIGNAL .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL .PRA

RUN# 948 MAY 10, 2001 02:49:20

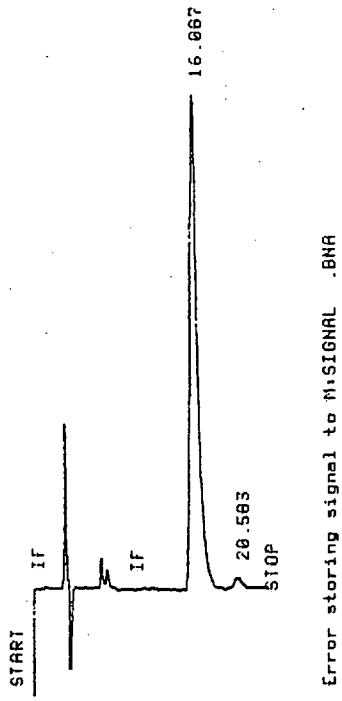
PEAK FILE : M:SIGNAL.PRA
AREA%

	RT	AREA TYPE	WIDTH	AREA%
	16.136	14349260 PB	.907	50.57611
	20.330	14022312 PU	1.116	49.42390

TOTAL AREA=2.8372E+07
MUL FACTOR=1.0000E+00



Isolated optically active **4j**



Error storing signal to M:SIGNAL .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL .PRA

RUN# 949 MAY 10, 2001 03:20:09

PEAK FILE : M:SIGNAL.PRA
AREA%

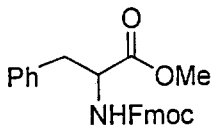
	RT	AREA TYPE	WIDTH	AREA%
	16.087	18797328 PP	.920	97.28173
	20.583	525243 UU	1.068	2.71829

TOTAL AREA=1.9323E+07
MUL FACTOR=1.0000E+00

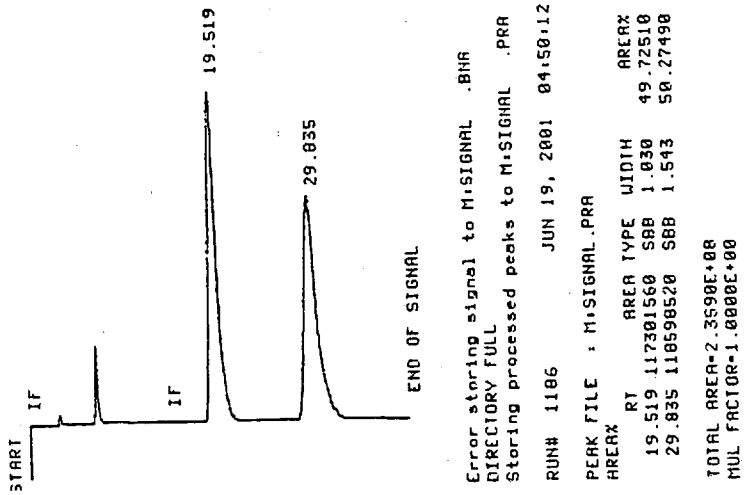
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HPLC Conditions: Chiralpak OD, Hexanes:IPA, 80:20, 1.0 mL/min, λ 254 nm

Determination of the ee of ethyl ester **5k**



Racemic **3k**



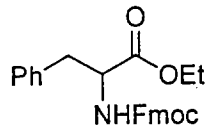
Error storing signal to M:SIGNAL .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL .PRA

