Supporting Information for:

The MPEG effect: Improving asymmetric processes by simple additives

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Analytical data

4-Chlorophenyl-phenylmethanol (3)[1]
Compound **3** was obtained as a white solid with up to 95% yield (52 mg, 0.24 mmol).
^{1}H NMR ($CDCl_3$, 400 MHz): δ = 2.23 (sbr, 1H, OH), 5.78 (s, 1H, CH), 7.23-7.45 (m, 9H, H_{ar}).
^{13}C NMR ($CDCl_3$, 100 MHz): δ = 75.5, 126.3, 127.6, 128.4, 128.5, 133.0, 141.9, 143.2.

4-Methylphenyl-phenylmethanol (6)[2]
Compound **6** was obtained as a white solid with up to 96% yield (48 mg, 0.24 mmol).
^{1}H NMR ($CDCl_3$, 300 MHz): δ = [2.04 (s, 1H, OH)], 2.31 (s, 3H, CH_3), 5.76 (s, 1H, CH), 7.08-7.37 (m, 9H, H_{ar}).
^{13}C NMR ($CDCl_3$, 75 MHz): δ = 21.1, 76.0, 126.4, 126.5, 127.4, 128.4, 129.2, 137.2, 141.0, 144.0.

HPLC – separation conditions

4-Chlorophenyl-phenylmethanol (3)[1]
Chiralcel OB-H, 30 °C, 230 nm, 90:10 heptane / *i*-PrOH, 0.5 mL/min; t_R = 25.7 min (*R*), 33.6 min (*S*).

4-Methylphenyl-phenylmethanol (6)[2]
Chiralcel OD, 30 °C, 230 nm, 98:2 heptane / *i*PrOH, 0.9 mL/min; t_R = 28.1 min (*S*), 31.3 min (*R*).

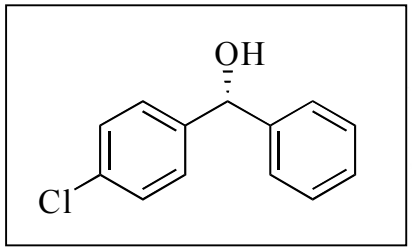
1-Phenyl-propanol (7)[3]
Chiralcel OD, 20 °C, 254 nm, 98:2 heptane / *i*-PrOH, 0.5 ml/min; t_R = 15.5 min (*R*), 17.7 min (*S*).

References

1. Lee, J.-S.; Velarde-Ortiz, R.; Guijarro, A.; Wurst, J. R.; Rieke, R. D. *J. Org. Chem.* **2000**, *65*, 5428.
2. Nakamura, S.; Oda, M.; Yasuda, H.; Toru, T. *Tetrahedron* **2001**, *57*, 8469.
3. Bolm, C.; Schlingloff, G.; Harms, K. *Chem. Ber.* **1992**, *125*, 1191.

t at 160 Hz/cm ; 0.40 ppm/cm

RUDO PCL a4020331.b/h inova400/gas



12.6 12.0 11.4 10.8 ppm

0 9 8 7 6 5 4 3 2 1 ppm

100.00 10.80 10.59 2.29 0.27 43.60

at 805 Hz/cm ; 8.00 ppm/cm

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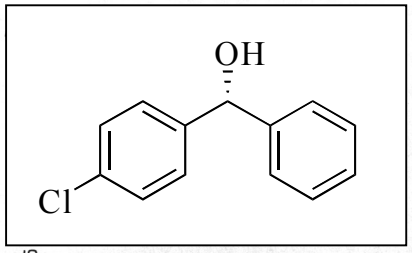


