

[2+4]型手性多孔有机笼 Pim 高效液相色谱固定相的制备及其 手性拆分性能评价

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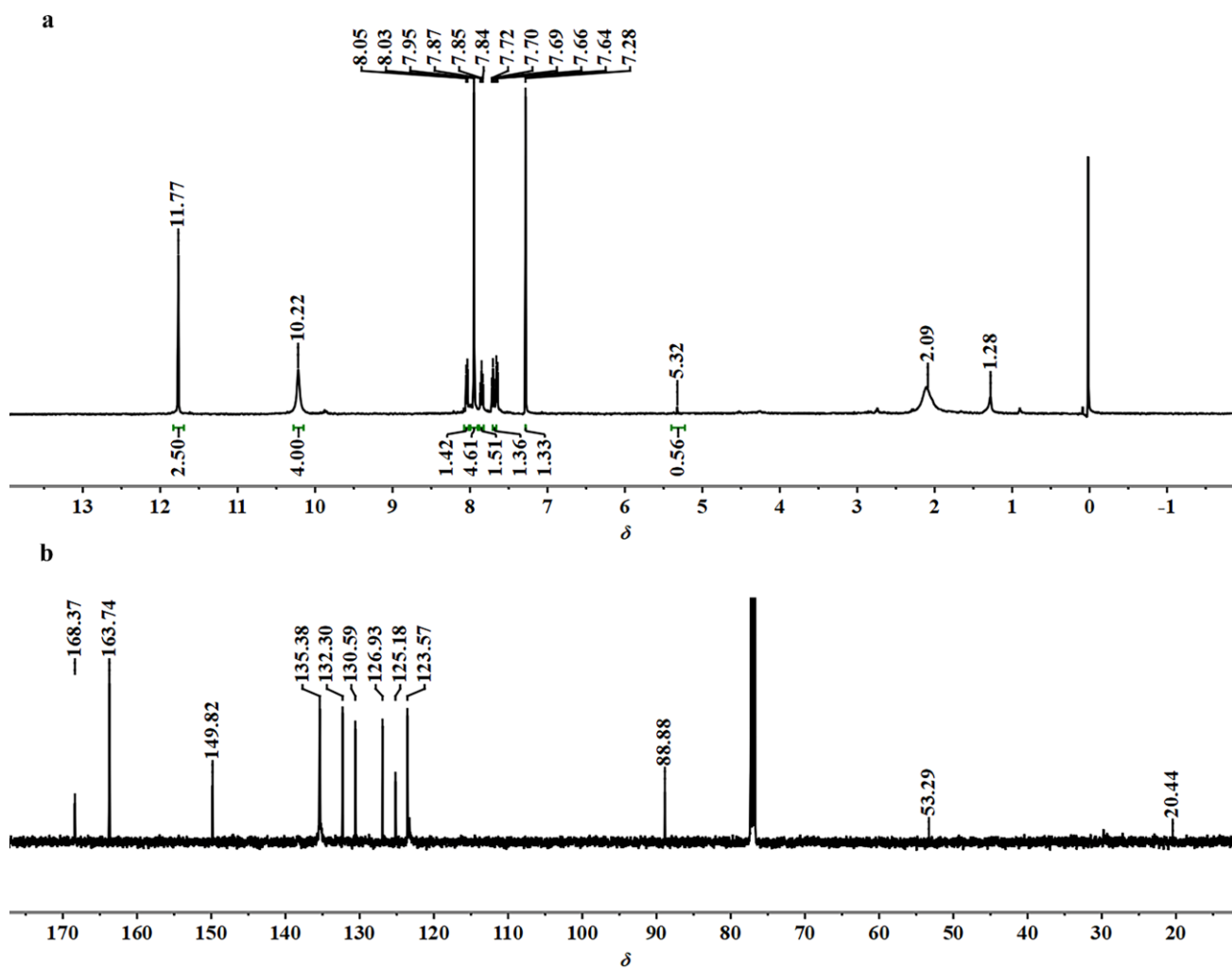
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Preparation and chiral separation performance evaluation of a high performance liquid
chromatography stationary phase based on a [2+4]-type chiral porous organic cage