RUN# 1186 JUN 19, 2001 04:50:12

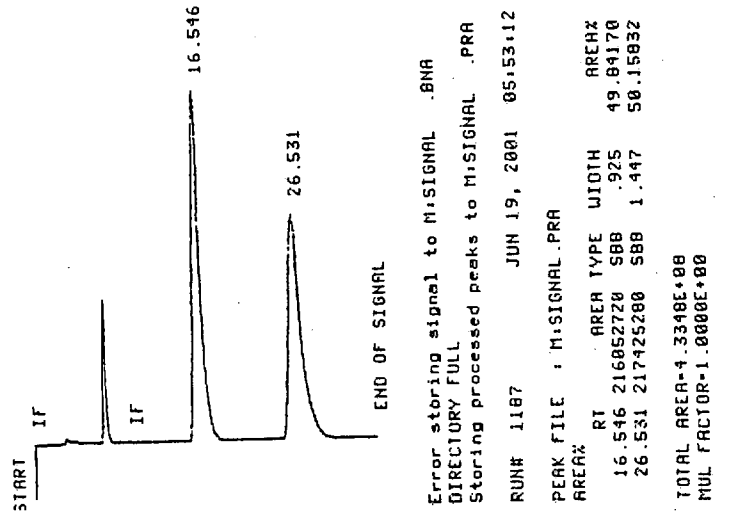
PEAK FILE : M:SIGNAL.PRA
AREA%

	RT	AREA TYPE	WIDTH	AREA%
	19.519	117301560	SBB 1.030	49.72510
	29.835	118598520	SBB 1.543	50.27490

TOTAL AREA=2.3590E+08
MUL FACTOR=1.0000E+00



Recemic **5k**



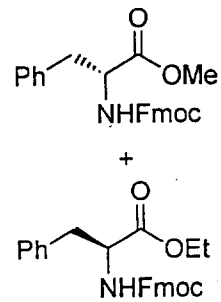
Error storing signal to M:SIGNAL .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL .PRA

RUN# 1187 JUN 19, 2001 05:53:12

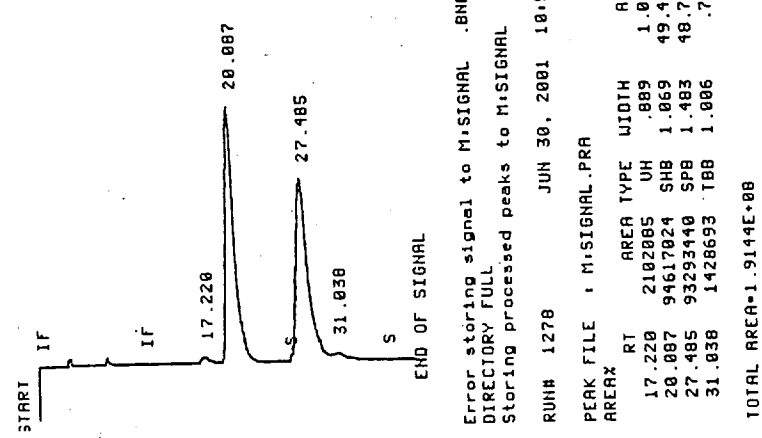
PEAK FILE : M:SIGNAL.PRA
AREA%

	RT	AREA TYPE	WIDTH	AREA%
	16.546	216052720	SBB .925	49.84170
	26.531	217425280	SBB 1.447	50.15832

TOTAL AREA=4.3348E+08
MUL FACTOR=1.0000E+00



Optically active **3k** and **5k** derived from reaction mixture



Error storing signal to M:SIGNAL .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL .PRA

RUN# 1278 JUN 30, 2001 10:55:18

PEAK FILE : M:SIGNAL.PRA
AREA%

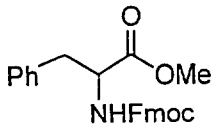
	RT	AREA TYPE	WIDTH	AREA%
	17.220	2102085	VH .889	1.09803
	20.087	94617024	SHB 1.069	49.42354
	27.485	93293440	SPB 1.483	48.73216
	31.038	1428693	TBB 1.006	.74628

TOTAL AREA=1.9144E+08
MUL FACTOR=1.0000E+00

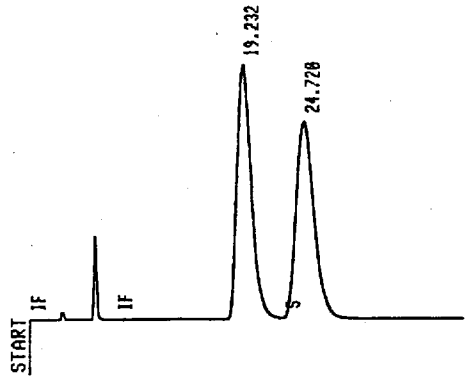
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HPLC Conditions: Chiralpak OJ, Hexanes:IPA, 80:20, 1.0 mL/min, λ 254 nm

