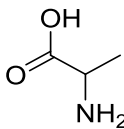


## α-Amino acids

### Chromatographic Data, $k_1$ , $\alpha$ , $R_s$ and Elution Order of Proteinogenic α-Amino Acids on Cinchona Alkaloid, Macrocylic Glycopeptide and Crown Ether-based Chiral Stationary Phases

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>Alanine (Ala)</b>	CHIRALPAK ZWIX(+)	1.5	1.15	0.50	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	2.46	1.17	0.60	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	2.82	1.20	2.66	MeOH/THF/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[2]
	CHIRALPAK ZWIX(+)	1.91	1.15	0.96	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	$L < D$	[11]
	CHIRALPAK ZWIX(-)	2.08	1.39	1.60	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	$D < L$	[11]
	CHIROBIOTIC T	0.56	1.80	2.90	H <sub>2</sub> O/MeOH (40/60 v/v)	$L < D$	[3]
	CHIROBIOTIC R	1.35	1.14	1.45	H <sub>2</sub> O/MeOH (50/50 v/v)	$L < D$	[4]
	CROWNPAK CR-I(+)	2.75*/9.81*	-	14.62	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	$D < L$	[5]
	CROWNPAK CR-I(+)	1.89*/4.67*	-	-	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	$D < L$	[6]

\* retention time ( $t_{R1}$  and  $t_{R2}$ ) in minute

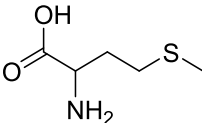
Abbreviations and References starting on page 70

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 Valine (Val)	CHIRALPAK ZWIX(+)	0.93	1.26	1.7	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	2.27	1.33	2.40	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	1.40	1.30	1.68	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	$L < D$	[11]
	CHIRALPAK ZWIX(-)	1.71	1.67	2.69	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	$D < L$	[11]
	CHIROBIOTIC T	0.46	1.60	1.90	H <sub>2</sub> O/MeOH (40/60 v/v)	$L < D$	[3]
	CHIROBIOTIC R	1.42	1.23	1.55	H <sub>2</sub> O/MeOH (50/50 v/v)	$L < D$	[4]
	CROWNPAK CR-I(+)	1.58*/2.55*	-	6.73	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	$D < L$	[5]
	CROWNPAK CR-I(+)	1.39*/1.79*	-	-	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	$D < L$	[6]
 Leucine (Leu)	CHIRALPAK ZWIX(+)	1.05	1.22	1.70	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	2.44	1.27	2.20	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	2.44	1.27	2.20	MeOH/MeCN/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[7]
	CHIRALPAK ZWIX(+)	1.47	1.27	2.05	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	$L < D$	[11]
	CHIRALPAK ZWIX(-)	1.81	1.58	1.88	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	$D < L$	[11]
	CHIROBIOTIC T	0.48	2.10	3.50	H <sub>2</sub> O/MeOH (40/60 v/v)	$L < D$	[3]
	CHIROBIOTIC T	0.35	2.05	1.40	H <sub>2</sub> O/MeOH (80/20 v/v)	$L < D$	[8]
	CHIROBIOTIC TAG	0.92	3.13	4.80	H <sub>2</sub> O/MeOH (80/20 v/v)	$L < D$	[9]
	CHIROBIOTIC R	1.48	1.15	1.45	H <sub>2</sub> O/MeOH (50/50 v/v)	$L < D$	[4]
	CROWNPAK CR-I(+)	1.89*/7.52*	-	-	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	$D < L$	[5]
	CROWNPAK CR-I(+)	1.52*/3.82*	-	-	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	$D < L$	[6]

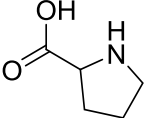
\* retention time ( $t_{R1}$  and  $t_{R2}$ ) in minute

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>Isoleucine (Ile)</b>	CHIRALPAK ZWIX(+)	0.98	1.26	2.00	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	L<D	[1]
	CHIRALPAK ZWIX(+)	2.35	1.33	2.40	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	L<D	[1]
	CHIRALPAK ZWIX(+)	1.51	1.36	4.12	MeOH/MeCN/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	L<D	[7]
	CHIRALPAK ZWIX(+)	1.46	1.35	2.04	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	L<D	[11]
	CHIRALPAK ZWIX(-)	1.83	1.50	1.64	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	D<L	[11]
	CHIROBIOTIC T	0.40	2.00	2.50	H <sub>2</sub> O/MeOH (40/60 v/v)	L<D	[3]
	CHIROBIOTIC R	1.40	1.24	1.54	H <sub>2</sub> O/MeOH (50/50 v/v)	L<D	[4]
	CROWNPAK CR-I(+)	1.55*/2.87*	-	-	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	D<L	[5]
	CROWNPAK CR-I(+)	1.37*/1.91*	-	-	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	D<L	[6]
 <b>allo-Isoleucine (allo-Ile)</b>	CHIRALPAK ZWIX(+)	0.97	1.26	1.60	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	L<D	[1]
	CHIRALPAK ZWIX(+)	2.26	1.32	2.20	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	L<D	[1]
	CROWNPAK CR-I(+)	1.55*/2.47*	-	-	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	D<L	[5]
	CROWNPAK CR-I(+)	1.37*/1.75*	-	-	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	D<L	[6]
 <b>tert-Leucine (t-Leu)</b>	CHIRALPAK ZWIX(+)	0.90	1.43	2.60	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	L<D	[1]
	CHIRALPAK ZWIX(+)	2.14	1.57	4.20	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	L<D	[1]

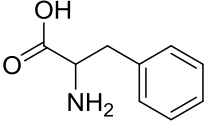
\* retention time ( $t_{R1}$  and  $t_{R2}$ ) in minute

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <p><b>Methionine (Met)</b></p>	CHIRALPAK ZWIX(+)	1.47	1.14	1.20	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	3.18	1.17	1.20	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	2.06	1.18	2.84	MeOH/MeCN/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[7]
	CHIRALPAK ZWIX(+)	1.96	1.17	0.96	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	$L < D$	[11]
	CHIRALPAK ZWIX(-)	1.98	1.30	1.31	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	$D < L$	[11]
	CHIROBIOTIC T	0.53	2.20	3.30	H <sub>2</sub> O/MeOH (40/60 v/v)	$L < D$	[3]
	CHIROBIOTIC R	1.52	1.15	1.52	H <sub>2</sub> O/MeOH (50/50 v/v)	$L < D$	[4]
	CROWNPAK CR-I(+)	2.33*/11.16*	-	15.55	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	$D < L$	[5]
	CROWNPAK CR-I(+)	1.71*/5.24*	-	15.63	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	$D < L$	[6]