Pim

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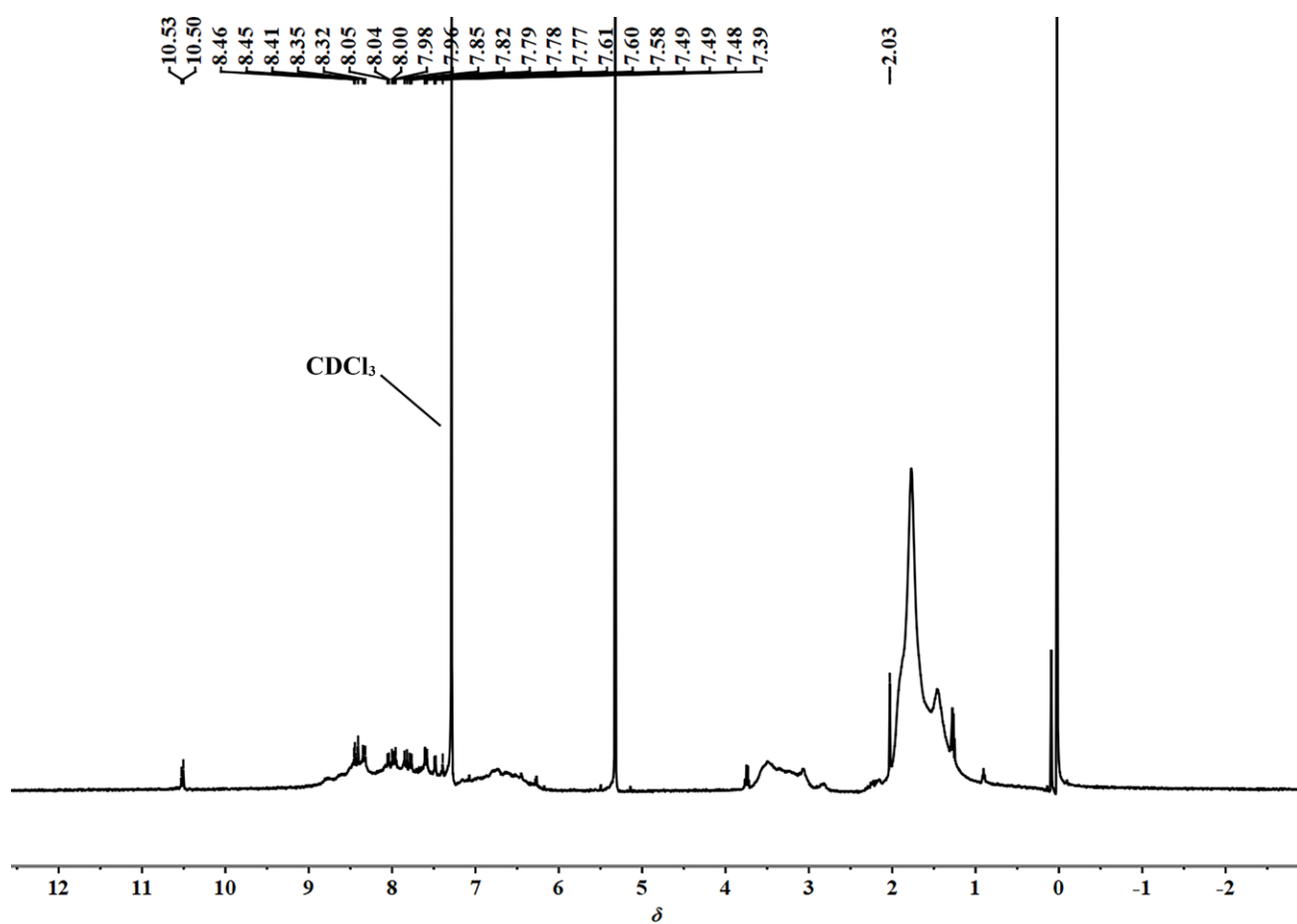
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图S1 四醛基化合物1的核磁谱图

Fig. S1 NMR spectra of tetraaldehyde compound 1

a. ^1H NMR spectrum; b. ^{13}C NMR spectrum.