Determination of the ee of methyl ester **3k**



Racemic **3k**



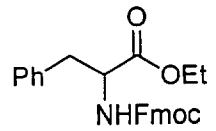
Closing signal file M:SIGNAL_.BNC
Storing processed peaks to M:02E2E36F.PRO
DIRECTORY FULL

RUN# 2019 JUL 3, 2001 11:03:11

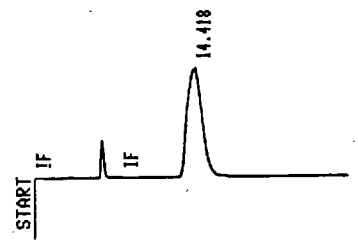
SIGNAL FILE: M:SIGNAL.BNC
AREA%

RT	AREA TYPE	WIDTH	AREA%
19.232	114131000 SBB	1.460	50.05658
24.720	113872960 BB	1.878	49.94341

TOTAL AREA=2.2800E+08
MUL FACTOR=1.0000E+00



Recemic **5k**



END OF SIGNAL

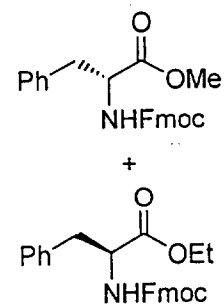
Error storing signal to M:SIGNAL_.BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL_.PRA

RUN# 2020 JUL 3, 2001 11:42:53

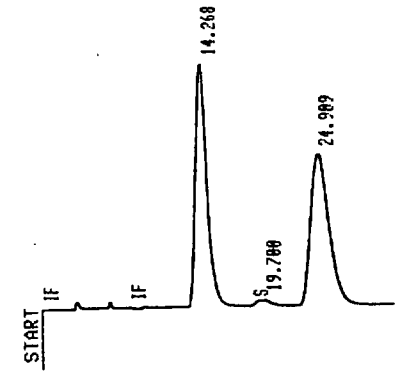
PEAK FILE : M:SIGNAL.PRA
AREA%

RT	AREA TYPE	WIDTH	AREA%
14.418	405806880 SBB	1.527	100.00000

TOTAL AREA=4.0581E+08
MUL FACTOR=1.0000E+00



Optically active **3k** and **5k** derived from reaction mixture



STOP

Closing signal file M:SIGNAL_.BNC
Storing processed peaks to M:02E1DEF6.PRO
DIRECTORY FULL

RUN# 2018 JUL 2, 2001 16:31:49

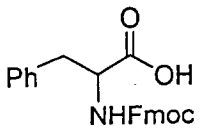
SIGNAL FILE: M:SIGNAL.BNC
AREA%

RT	AREA TYPE	WIDTH	AREA%
14.268	89105280 SPB	1.173	48.56627
19.700	3842218 BP	1.525	2.09418
24.909	90524032 PB	1.916	49.33955

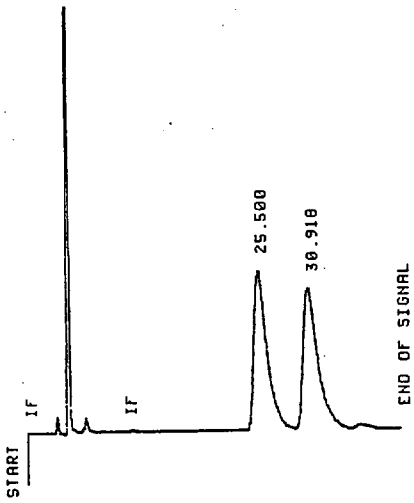
TOTAL AREA=1.8347E+08
MUL FACTOR=1.0000E+00