\* retention time ( $t_{R1}$  and  $t_{R2}$ ) in minute

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 Proline (Pro)	CHIRALPAK ZWIX(+)	1.15	1.57	4.00	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	1.55	1.86	5.90	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	0.88	1.64	5.87	MeOH/H <sub>2</sub> O (98/2 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[2]
	CHIRALPAK ZWIX(+)	1.36	1.85	10.03	MeOH/MeOH/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[2]
	CHIRALPAK ZWIX(+)	1.41	1.73	3.09	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	$L < D$	[11]
	CHIRALPAK ZWIX(+)	1.57	1.86	6.10	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$S < R$	[15]
	CHIRALPAK ZWIX(-)	1.17	2.29	6.50	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$R < S$	[15]
	CHIRALPAK ZWIX(-)	1.52	2.44	4.76	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	$D < L$	[11]
	CHIROBIOTIC T	0.58	2.50	2.50	H <sub>2</sub> O/MeOH (40/60 v/v)	$L < D$	[3]
	CHIROBIOTIC T	0.80	3.63	6.8	H <sub>2</sub> O/MeOH (80/20 v/v)	$L < D$	[8]
	CHIROBIOTIC TAG	0.43	4.37	6.20	H <sub>2</sub> O/MeOH (80/20 v/v)	$L < D$	[9]
	CHIROBIOTIC R	2.00	2.84	3.24	H <sub>2</sub> O/MeOH (50/50 v/v)	$L < D$	[4]
	CROWNPAK CR-I(+)	1.44*/1.44*	-	0.00	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	-	[5]
	CROWNPAK CR-I(+)	1.34*/1.34*	-	0.00	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	$D < L$	[6]

\* retention time ( $t_{R1}$  and  $t_{R2}$ ) in minute

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>Phenylalanine (Phe)</b>	CHIRALPAK ZWIX(+)	1.03	1.15	1.00	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[1]
	CHIRALPAK ZWIX(+)	2.25	1.25	1.60	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[1]
	CHIRALPAK ZWIX(+)	1.78	1.21	3.02	MeOH/MeCN/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[7]
	CHIRALPAK ZWIX(+)	3.87	1.16	2.76	MeCN/H <sub>2</sub> O (90/10 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[2]
	CHIRALPAK ZWIX(+)	1.61	1.27	0.52	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>L</i> < <i>D</i>	[11]
	CHIRALPAK ZWIX(-)	1.86	1.40	1.64	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>D</i> < <i>L</i>	[11]
	CHIROBIOTIC T	0.56	1.50	2.00	H <sub>2</sub> O/MeOH (40/60 v/v)	<i>L</i> < <i>D</i>	[3]
	CHIROBIOTIC T	0.58	1.28	0.90	H <sub>2</sub> O/MeOH (80/20 v/v)	<i>L</i> < <i>D</i>	[8]
	CHIROBIOTIC TAG	0.46	2.24	3.0	H <sub>2</sub> O/MeOH (80/20 v/v)	<i>L</i> < <i>D</i>	[9]
	CHIROBIOTIC R	20.4	1.32	1.63	H <sub>2</sub> O/MeOH (50/50 v/v)	<i>L</i> < <i>D</i>	[4]
	CROWNPAK CR-I(+)	1.86*/4.52*	-	10.82	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	<i>D</i> < <i>L</i>	[5]
	CROWNPAK CR-I(+)	1.52*/2.65*	-	9.42	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	<i>D</i> < <i>L</i>	[6]

\* retention time ( $t_{R1}$  and  $t_{R2}$ ) in minute

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>Tryptophan (Trp)</b>	CHIRALPAK ZWIX(+)	2.18	1.57	7.10	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	4.02	1.25	3.10	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	1.18	1.54	4.81	MeOH/MeCN/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	$D < L$	[7]
	CHIRALPAK ZWIX(+)	1.94	1.53	5.86	MeOH/H <sub>2</sub> O (98/2 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[2]
	CHIROBIOTIC T	0.77	1.50	2.20	H <sub>2</sub> O/MeOH (40/60 v/v)	$L < D$	[3]
	CHIROBIOTIC T	1.25	1.79	2.10	H <sub>2</sub> O/MeOH (0/100 v/v)	$L < D$	[8]
	CHIROBIOTIC TAG	1.50	2.22	2.60	H <sub>2</sub> O/MeOH (80/20 v/v)	$L < D$	[9]
	CHIROBIOTIC R	2.36	1.23	1.55	H <sub>2</sub> O/MeOH (50/50 v/v)	$L < D$	[4]
	CROWNPAK CR-I(+)	1.86*/4.19*	-	9.82	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	$D < L$	[5]
	CROWNPAK CR-I(+)	1.53*/2.52*	-	8.34	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	$D < L$	[6]
 <b>Tyrosine (Tyr)</b>	CHIRALPAK ZWIX(+)	1.30	1.15	1.10	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	2.89	1.30	1.80	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	2.49	1.26	2.86	MeOH/MeCN/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[7]
	CHIRALPAK ZWIX(+)	2.49	1.26	2.86	MeOH/MeCN/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[2]
	CHIROBIOTIC T	0.42	1.50	1.90	H <sub>2</sub> O/MeOH (40/60 v/v)	$L < D$	[3]
	CHIROBIOTIC R	1.73	1.30	1.52	H <sub>2</sub> O/MeOH (50/50 v/v)	$L < D$	[4]
	CROWNPAK CR-I(+)	1.95*/4.76*	-	10.70	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	$D < L$	[5]
	CROWNPAK CR-I(+)	1.53*/2.57*	-	8.54	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	$D < L$	[6]