图S2 Pim的核磁氢谱图

Fig. S2 ¹H NMR spectrum of Pim

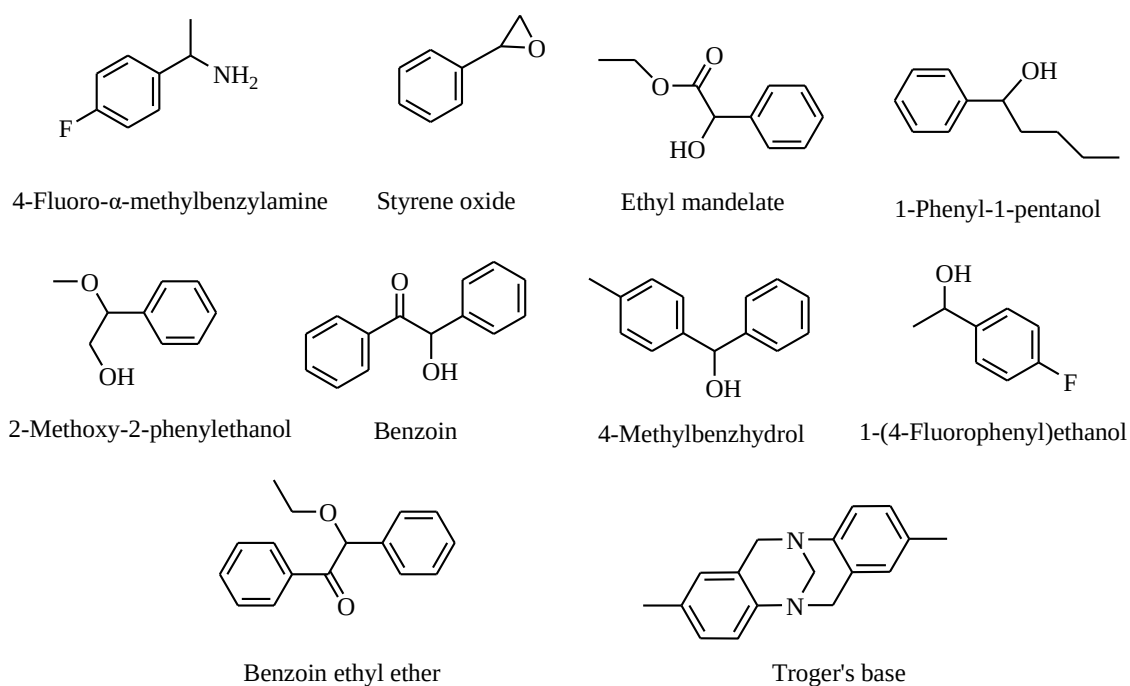
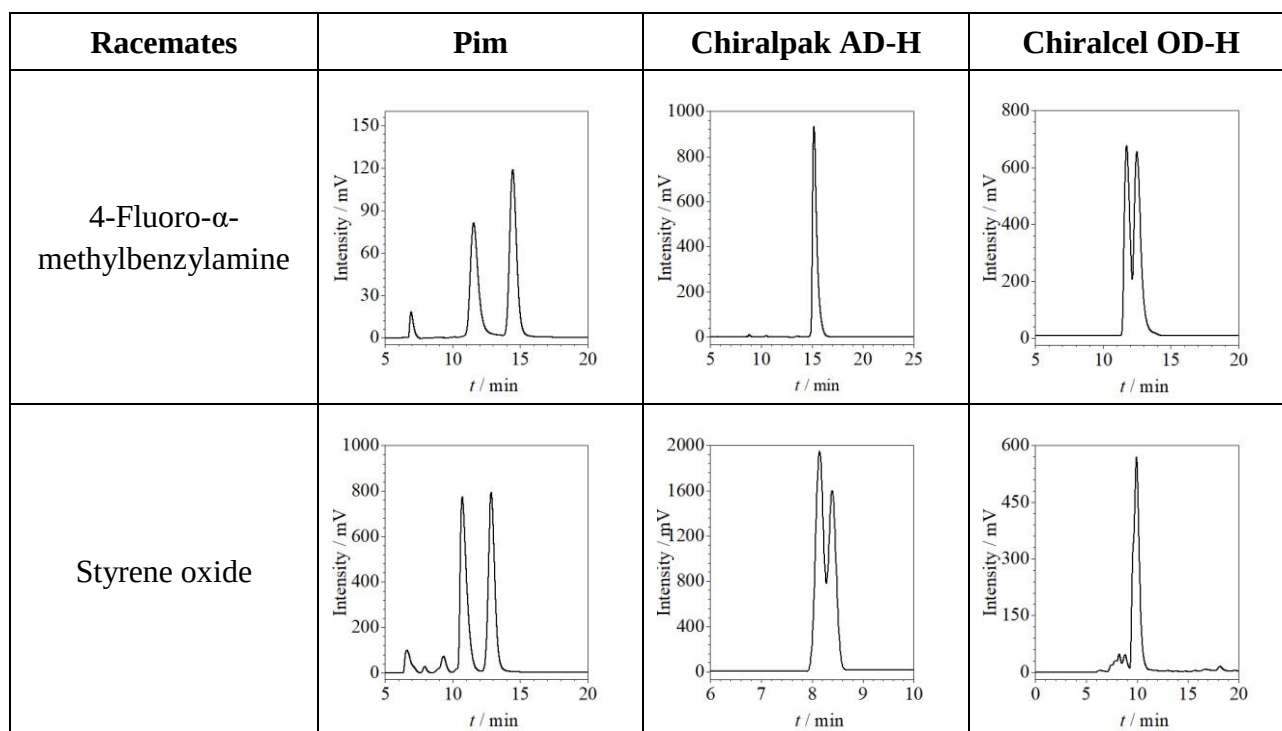
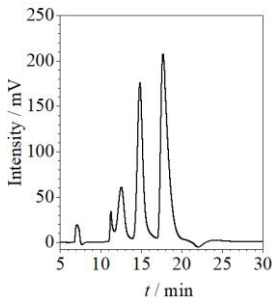
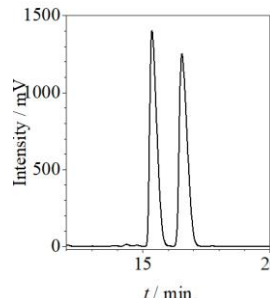
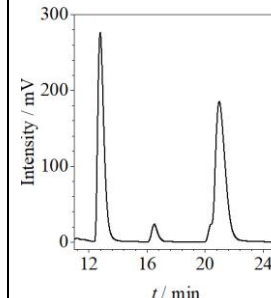
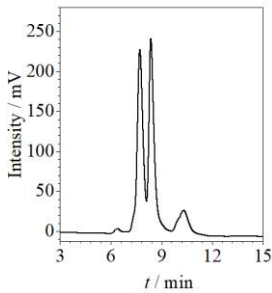
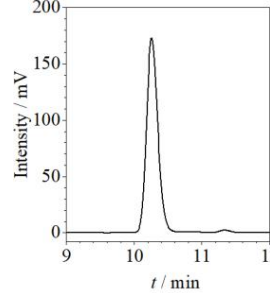
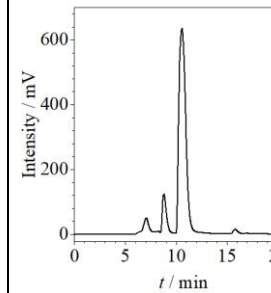