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HPLC Conditions: Chiralpak OD, Hexanes:IPA:TFA, 90:10:0.1, 1.0 mL/min, λ 254 nm



Racemic **4k**



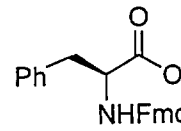
Error storing signal to M:SIGNAL .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL .PRA

RUN# 1282 JUL 5, 2001 04:19:31

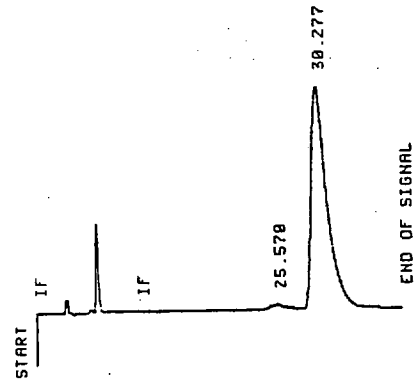
PEAK FILE : M:SIGNAL.PRA
AREA%

	RT	AREA TYPE	WIDTH	AREA%
	25.500	95764352 PU	1.676	50.00784
	30.918	95734336 VV	1.886	49.99216

TOTAL AREA=1.9150E+08
MUL FACTOR=1.0000E+00



Isolated optically active **4k**



Error storing signal to M:SIGNAL .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL .PRA

RUN# 1283 JUL 5, 2001 05:27:22

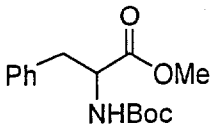
PEAK FILE : M:SIGNAL.PRA
AREA%

	RT	AREA TYPE	WIDTH	AREA%
	25.570	3052853 PP	1.793	1.97650
	30.277	151404400 PB	1.926	98.02349

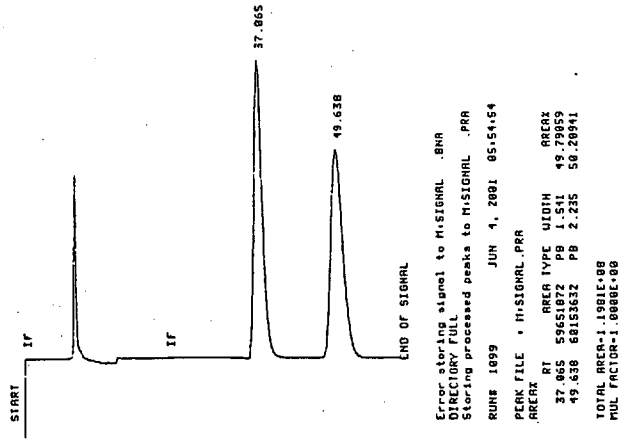
TOTAL AREA=1.5446E+08
MUL FACTOR=1.0000E+00

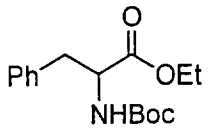
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HPLC Conditions: Chiralpak OD + OJ, Hexanes:IPA, 99:1, 0.8 mL/min, λ 220 nm

