

Supporting Information

Chiral Covalent-Organic Framework

MDI- β -CD-Modified COF@SiO₂ Core-Shell Composite for HPLC Enantioseparation

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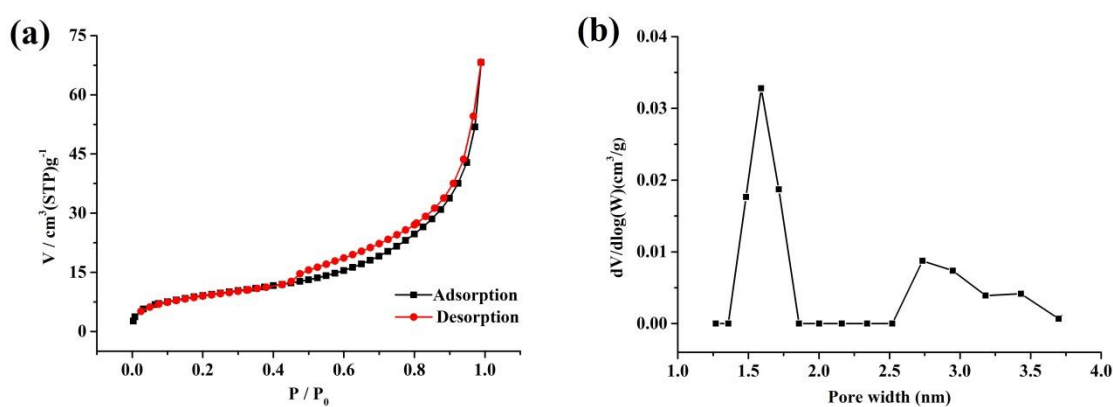


Figure S1. (a) N₂ adsorption-desorption isotherms of MDI- β -CD-modified COF; (b) Pore size distribution of MDI- β -CD-modified COF