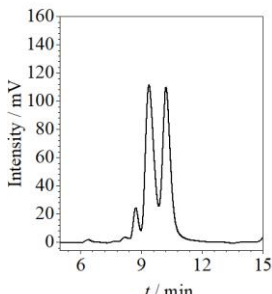
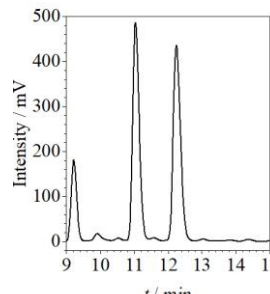
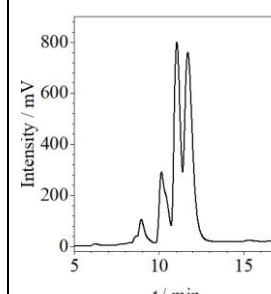
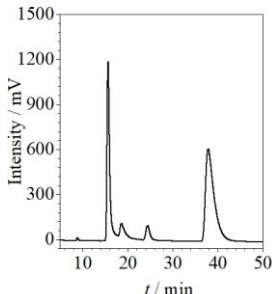
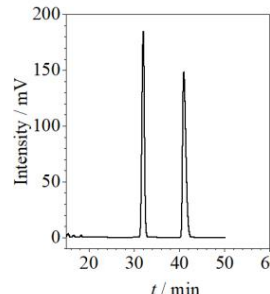
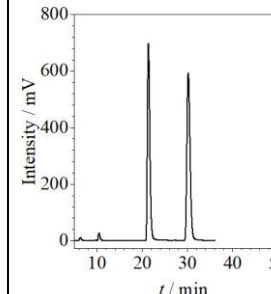
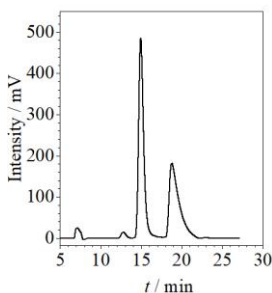
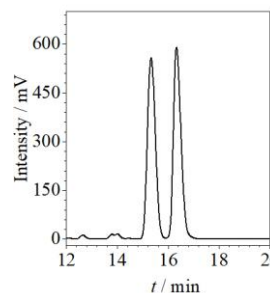
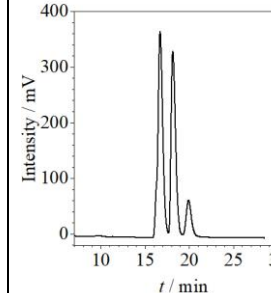