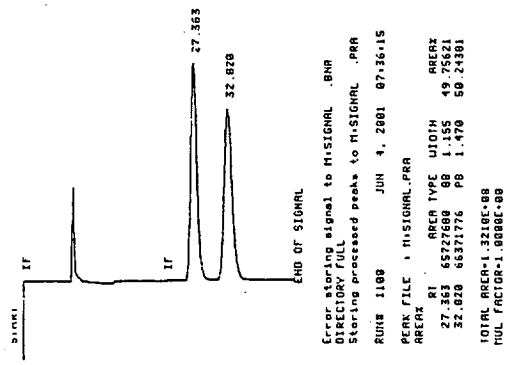


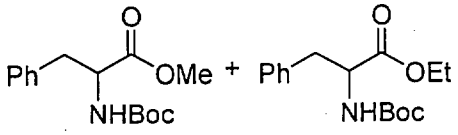
Racemic **3i**



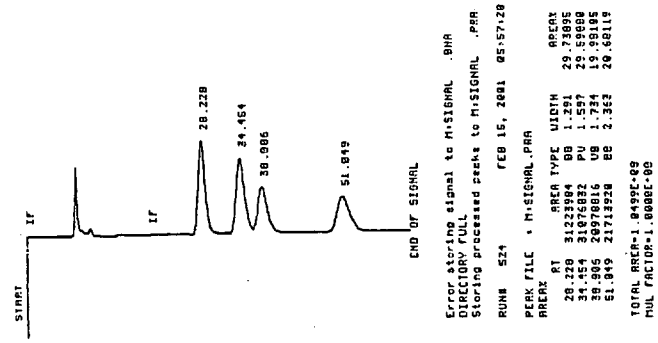


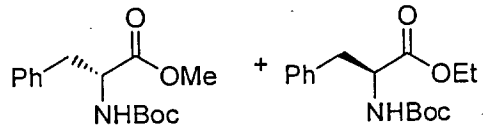
Racemic **5l**



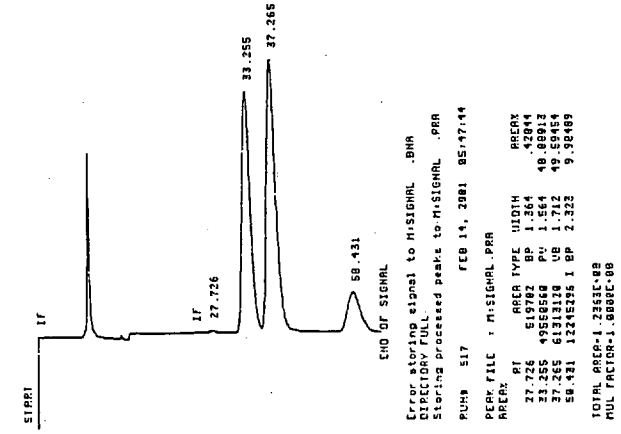


Racemic **3l** and **5l**





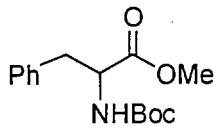
Optically active **3l** and **5l** derived from reaction mixture



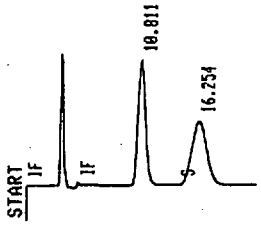
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HPLC Conditions: Chiralpak OJ, Hexanes:IPA, 98:2, 1.0 mL/min, λ 220 nm

Determination of the ee of **4l** by converting **4l** into its methyl ester



Racemic **3l**



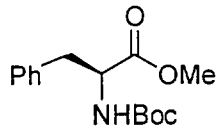

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Error storing signal to M:SIGNAL  .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL  .PRA

RUN#   43        JUL 27, 2001  15:19:01

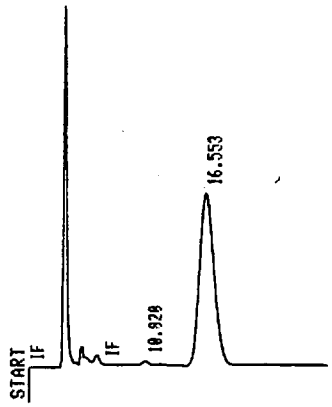
PEAK FILE  : M:SIGNAL.PRA
AREA%

      RT      AREA TYPE  WIDTH      AREA%
  10.811    32550224  SPB   .803   49.86374
  16.254    32728128  BB   1.589   50.13626

TOTAL AREA=6.5278E+07
MUL FACTOR=1.0000E+00
```



Optically active **3l** derived from optically active **4l**




```
Error storing signal to M:SIGNAL  .BNA
DIRECTORY FULL
Storing processed peaks to M:SIGNAL  .PRA

RUN#   44        JUL 27, 2001  15:45:56

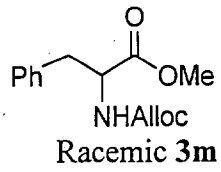
PEAK FILE  : M:SIGNAL.PRA
AREA%

      RT      AREA TYPE  WIDTH      AREA%
  10.820     1077674  BV    .716    1.22875
  16.553    86627264  PB   1.552   98.77126