\* retention time ( $t_{R1}$  and  $t_{R2}$ ) in minute

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>Threonine (Thr)</b>	<b>CHIRALPAK ZWIX(+)</b>	1.33	1.23	1.30	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[1]
	<b>CHIRALPAK ZWIX(+)</b>	3.14	1.30	2.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[1]
	<b>CHIRALPAK ZWIX(+)</b>	2.16	1.28	4.01	MeOH/MeCN/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[7]
	<b>CHIRALPAK ZWIX(+)</b>	2.18	1.25	0.83	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>L</i> < <i>D</i>	[11]
	<b>CHIRALPAK ZWIX(-)</b>	2.05	1.39	1.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>D</i> < <i>L</i>	[11]
	<b>CHIROBIOTIC T</b>	0.28	1.40	1.10	H <sub>2</sub> O/MeOH (40/60 v/v)	<i>L</i> < <i>D</i>	[3]
	<b>CHIROBIOTIC T</b>	1.50	1.82	2.30	H <sub>2</sub> O/MeOH (0/100 v/v)	<i>L</i> < <i>D</i>	[8]
	<b>CHIROBIOTIC TAG</b>	0.07	3.28	1.50	H <sub>2</sub> O/MeOH (60/40 v/v)	<i>L</i> < <i>D</i>	[9]
	<b>CROWNPAK CR-I(+)</b>	1.67*/3.13*	-	9.07	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	<i>D</i> < <i>L</i>	[5]
 <b>Serine (Ser)</b>	<b>CHIRALPAK ZWIX(+)</b>	1.68	1.00	0.00	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[1]
	<b>CHIRALPAK ZWIX(+)</b>	4.24	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[1]
	<b>CHIRALPAK ZWIX(+)</b>	3.86	1.04	0.65	MeOH/MeCN/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[7]
	<b>CHIRALPAK ZWIX(+)</b>	3.27	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	--	[11]
	<b>CHIRALPAK ZWIX(-)</b>	3.32	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	--	[11]
	<b>CHIROBIOTIC T</b>	0.33	1.40	1.20	H <sub>2</sub> O/MeOH (40/60 v/v)	<i>L</i> < <i>D</i>	[3]
	<b>CHIROBIOTIC R</b>	1.13	1.12	0.80	H <sub>2</sub> O/MeOH (50/50 v/v)	<i>L</i> < <i>D</i>	[4]
	<b>CROWNPAK CR-I(+)</b>	2.34*/4.05*	-	7.76	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	<i>D</i> < <i>L</i>	[5]
	<b>CROWNPAK CR-I(+)</b>	1.67*/2.31*	-	5.52	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	<i>D</i> < <i>L</i>	[6]

\* retention time ( $t_{R1}$  and  $t_{R2}$ ) in minute

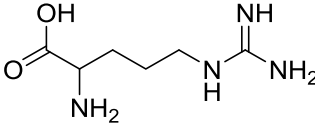
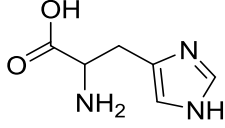
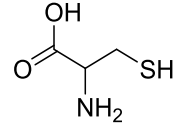


Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>Aspartic Acid (Asp)</b>	CHIRALPAK ZWIX(+)	6.0	1.00	0.00	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	11.4	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	1.65	1.05	0.51	MeOH/H <sub>2</sub> O (90/10 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[7]
	CHIRALPAK ZWIX(+)	7.34	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	--	[11]
	CHIRALPAK ZWIX(-)	8.59	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	--	[11]
	CHIROBIOTIC T	0.20	1.70	1.20	H <sub>2</sub> O/MeOH (40/60 v/v)	$L < D$	[3]
	CHIROBIOTIC R	1.45	1.17	1.56	H <sub>2</sub> O/MeOH (50/50 v/v)	$L < D$	[4]
	CROWNPAK CR-I(+)	2.63*	5.31*	8.55	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	$D < L$	[5]
	CROWNPAK CR-I(+)	1.71*/2.62*	-	7.26	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	$D < L$	[6]
 <b>Asparagine (Asn)</b>	CHIRALPAK ZWIX(+)	2.17	1.00	0.00	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	3.38	1.33	1.60	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[1]
	CHIRALPAK ZWIX(+)	3.21	1.32	4.30	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$L < D$	[7]
	CHIRALPAK ZWIX(+)	3.97	1.28	3.95	MeOH/THF/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[2]
	CHIROBIOTIC T	0.60	1.60	2.10	H <sub>2</sub> O/MeOH (40/60 v/v)	$L < D$	[3]
	CROWNPAK CR-I(+)	1.88*	2.61*	4.31	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	$D < L$	[5]
	CROWNPAK CR-I(+)	1.50*/1.79*	-	3.43	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	$D < L$	[6]

\* retention time ( $t_{R1}$  and  $t_{R2}$ ) in minute

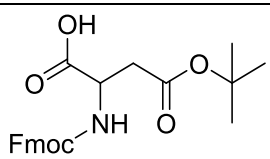
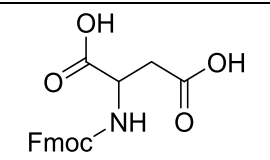
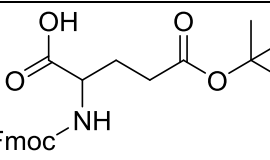
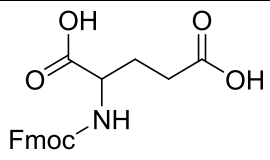
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>Glutamic Acid (Glu)</b>	CHIRALPAK ZWIX(+)	2.57	1.06	0.50	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[1]
	CHIRALPAK ZWIX(+)	6.56	1.15	1.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>D&lt;L</i>	[1]
	CHIRALPAK ZWIX(+)	4.99	1.36	1.37	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>D&lt;L</i>	[11]
	CHIRALPAK ZWIX(-)	4.64	1.23	0.76	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>L&lt;D</i>	[11]
	CHIROBIOTIC T	0.30	1.90	1.50	H <sub>2</sub> O/MeOH (40/60 v/v)	<i>L&lt;D</i>	[3]
	CROWNPAK CR-I(+)	2.55*	13.32*	15.13	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	<i>D&lt;L</i>	[5]
	CROWNPAK CR-I(+)	1.70*/5.12*	-	14.49	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	<i>D&lt;L</i>	[6]
 <b>Glutamine (Gln)</b>	CHIRALPAK ZWIX(+)	1.50	1.16	0.70	MeOH/MeCN (100/0 v/v) containing 25 mM DEA and 50 mM FA	<i>L&lt;D</i>	[1]
	CHIRALPAK ZWIX(+)	2.94	1.27	0.70	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>L&lt;D</i>	[1]
	CHIRALPAK ZWIX(+)	2.18	1.26	2.32	MeOH/MeCN/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	<i>L&lt;D</i>	[7]
	CHIROBIOTIC T	0.40	1.80	1.60	H <sub>2</sub> O/MeOH (40/60 v/v)	<i>L&lt;D</i>	[3]
	CROWNPAK CR-I(+)	1.78*	4.68*	10.69	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	<i>D&lt;L</i>	[5]
	CROWNPAK CR-I(+)	1.48*/2.73*	-	11.14	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	<i>D&lt;L</i>	[6]
 <b>Lysine (Lys)</b>	CHIROBIOTIC T	6.12	1.50	2.20	H <sub>2</sub> O/MeOH (40/60 v/v)	<i>L&lt;D</i>	[3]
	CHIROBIOTIC R	1.27	2.07	1.97	H <sub>2</sub> O/MeOH (50/50 v/v)	<i>L&lt;D</i>	[4]
	CROWNPAK CR-I(+)	6.12*	29.26*	8.08	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	<i>D&lt;L</i>	[5]
	CROWNPAK CR-I(+)	2.70*/7.57*	-	9.01	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	<i>D&lt;L</i>	[6]