图 S3 在 NP-HPLC 分离模式下 Pim 柱拆分的 10 种外消旋体的分子结构

Fig. S3 Molecular structures of the 10 racemates resolved on the Pim column under NP-HPLC



Ethyl mandelate			
1-Phenyl-1-pentanol			
2-Methoxy-2-phenylethanol			
Benzoin			
4-Methylbenzhydrol			

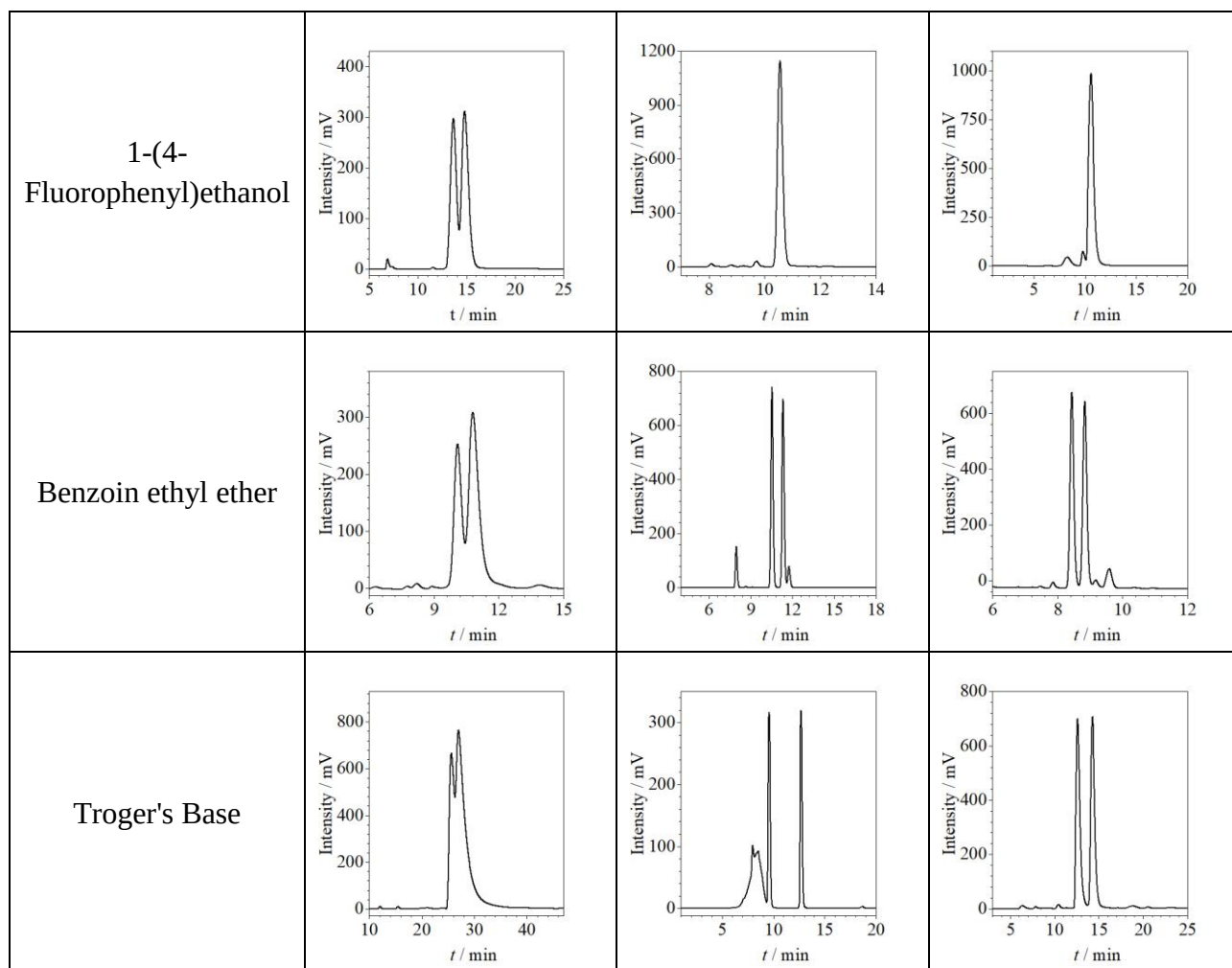


图 S4 NP-HPLC 分离模式下在 Pim 柱上拆分的 10 种外消旋体与在 Chiralpak AD-H 和 Chiralcel OD-H 柱上拆分的对比色谱图

Fig. S4 Comparative chromatograms of the separated ten racemates on the Pim column under NP-HPLC versus those on the Chiralpak AD-H and Chiralcel OD-H columns