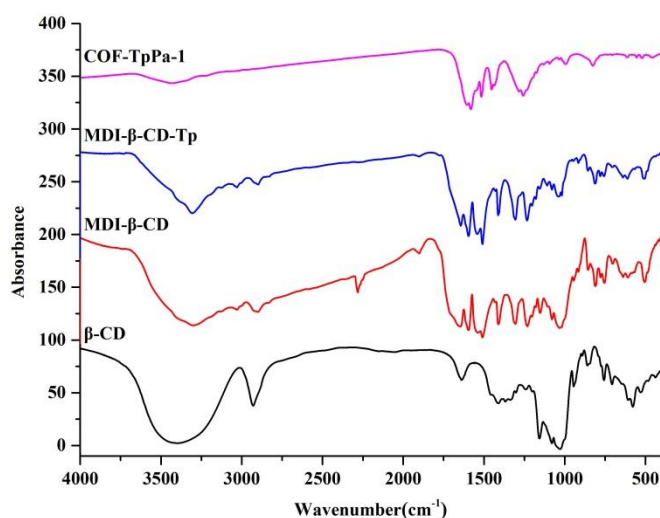


Figure S2. FT-IR spectra of β -CD, MDI- β -CD, MDI- β -CD-Tp, and COF-TpPa-1

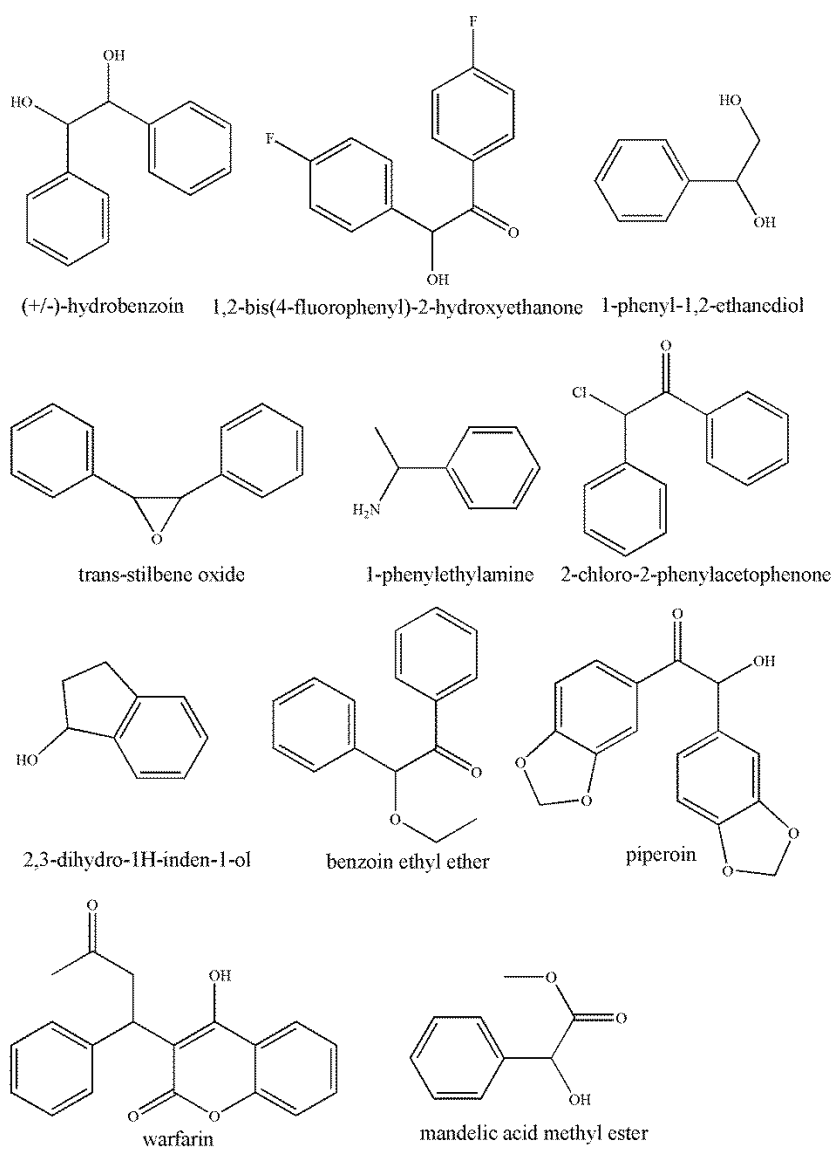


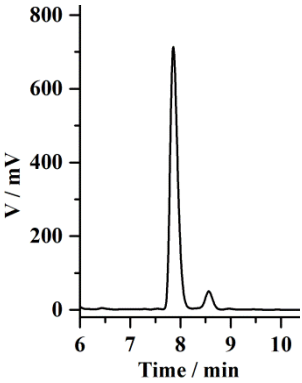
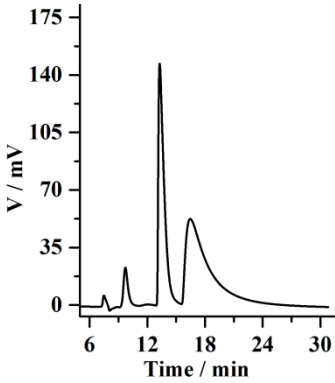
Figure S3. Structures of the chiral compounds separated on the MDI- β -CD-modified COF@SiO₂-packed column