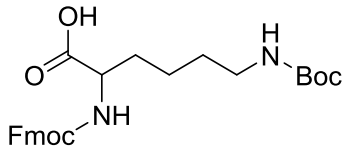
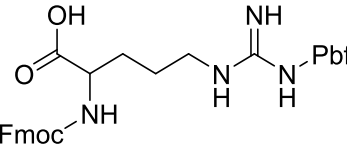
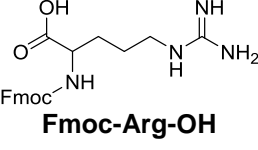
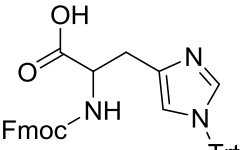
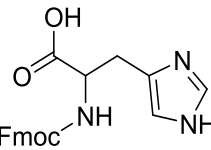
\* retention time ( $t_{R1}$  and  $t_{R2}$ ) in minute

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>Arginine (Arg)</b>	<b>CHIRALPAK ZWIX(+)</b>	2.79	1.10	1.17	MeOH/H <sub>2</sub> O (98/2 v/v) containing 25 mM DEA and 50 mM FA	L<D	[7]
	<b>CHIROBIOTIC T</b>	6.48	1.40	2.1	H <sub>2</sub> O/MeOH (40/60 v/v)	L<D	[3]
	<b>CROWNPAK CR-I(+)</b>	1.58*	3.25*	6.80	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	D<L	[5]
	<b>CROWNPAK CR-I(+)</b>	1.34*/1.95*	-	6.21	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	D<L	[6]
 <b>Histidine (His)</b>	<b>CHIRALPAK ZWIX(+)</b>	2.63	1.22	1.96	MeOH/H <sub>2</sub> O (98/2 v/v) containing 25 mM DEA and 50 mM FA	L<D	[7]
	<b>CHIROBIOTIC T</b>	6.60	1.20	0.80	H <sub>2</sub> O/MeOH (40/60 v/v)	L<D	[3]
	<b>CHIROBIOTIC TAG</b>	0.40	1.60	1.20	H <sub>2</sub> O(pH 3.8 AcOH)/MeOH (40/60 v/v)	L<D	[9]
	<b>CHIROBIOTIC R</b>	1.13	1.12	1.45	H <sub>2</sub> O/MeCN (50/50 v/v)	L<D	[4]
	<b>CROWNPAK CR-I(+)</b>	1.59*	2.03*	3.25	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	D<L	[5]
	<b>CROWNPAK CR-I(+)</b>	1.35*/1.50*	-	1.95	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5) v/v/v/v	D<L	[6]
 <b>Cysteine (Cys)</b>	<b>CHIROBIOTIC T</b>	0.45	1.60	1.60	H <sub>2</sub> O/MeOH (40/60 v/v)	L<D	[3]
	<b>CHIROBIOTIC R</b>	1.80	1.18	1.70	H <sub>2</sub> O/MeOH (50/50 v/v)	L<D	[4]
	<b>CROWNPAK CR-I(+)</b>	2.16*/5.50*	-	11.94	MeCN/H <sub>2</sub> O/TFA (96/4/0.5 v/v/v)	D<L	[5]
	<b>CROWNPAK CR-I(+)</b>	1.63*/2.91*	-	10.18	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	D<L	[6]

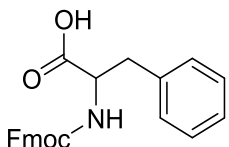
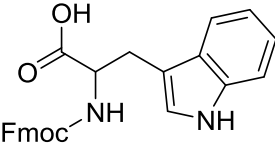
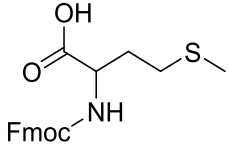
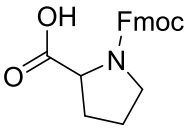
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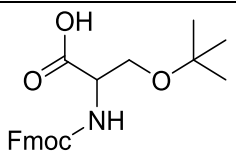
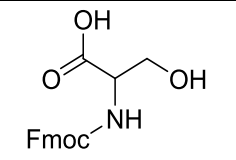
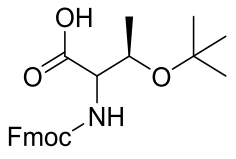
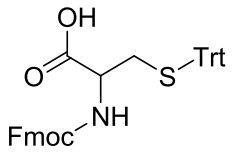
Chromatographic Data,  $k_1$ ,  $\alpha$ ,  $R_s$  and Elution Order of *N*-Fmoc-Proteinogenic  $\alpha$ -amino Acids on *Cinchona* Alkaloid and Macrocyclic Glycopeptide-based Chiral Stationary Phase Derivative