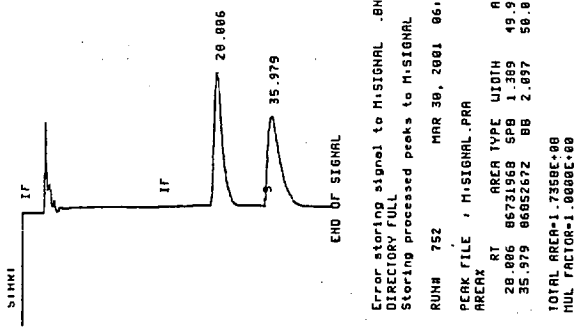
TOTAL AREA=8.7705E+07
MUL FACTOR=1.0000E+00
```

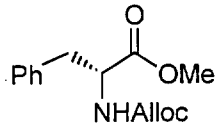
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HPLC Conditions: Chiralpak OD, Hexanes:IPA, 98.6:1.4, 1.0 mL/min, λ 220 nm
Determination of the ee of methyl ester **3m**

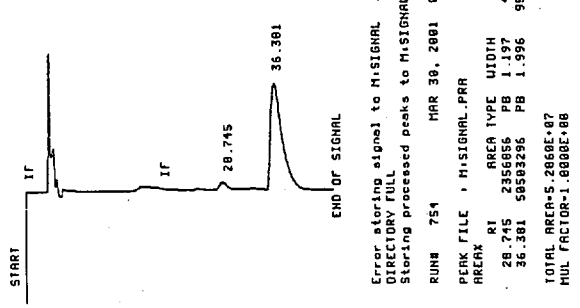


Racemic **3m**

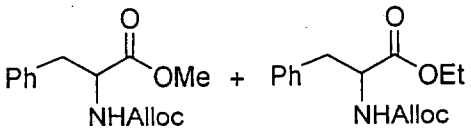




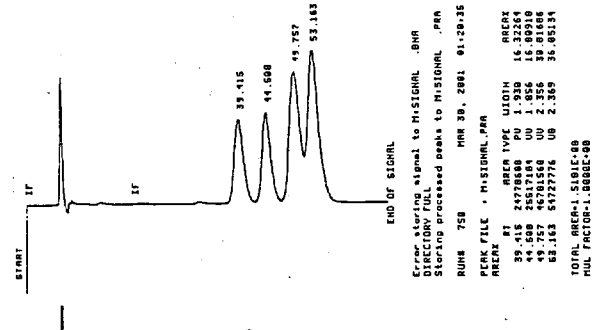
Isolated optically active **3m**

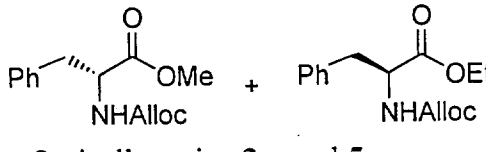


HPLC Conditions: Chiralpak AS + OD, Hexanes:IPA, 97:3, 1.0 mL/min, λ 220 nm
Determination of the ee of ethyl ester