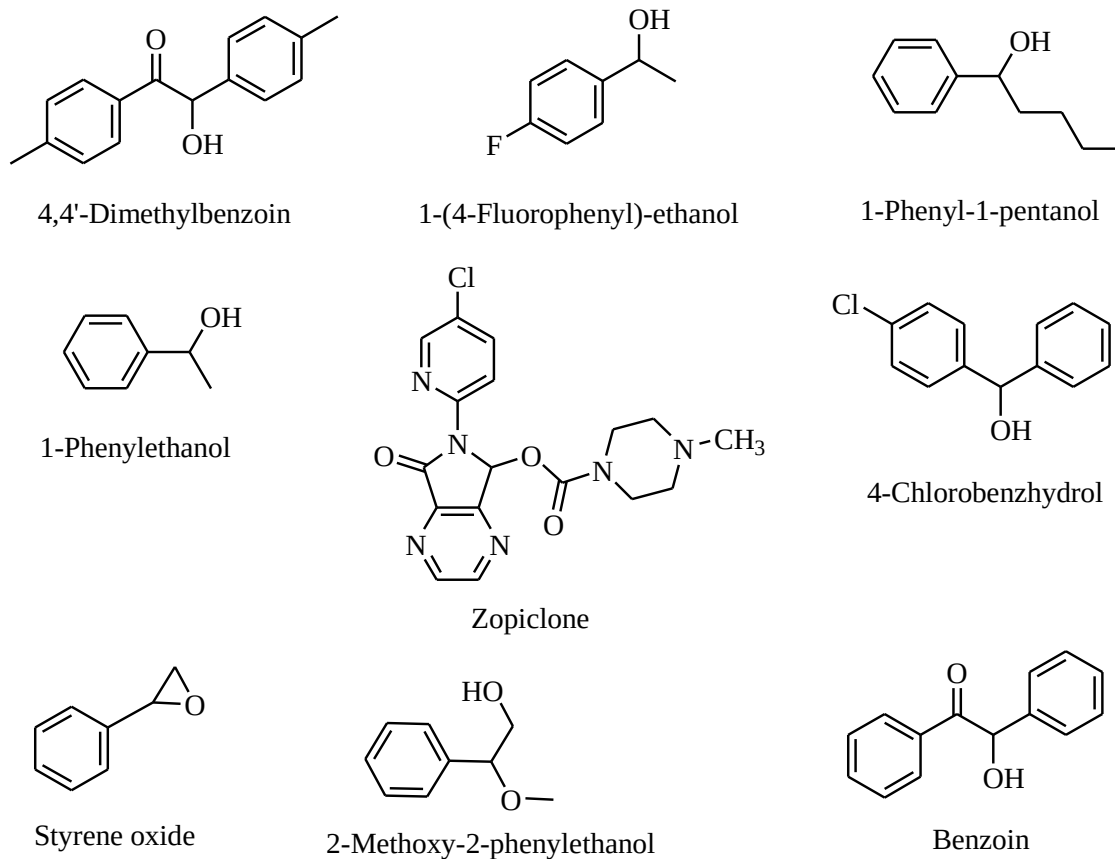
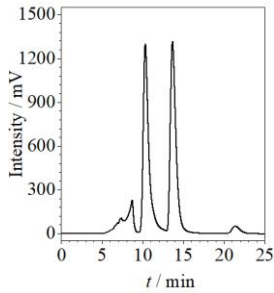
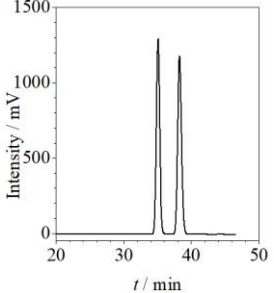
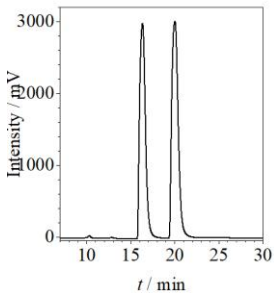
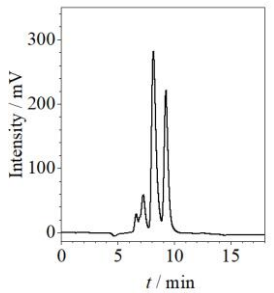
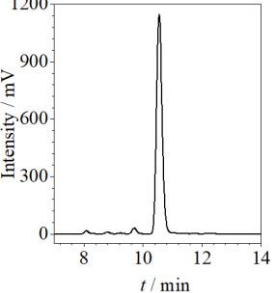
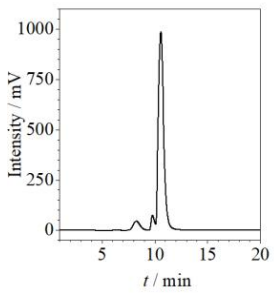
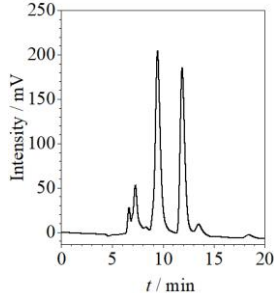