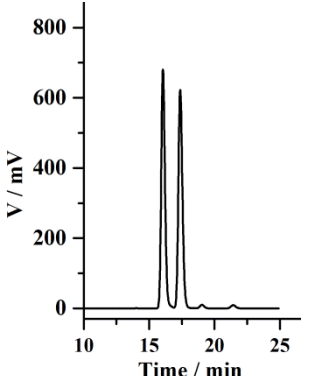
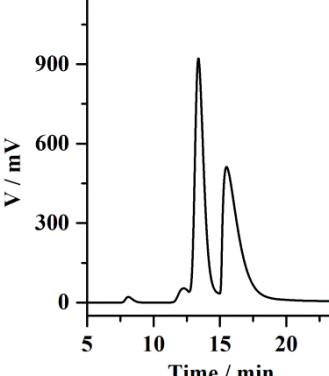
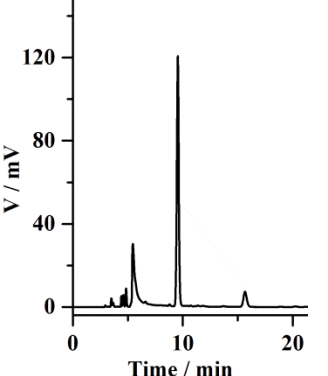
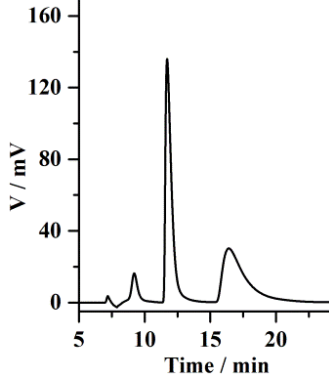
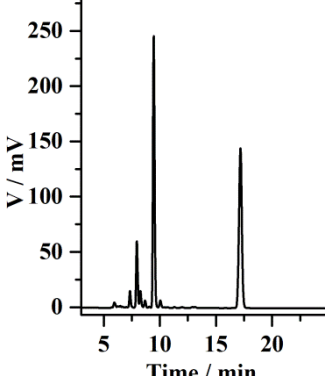
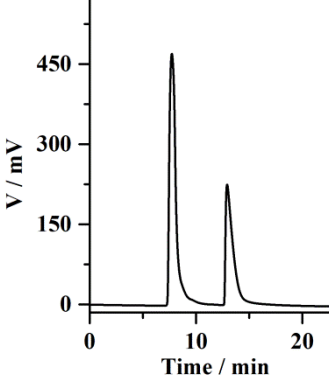
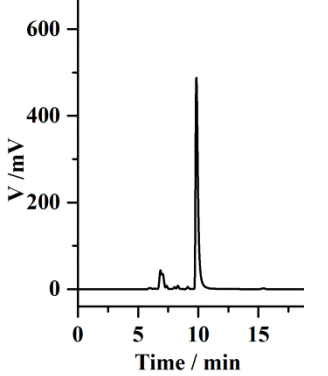
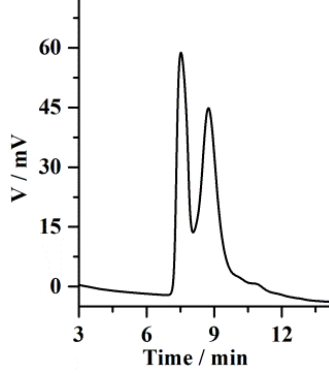
Table S1. Separation of racemic compounds on the MDI- β -CD-modified COF@SiO₂-packed column (column A), Chiralpak AD-H column, and β -CD-COF@SiO₂-packed column (column B)