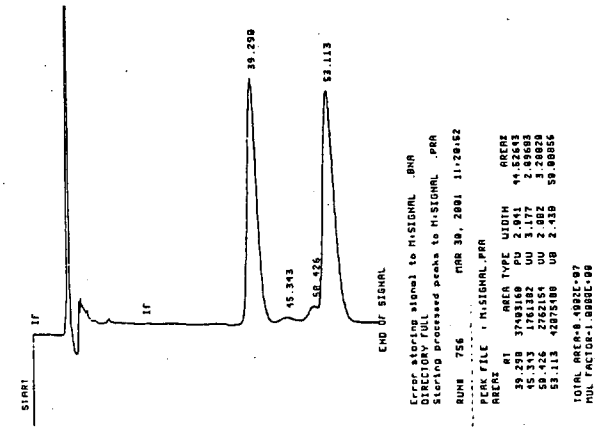


Racemic **3m** and **5m**



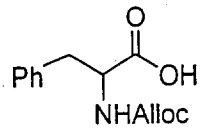


Optically active **3m** and **5m**
derived from reaction mixture

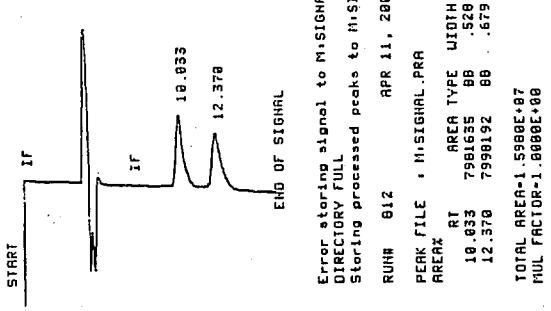


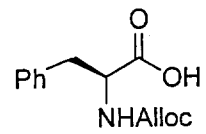
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HPLC Conditions: Chiralpak OD, Hexanes:IPA:TFA, 90:10:0.45, 0.8 mL/min, λ 254 nm
Determination of the ee of **4m**

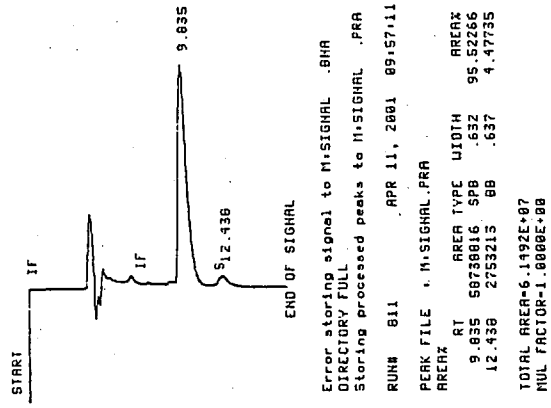


Racemic **4m**



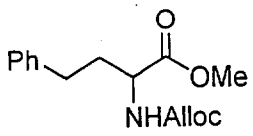


Isolated optically active **4m**

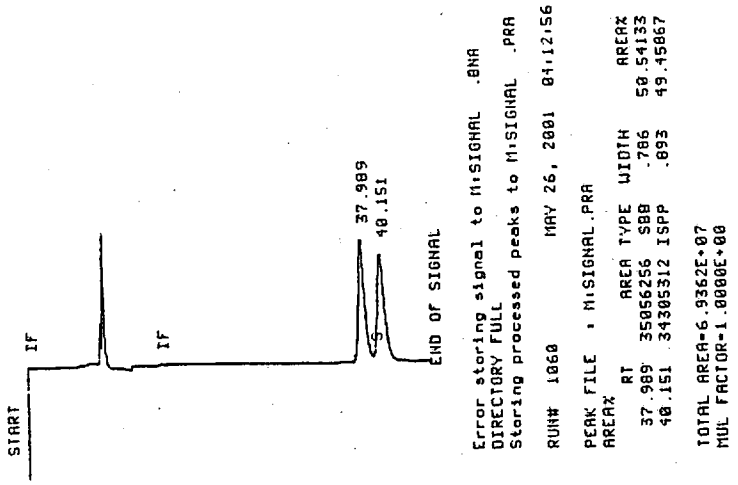


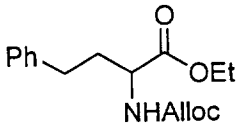