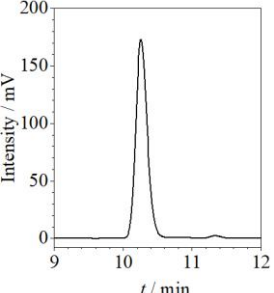
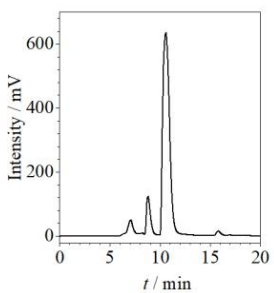
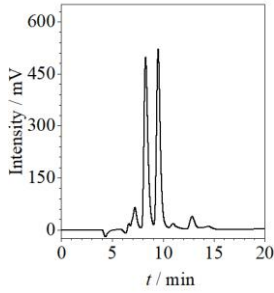
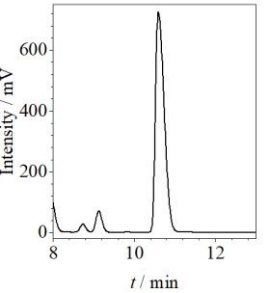
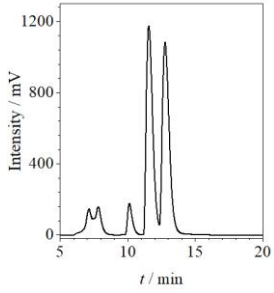
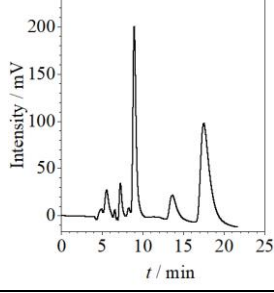
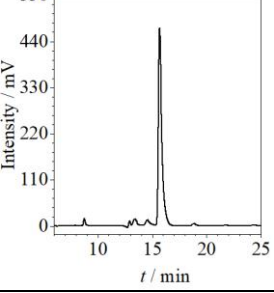
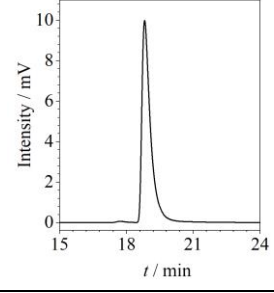