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>Fmoc-Asp(OtBu)-OH</b>	<b>CHIRALPAK ZWIX(+)</b>	0.36	1.32	1.16	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK ZWIX(-)</b>	0.22	1.00	0.00	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	--	[10]
	<b>CHIRALPAK QN-AX</b>	2.38	1.82	8.77	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK QD-AX</b>	2.45	1.78	9.26	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
 <b>Fmoc-Asp-OH</b>	<b>CHIROBIOTIC R</b>	3.61	1.56	1.86	0.1% aqueous TEAA(pH 7.0)/MeOH (80/20 v/v)	<i>L</i> < <i>D</i>	[4]
 <b>Fmoc-Glu(OtBu)-OH</b>	<b>CHIRALPAK ZWIX(+)</b>	0.22	1.32	0.64	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK ZWIX(-)</b>	0.24	1.00	0.00	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
	<b>CHIRALPAK QN-AX</b>	1.97	1.88	9.54	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK QD-AX</b>	2.02	1.66	7.86	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
 <b>Fmoc-Glu-OH</b>	<b>CHIROBIOTIC R</b>	3.69	1.49	1.57	0.1% aqueous TEAA(pH 7.0)/MeOH (80/20 v/v)	<i>L</i> < <i>D</i>	[4]

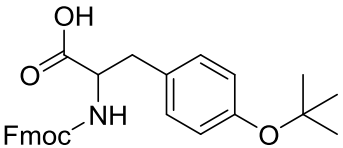
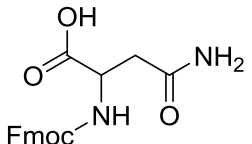
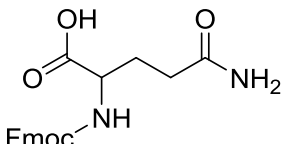
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>Fmoc-Lys(Boc)-OH</b>	CHIRALPAK ZWIX(+)	0.19	1.43	1.01	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	CHIRALPAK ZWIX(-)	0.20	0.00	0.00	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	--	[10]
	CHIRALPAK QN-AX	1.32	1.80	6.20	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	CHIRALPAK QD-AX	1.39	1.54	5.00	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
 <b>Fmoc-Arg(Pbf)-OH</b>	CHIRALPAK ZWIX(+)	0.99	1.91	4.67	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	CHIRALPAK ZWIX(-)	0.71	1.50	2.52	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
	CHIRALPAK QN-AX	2.74	1.59	7.87	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	CHIRALPAK QD-AX	2.74	1.42	4.00	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
 <b>Fmoc-Arg-OH</b>	CHIROBIOTIC R	3.28	1.46	1.56	0.1% aqueous TEAA(pH 7.0)/MeOH (80/20 v/v)	<i>L</i> < <i>D</i>	[4]
 <b>Fmoc-His(Trt)-OH</b>	CHIRALPAK ZWIX(-)	0.43	1.47	1.50	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
	CHIRALPAK QN-AX	1.85	1.99	10.49	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	CHIRALPAK QD-AX	2.09	1.62	6.27	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
 <b>Fmoc-His-OH</b>	CHIROBIOTIC R	10.4	1.1	1.0	0.1% aqueous TEAA(pH 4.1)/MeOH (80/20 v/v)	<i>L</i> < <i>D</i>	[4]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 Fmoc-Ala-OH	CHIRALPAK ZWIX(+)	0.25	1.36	0.88	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	D<L	[10]
	CHIRALPAK ZWIX(-)	0.27	1.00	0.00	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	--	[10]
	CHIRALPAK QN-AX	2.18	1.50	6.67	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	D<L	[10]
	CHIRALPAK QD-AX	2.10	1.59	6.89	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	L<D	[10]
	CHIROBIOTIC R	11.78	1.78	1.82	0.1% aqueous TEAA(pH 4.1)/MeOH (80/20 v/v)	L<D	[4]
 Fmoc-Val-OH	CHIRALPAK ZWIX(+)	0.20	1.54	0.77	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	D<L	[10]
	CHIRALPAK ZWIX(-)	0.21	1.13	<0.2	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	L<D	[10]
	CHIRALPAK QN-AX	1.88	2.06	12.66	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	D<L	[10]
	CHIRALPAK QD-AX	1.79	2.06	10.78	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	L<D	[10]
 Fmoc-Leu-OH	CHIRALPAK ZWIX(+)	0.18	1.36	0.70	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	D<L	[10]
	CHIRALPAK ZWIX(-)	0.18	1.00	0.00	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	L<D	[10]
	CHIRALPAK QN-AX	1.58	1.83	8.53	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	D<L	[10]
	CHIRALPAK QD-AX	1.36	1.94	9.73	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	L<D	[10]
 Fmoc-Ile-OH	CHIRALPAK ZWIX(+)	0.18	1.43	0.69	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	D<L	[10]
	CHIRALPAK ZWIX(-)	0.22	1.00	0.00	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	--	[10]
	CHIRALPAK QN-AX	1.80	2.05	10.62	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	D<L	[10]
	CHIRALPAK QD-AX	1.55	2.22	12.3	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	L<D	[10]

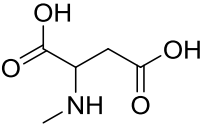
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>Fmoc-Phe-OH</b>	<b>CHIRALPAK ZWIX(+)</b>	0.38	1.63	2.11	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK ZWIX(-)</b>	0.40	1.31	1.09	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
	<b>CHIRALPAK QN-AX</b>	3.26	1.55	7.74	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK QD-AX</b>	3.46	1.65	8.47	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
 <b>Fmoc-Trp-OH</b>	<b>CHIRALPAK ZWIX(+)</b>	0.80	2.36	6.82	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK ZWIX(-)</b>	0.65	1.67	3.15	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
	<b>CHIRALPAK QN-AX</b>	4.11	1.64	8.70	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK QD-AX</b>	4.50	1.50	7.02	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
 <b>Fmoc-Met-OH</b>	<b>CHIRALPAK ZWIX(+)</b>	0.33	1.41	1.31	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK ZWIX(-)</b>	0.32	1.19	0.30	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
	<b>CHIRALPAK QN-AX</b>	2.84	1.67	9.83	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK QD-AX</b>	2.90	1.78	10.22	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
 <b>Fmoc-Pro-OH</b>	<b>CHIRALPAK ZWIX(+)</b>	0.27	1.00	0.00	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	--	[10]
	<b>CHIRALPAK ZWIX(-)</b>	0.28	1.00	0.00	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	--	[10]
	<b>CHIRALPAK QN-AX</b>	1.88	1.06	1.06	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK QD-AX</b>	1.61	1.15	2.03	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]