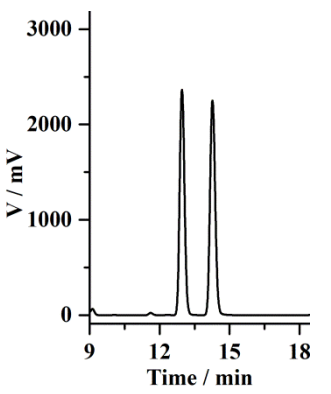
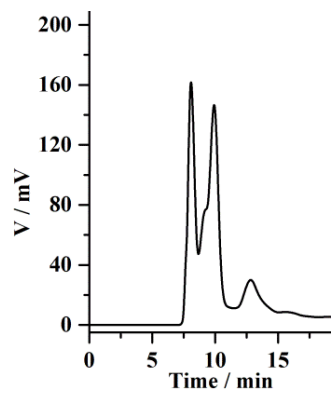
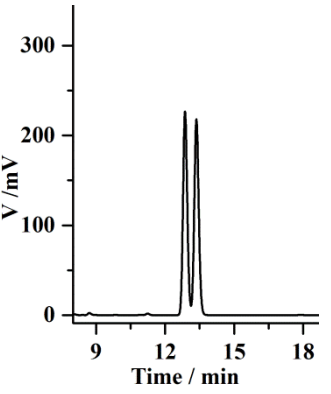
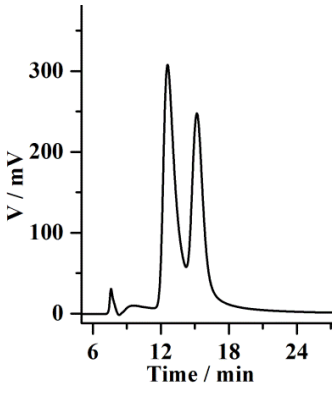
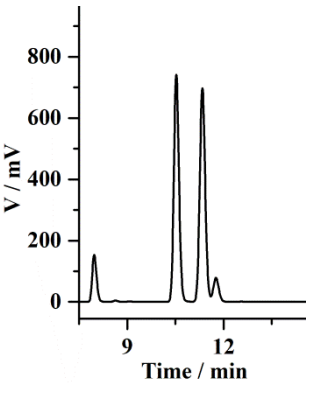
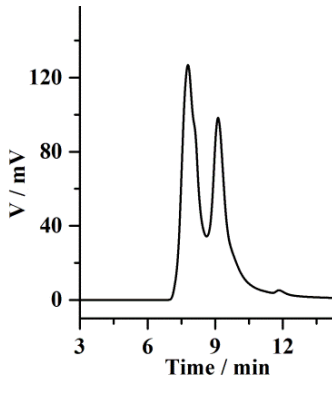
Racemates	Separation factor(α)			Resolution(Rs)		
	A	AD-H	B	A	AD-H	B
(+/-)-hydrobenzoin ^a	1.44	1.00	2.35	1.48	— ^d	1.77
1,2-bis(4-fluorophenyl)-2-hydroxyethanone ^a	1.28	1.12	1.00	1.34	2.21	— ^d
1-phenyl-1,2-ethanediol ^b	1.75	1.00	1.00	2.17	— ^d	— ^d
trans-stilbene oxide ^a	3.15	3.12	2.37	3.26	5.78	1.65
1-phenylethylamine ^a	1.55	1.00	1.00	1.04	— ^d	— ^d
2-chloro-2-phenylacetophenone ^a	1.66	1.17	1.00	0.97	2.59	— ^d
2,3-dihydro-1H-inden-1-ol ^a	1.35	1.06	1.00	1.14	1.26	— ^d
benzoin ethyl ether ^b	1.54	1.15	1.00	1.01	2.51	— ^d
piperoin ^a	2.00	1.26	1.00	2.15	2.64	— ^d
warfarin ^c	2.11	1.25	1.00	1.60	2.61	— ^d
mandelic acid methyl ester ^c	1.19	1.08	1.00	0.57	1.77	— ^d

Separation conditions: ^amobile phase, n-hexane/isopropanol (90/10, v/v) as the mobile phase for columns A and AD-H. ^bmobile phase, n-hexane/isopropanol (80/20, v/v) as the mobile phase for columns A and AD-H. ^cmobile phase, n-hexane/isopropanol (70/30, v/v) as the mobile phase for columns A and AD-H; flow rate: 0.1 mL min⁻¹; column temperature: 25 °C. ^dCannot be separated.

Table S2. Eleven pairs of racemic compounds separated on the MDI- β -CD-modified COF@SiO₂-packed column and Chiralpak AD-H column (separation conditions as shown in Table S1)

Racemates	Chiralpak AD-H	MDI- β -CD-modified COF@SiO ₂ -packed column
(+/-)-hydrobenzoin		

<p>1,2-bis(4-fluorophenyl)-2-hydroxyethanone</p>		
<p>1-phenyl-1,2-ethanediol</p>		
<p>trans-stilbene oxide</p>		
<p>1-phenylethylamine</p>		

<p>2-chloro-2-phenylacetophenone</p>		
<p>2,3-dihydro-1H-inden-1-ol</p>		
<p>benzoin ethyl ether</p>		
<p>piperoin</p>	