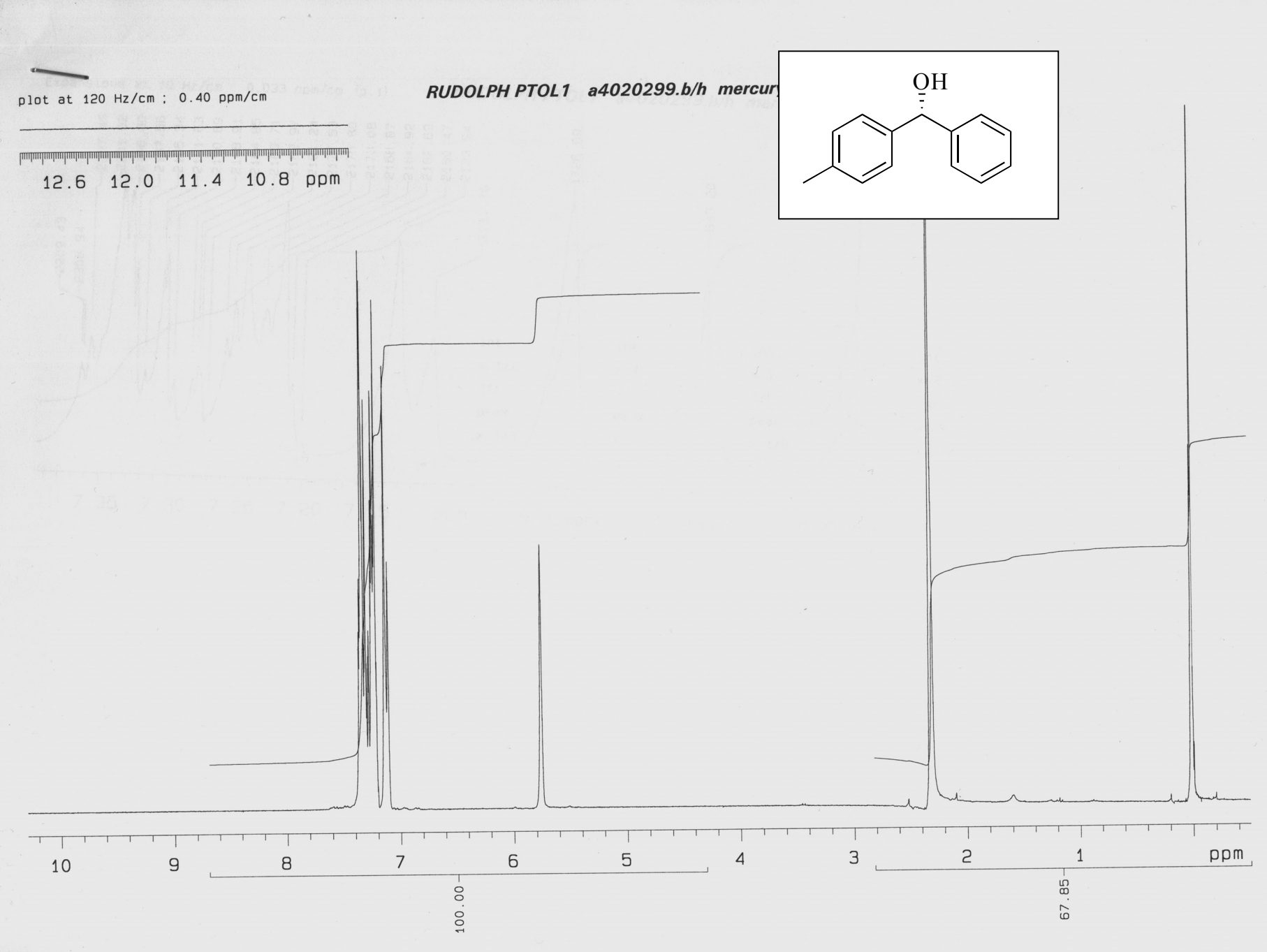
128.445
128.392
127.672
126.321
77.217
76.906
76.588
75.495
143.200
141.979
133.065
0.000