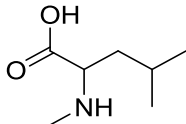
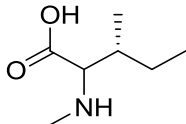
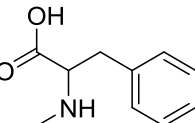
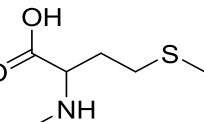
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>Fmoc-Ser(<i>t</i>Bu)-OH</b>	<b>CHIRALPAK ZWIX(+)</b>	0.22	1.41	0.87	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	--	[10]
	<b>CHIRALPAK ZWIX(-)</b>	0.23	1.00	0.00	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	--	[10]
	<b>CHIRALPAK QN-AX</b>	2.14	1.35	5.42	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK QD-AX</b>	1.97	1.37	5.02	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
 <b>Fmoc-Ser-OH</b>	<b>CHIROBIOTIC R</b>	4.90	1.34	1.55	0.1% aqueous TEAA(pH 7.0)/MeOH (80/20 v/v)	<i>L</i> < <i>D</i>	[4]
 <b>Fmoc-Thr(<i>t</i>Bu)-OH</b>	<b>CHIRALPAK ZWIX(+)</b>	0.19	1.00	0.00	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	--	[10]
	<b>CHIRALPAK ZWIX(-)</b>	0.18	1.00	0.00	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	--	[10]
	<b>CHIRALPAK QN-AX</b>	1.72	1.05	0.52	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK QD-AX</b>	1.31	1.11	1.42	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>L</i> < <i>D</i>	[10]
 <b>Fmoc-Cys(<i>Trt</i>)-OH</b>	<b>CHIRALPAK ZWIX(+)</b>	0.59	1.49	2.36	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK ZWIX(-)</b>	0.41	1.63	2.29	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK QN-AX</b>	6.77	1.14	2.68	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]
	<b>CHIRALPAK QD-AX</b>	4.26	1.33	5.26	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	<i>D</i> < <i>L</i>	[10]

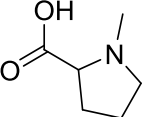
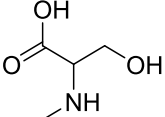
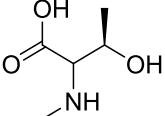


Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>Fmoc-Tyr(tBu)-OH</b>	CHIRALPAK ZWIX(+)	0.52	1.00	0.00	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	--	[10]
	CHIRALPAK ZWIX(-)	0.48	1.92	3.58	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	L<D	[10]
	CHIRALPAK QN-AX	3.89	1.17	2.11	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	D<L	[10]
	CHIRALPAK QD-AX	2.88	2.10	12.14	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	L<D	[10]
 <b>Fmoc-Asn-OH</b>	CHIRALPAK ZWIX(+)	0.73	2.06	5.50	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	D<L	[10]
	CHIRALPAK ZWIX(-)	0.48	1.84	3.19	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	L<D	[10]
	CHIRALPAK QN-AX	3.45	1.33	5.47	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	D<L	[10]
	CHIRALPAK QD-AX	3.32	1.26	4.37	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	L<D	[10]
	CHIROBIOTIC R	3.94	1.17	1.25	0.1% aqueous TEAA(pH 7.0)/MeOH (80/20 v/v)	L<D	[4]
 <b>Fmoc-Gln-OH</b>	CHIRALPAK ZWIX(+)	0.45	1.54	2.11	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	D<L	[10]
	CHIRALPAK ZWIX(-)	0.46	1.08	0.20	H <sub>2</sub> O/MeOH (1/99 v/v) containing 30 mM TEA and 60 mM FA	--	[10]
	CHIRALPAK QN-AX	2.75	1.98	10.61	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	D<L	[10]
	CHIRALPAK QD-AX	3.70	1.39	5.64	MeOH/MeCN (75/25 v/v) containing 30 mM DEA and 60 mM FA	D<L	[10]
	CHIROBIOTIC R	3.11	1.46	1.55	0.1% aqueous TEAA(pH 7.0)/MeOH (80/20 v/v)	L<D	[4]

Chromatographic Data,  $k_1$ ,  $\alpha$ ,  $R_s$  and Elution Order of *N*-Methyl-Proteinogenic  $\alpha$ -Amino Acids on *Cinchona* Alkaloid-based Chiral Stationary Phases

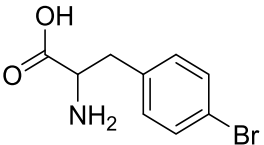
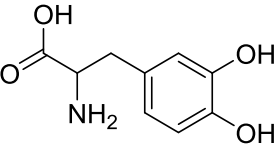
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>N-Me-Asp</b>	CHIRALPAK ZWIX(+)	3.25	1.25	0.75	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>L</i> < <i>D</i>	[11]
	CHIRALPAK ZWIX(-)	2.91	1.20	0.81	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>D</i> < <i>L</i>	[11]
 <b>N-Me-Glu</b>	CHIRALPAK ZWIX(+)	2.22	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	--	[11]
	CHIRALPAK ZWIX(-)	1.41	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	--	[11]
 <b>N-Me-Ala</b>	CHIRALPAK ZWIX(+)	1.52	1.08	0.34	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>D</i> < <i>L</i>	[11]
	CHIRALPAK ZWIX(-)	1.54	1.11	0.41	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>L</i> < <i>D</i>	[11]
 <b>N-Me-Val</b>	CHIRALPAK ZWIX(+)	0.98	1.15	0.59	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>D</i> < <i>L</i>	[11]
	CHIRALPAK ZWIX(-)	0.81	1.24	1.05	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>L</i> < <i>D</i>	[11]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>N-Me-Leu</b>	<b>CHIRALPAK ZWIX(+)</b>	0.96	1.19	0.50	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>D</i> < <i>L</i>	[11]
	<b>CHIRALPAK ZWIX(-)</b>	0.96	1.10	0.43	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>L</i> < <i>D</i>	[11]
 <b>N-Me-Ile</b>	<b>CHIRALPAK ZWIX(+)</b>	0.88	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	--	[11]
	<b>CHIRALPAK ZWIX(-)</b>	0.71	1.10	0.42	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>D</i> < <i>L</i>	[11]
 <b>N-Me-Phe</b>	<b>CHIRALPAK ZWIX(+)</b>	1.39	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	--	[11]
	<b>CHIRALPAK ZWIX(-)</b>	1.23	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	--	[11]
 <b>N-Me-Met</b>	<b>CHIRALPAK ZWIX(+)</b>	1.50	1.08	0.20	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	--	[11]
	<b>CHIRALPAK ZWIX(-)</b>	1.29	1.17	<0.2	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	--	[11]