HPLC Conditions: J. T. Baker DNBPG (Ionic) + Regis (*R,R*)-Whelk-O1, Hexanes:IPA, 98:2, 0.75 mL/min, λ 220 nm

Determination of the ee of methyl ester **3n**

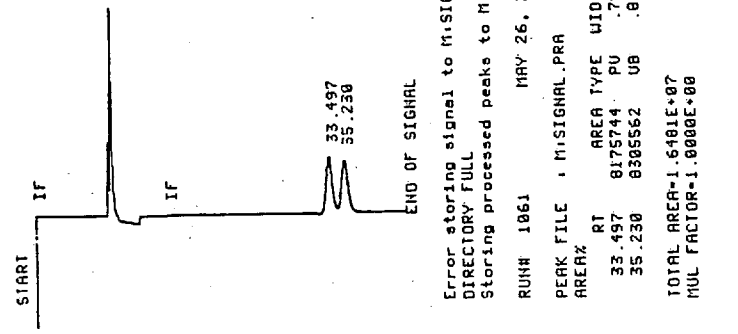


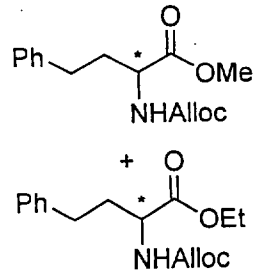
Racemic **3n**



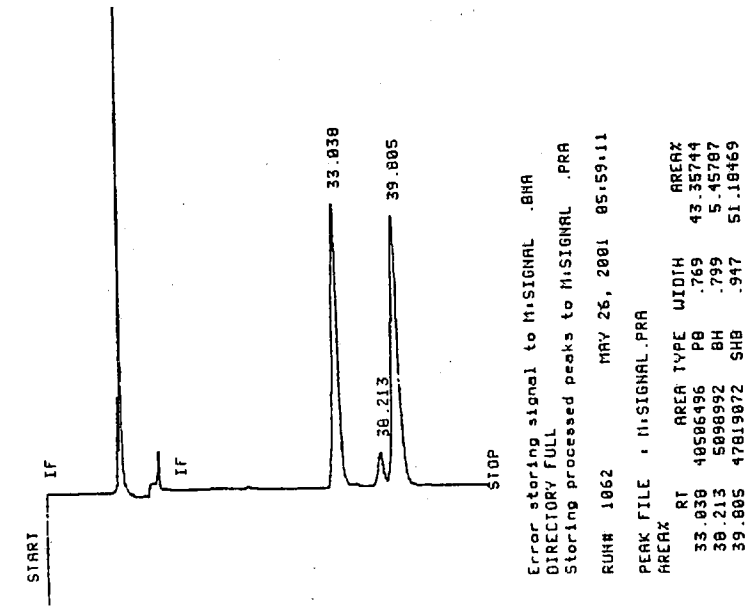


Racemic **5n**



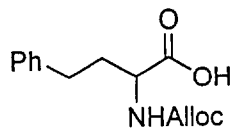


Optically active **3n** and **5n** derived from reaction mixture

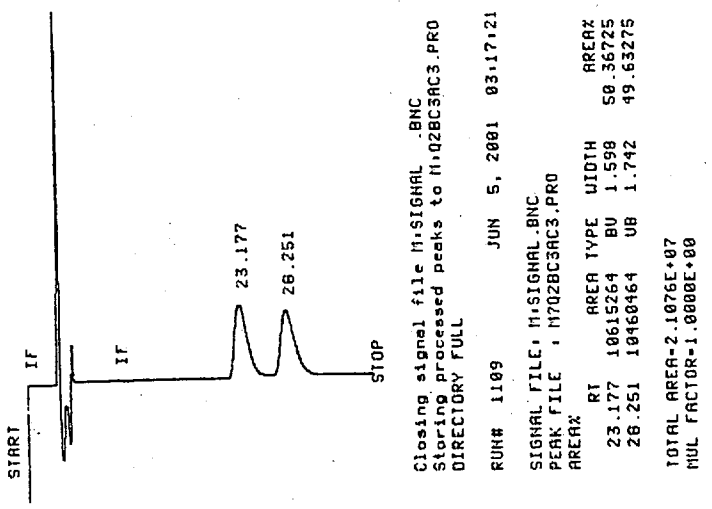


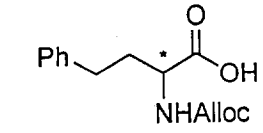
HPLC Conditions: Chiralpak OJ, Hexanes:IPA:TFA, 96:4:0.1, 1.0 mL/min, λ 254 nm

Determination of the ee of acid **4n**



Racemic **4n**





Isolated optically active **4n**