200 180 160 140 120 100 80 60 40 20 ppm

C , CH2

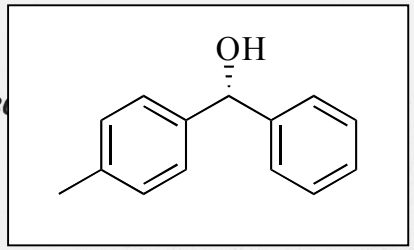
CH, CH3

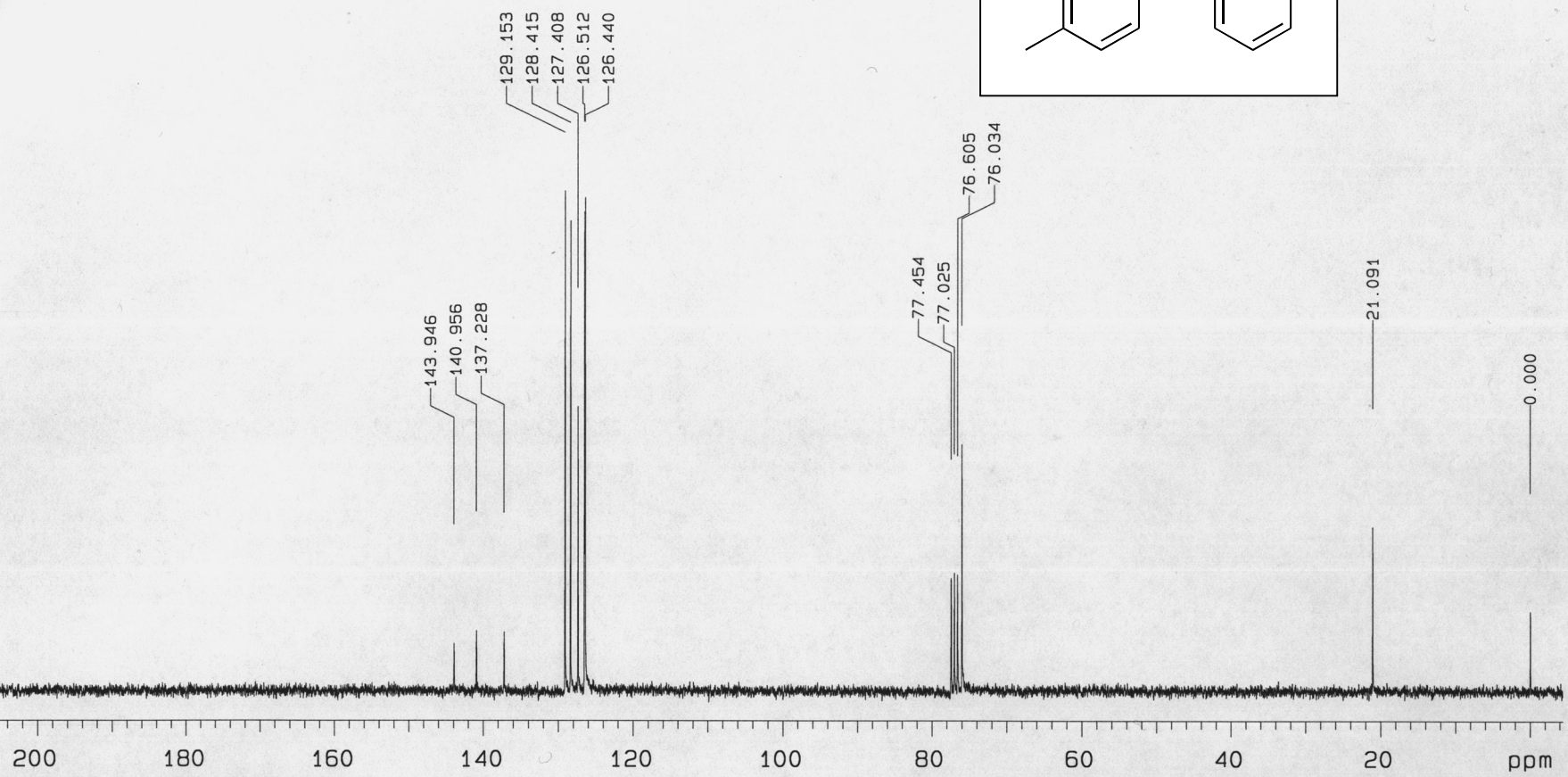
CH

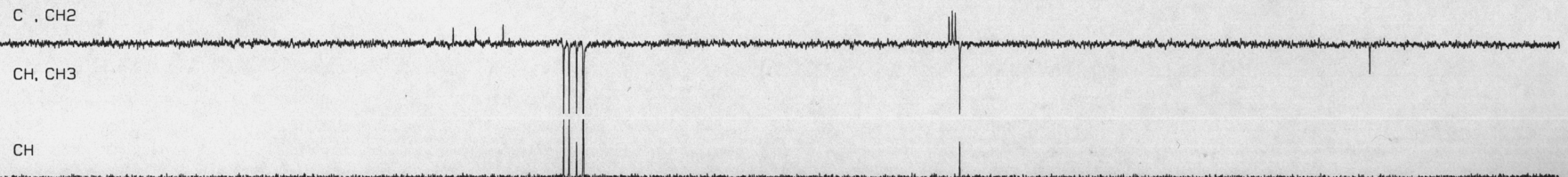

plot at 120 Hz/cm ; 0.40 ppm/cm
RUDOLPH PTOL1 a4020299.b/h mercury
OH
12.6 12.0 11.4 10.8 ppm
10 9 8 7 6 5 4 3 2 1 ppm
100.00
67.85

at 604 Hz/cm ; 8.00 ppm/cm

RUDOLPH PTOL1 a4020299.b/c mercury3

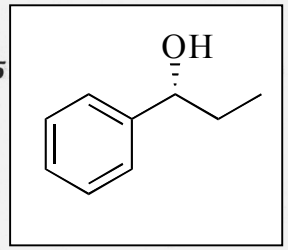


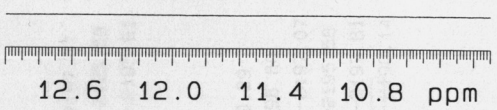




plot at 120 Hz/cm ; 0.40 ppm/cm

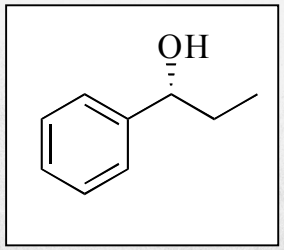
RUDO LP a4020583.b/h mercury300/gsw5





t at 604 Hz/cm ; 8.00 ppm/cm

RUDO LP a4020583.b/c mercury300/gsw5



144.620
128.360
127.448
125.988
77.478
77.057
76.637
75.963
31.854
10.129
0.000

200 180 160 140 120 100 80 60 40 20 ppm

APT: C , CH2

CH, CH3

EPT: CH