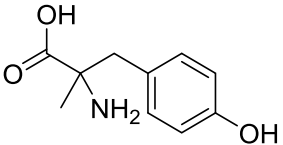
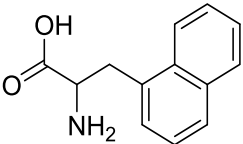
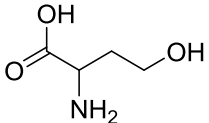
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>N-Me-Pro</b>	<b>CHIRALPAK ZWIX(+)</b>	0.74	1.10	0.48	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>D</i> < <i>L</i>	[11]
	<b>CHIRALPAK ZWIX(-)</b>	0.80	1.08	0.40	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	<i>D</i> < <i>L</i>	[11]
 <b>N-Me-Ser</b>	<b>CHIRALPAK ZWIX(+)</b>	2.26	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	--	[11]
	<b>CHIRALPAK ZWIX(-)</b>	1.47	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	--	[11]
 <b>N-Me-Thr</b>	<b>CHIRALPAK ZWIX(+)</b>	1.58	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	--	[11]
	<b>CHIRALPAK ZWIX(-)</b>	0.97	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	--	[11]

Chromatographic Data,  $k_1$ ,  $\alpha$ ,  $R_s$  and Elution Order of *Unusual*  $\alpha$ -Amino Acids on *Cinchona* Alkaloid and Macrocylic Glycopeptide-based Chiral Stationary Phases

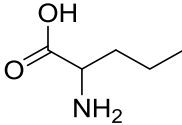
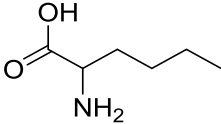
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>2-Fluoro-Phe</b>	CHIRALPAK ZWIX(+)	1.03	1.16	1.80	MeOH/MeCN (0/100 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[1]
	CHIRALPAK ZWIX(+)	2.08	1.21	2.80	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[1]
	CHIROBIOTIC T	0.61	1.80	2.50	H <sub>2</sub> O/MeOH (60/40 v/v)	<i>L</i> < <i>D</i>	[3]
	CHIROBIOTIC R	1.91	1.25	1.54	H <sub>2</sub> O/MeOH (50/50 v/v)	<i>L</i> < <i>D</i>	[4]
 <b>3-Fluoro-Phe</b>	CHIRALPAK ZWIX(+)	1.96	1.17	2.29	MeOH/MeCN/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[7]
	CHIRALPAK ZWIX(+)	2.23	1.19	2.33	MeOH/MeCN/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 25 mM FA	<i>n.d.</i>	[2]
	CHIROBIOTIC T	0.63	1.50	2.10	H <sub>2</sub> O/MeOH (60/40 v/v)	<i>L</i> < <i>D</i>	[3]
	CHIROBIOTIC T	1.39	1.74	3.66	aqueous TEAA(pH 4.1/MeOH (20/80 v/v))	<i>L</i> < <i>D</i>	[12]
	CHIROBIOTIC R	1.90	1.22	1.50	H <sub>2</sub> O/MeOH (50/50 v/v)	<i>L</i> < <i>D</i>	[4]
	CHIROBIOTIC R	0.64	1.52	1.46	aqueous TEAA(pH 4.1/MeOH (60/40 v/v))	<i>L</i> < <i>D</i>	[12]
 <b>4-Fluoro-Phe</b>	CHIRALPAK ZWIX(+)	1.10	1.13	1.30	MeOH/MeCN (0/100 v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[1]
	CHIRALPAK ZWIX(+)	2.38	1.19	2.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[1]
	CHIRALPAK ZWIX(+)	2.03	1.17	2.28	MeOH/MeCN/H <sub>2</sub> O (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[7]
	CHIROBIOTIC T	0.63	1.50	2.10	H <sub>2</sub> O/MeOH (60/40 v/v)	<i>L</i> < <i>D</i>	[3]
	CHIROBIOTIC T	1.56	1.51	2.29	aqueous TEAA(pH 4.1/MeOH (20/80 v/v))	<i>L</i> < <i>D</i>	[12]
	CHIROBIOTIC R	1.89	1.20	1.52	H <sub>2</sub> O/MeOH (50/50 v/v)	<i>L</i> < <i>D</i>	[4]
	CHIROBIOTIC R	0.64	1.47	1.42	aqueous TEAA(pH 4.1/MeOH (60/40 v/v))	<i>L</i> < <i>D</i>	[12]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>a-Me-Phe</b>	CHIRALPAK ZWIX(+)	0.72	1.13	0.50	MeOH/MeCN (0/100 v/v) containing 25 mM DEA and 50 mM FA	<i>D</i> < <i>L</i>	[1]
	CHIRALPAK ZWIX(+)	1.58	1.0	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[1]
	CHIROBIOTIC T	1.48	1.17	0.90	H <sub>2</sub> O/MeOH (0/100 v/v)	<i>L</i> < <i>D</i>	[13]
	CHIROBIOTIC R	1.22	0.9	0.8	H <sub>2</sub> O/MeOH (70/30 v/v)	<i>L</i> < <i>D</i>	[14]
 <b>4-Bromo-Phe</b>	CHIRALPAK ZWIX(+)	1.53	1.14	1.80	MeOH/MeCN (0/100 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[1]
	CHIRALPAK ZWIX(+)	3.29	1.18	2.10	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[1]
	CHIRALPAK ZWIX(+)	1.58	1.0	0.00	MeOH/MeCN (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[7]
	CHIROBIOTIC T	0.83	1.40	1.70	H <sub>2</sub> O/MeOH (60/40 v/v)	<i>L</i> < <i>D</i>	[3]
 <b>3,4-dihydroxyphenylalanine (DOPA)</b>	CHIRALPAK ZWIX(+)	1.91	1.07	0.60	MeOH/MeCN (0/100 v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[1]
	CHIRALPAK ZWIX(+)	4.10	1.16	0.80	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[1]
	CHIRALPAK ZWIX(+)	3.24	1.17	2.04	MeOH/MeCN/H <sub>2</sub> O (49/49/2 v/v/v) containing 33 mM DEA and 50 mM FA	<i>n.d.</i>	[2]
	CHIROBIOTIC T	0.25	2.50	2.90	H <sub>2</sub> O/MeOH (60/40 v/v)	<i>L</i> < <i>D</i>	[3]
	CHIROBIOTIC R	1.80	1.33	1.40	H <sub>2</sub> O/MeOH (50/50 v/v)	<i>L</i> < <i>D</i>	[4]
	CROWNPAK CR-I(+)	1.54*/2.68*	-	9.03	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	<i>D</i> < <i>L</i>	[6]