图 S5 在 RP-HPLC 分离模式下 Pim 柱拆分的 9 种外消旋体的分子结构

Fig. S5 Molecular Structures of the nine racemates resolved on the Pim column under RP-HPLC

Racemates	Pim	Chiralpak AD-H	Chiralcel OD-H
4,4'- Dimethylbenzoin			
1-(4- Fluorophenyl)etha nol			
1-Phenyl-1- pentanol			
1-Phenylethanol			
Zopiclone			

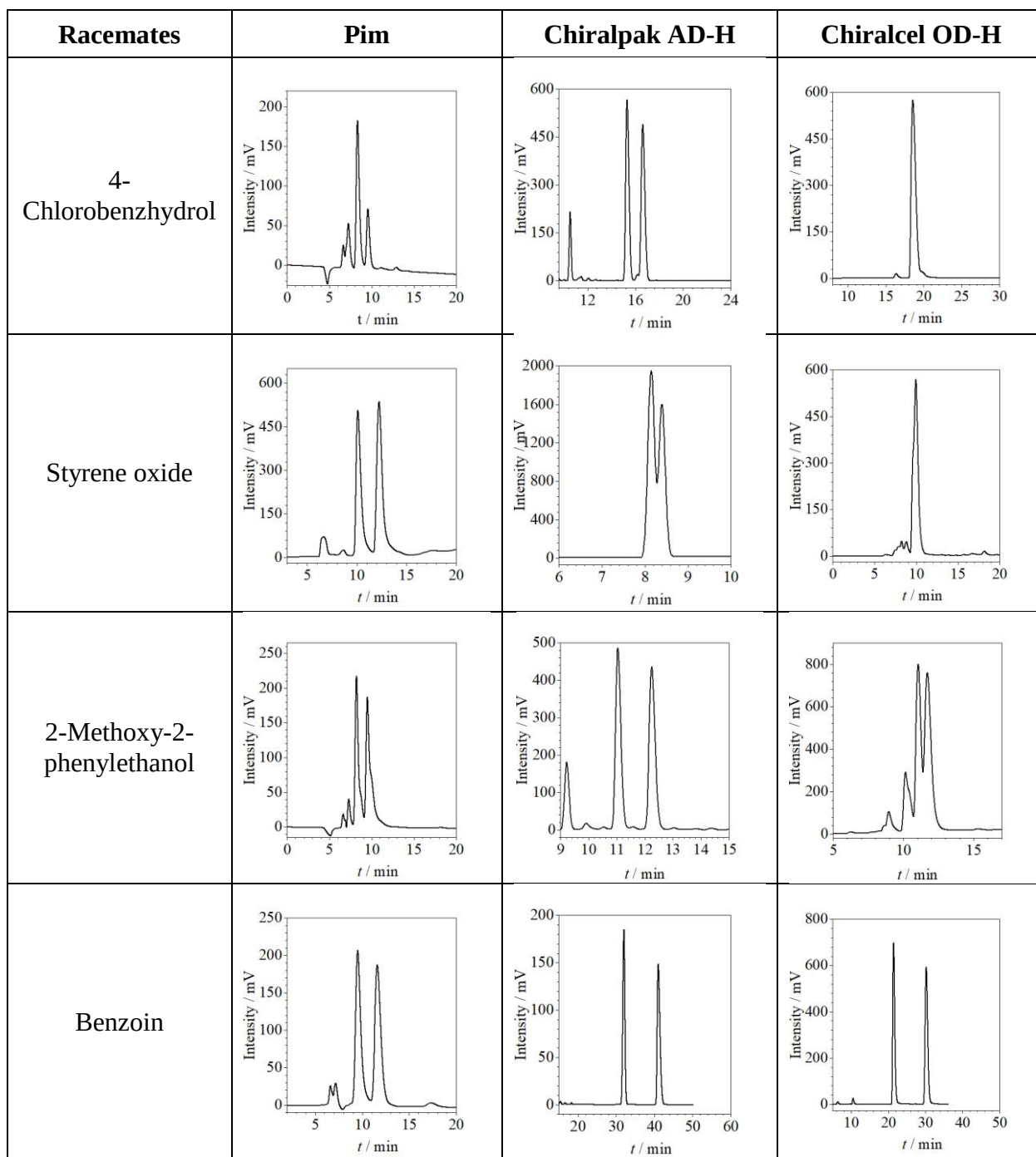


图 S6 RP-HPLC 分离模式下在 Pim 柱上拆分的 9 种外消旋体与在 Chiralpak AD-H 和 Chiralcel OD-H 柱上拆分的对比色谱图

Fig. S6 Comparative chromatograms of the separated nine racemates on the Pim column under NP-HPLC versus those on the Chiralpak AD-H and Chiralcel OD-H columns

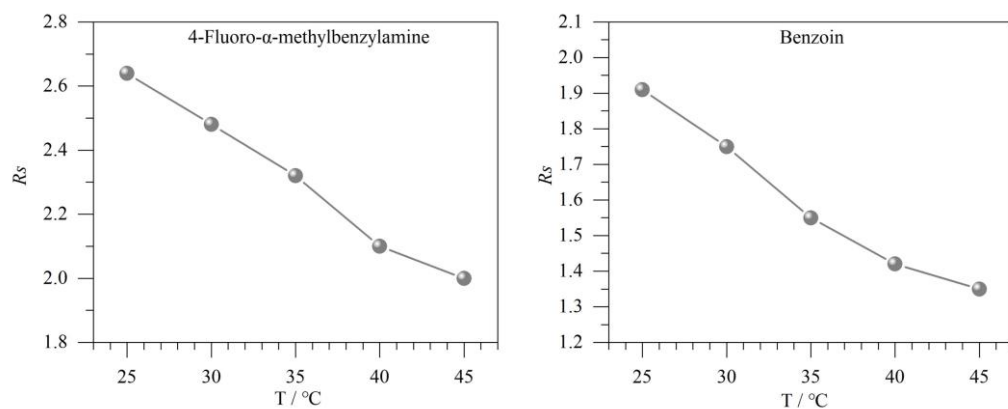


图 S7 柱温对分离度 (R_s) 的影响

Fig. S7 Effect of column temperature on resolution (R_s)

Enantioseparation of 4-fluoro- α -methylbenzylamine under NP-HPLC at different column temperatures, other chromatographic conditions are the same as those in Table 2; enantioseparation of benzoin under RP-HPLC at different column temperatures, other chromatographic conditions are the same as those in Table 3.