\* retention time ( $t_{R1}$  and  $t_{R2}$ ) in minute

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b><math>\alpha</math>-Me-Tyr</b>	CHIRALPAK ZWIX(+)	0.93	1.42	2.70	MeOH/MeCN (0/100 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[1]
	CHIRALPAK ZWIX(+)	2.04	1.29	2.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[1]
	CHIROBIOTIC T	0.48	1.60	1.80	H <sub>2</sub> O/MeOH (40/60 (v/v))	<i>L&lt;D</i>	[3]
 <b>1-Naphthylalanine</b>	CHIRALPAK ZWIX(+)	1.68	1.14	1.50	MeOH/MeCN (0/100 v/v) containing 25 mM DEA and 50 mM FA	<i>L&lt;D</i>	[1]
	CHIRALPAK ZWIX(+)	3.16	1.16	1.50	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>L&lt;D</i>	[1]
	CHIRALPAK ZWIX(+)	2.75	1.25	0.78	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>L&lt;D</i>	[11]
	CHIROBIOTIC T	1.12	1.40	1.90	H <sub>2</sub> O/MeOH (40/60 (v/v))	<i>L&lt;D</i>	[3]
	CHIROBIOTIC T	2.13	1.54	2.40	aqueous TEAA(pH 4.1/MeOH (20/80 v/v))	<i>n.d.</i>	[12]
	CHIROBIOTIC R	1.91	1.52	1.52	aqueous TEAA(pH 4.1/MeOH (65/35 v/v))	<i>n.d.</i>	[12]
 <b>Homoserine</b>	CHIRALPAK ZWIX(+)	1.97	1.19	2.77	MeOH/MeCN (49/49/2 v/v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[7]
	CHIROBIOTIC T	0.39	1.50	1.30	H <sub>2</sub> O/MeOH (40/60 v/v)	<i>L&lt;D</i>	[3]
	CHIROBIOTIC R	1.32	1.10	1.40	H <sub>2</sub> O/MeOH (50/50 v/v)	<i>L&lt;D</i>	[4]
	CROWNPAK CR-I(+)	1.45*/2.39*	-	-	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	<i>D&lt;L</i>	[6]

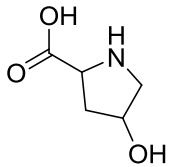
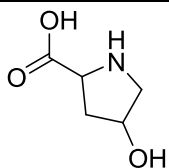
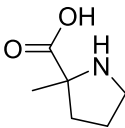
\* retention time ( $t_{R1}$  and  $t_{R2}$ ) in minute

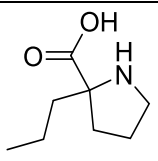
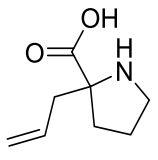
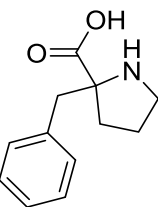
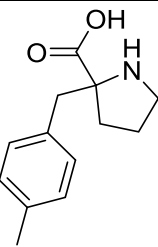
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>N-valine</b>	<b>CHIRALPAK ZWIX(+)</b>	1.00	1.22	1.60	MeOH/MeCN (100/0 v/v) containing 5 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[1]
	<b>CHIRALPAK ZWIX(+)</b>	2.31	1.27	2.10	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>L</i> < <i>D</i>	[1]
	<b>CHIROBIOTIC T</b>	0.49	2.8	4.40	H <sub>2</sub> O/MeOH (40/60 v/v)	<i>L</i> < <i>D</i>	[3]
	<b>CHIROBIOTIC R</b>	1.42	1.25	1.58	H <sub>2</sub> O/MeOH (50/50 v/v)	<i>L</i> < <i>D</i>	[4]
	<b>CROWNPAK CR-I(+)</b>	1.55*/3.57*	-	-	MeCN/EtOH/H <sub>2</sub> O/TFA (80/15/5/0.5 v/v/v/v)	<i>D</i> < <i>L</i>	[6]
 <b>N-leucine</b>	<b>CHIROBIOTIC T</b>	0.44	2.60	4.00	H <sub>2</sub> O/MeOH (40/60 v/v)	<i>L</i> < <i>D</i>	[3]
	<b>CHIROBIOTIC R</b>	1.77	1.07	1.45	H <sub>2</sub> O/MeOH (50/50 v/v)	<i>L</i> < <i>D</i>	[4]

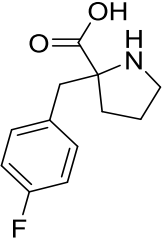
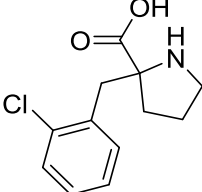
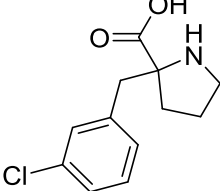
\* retention time ( $t_{R1}$  and  $t_{R2}$ ) in minute

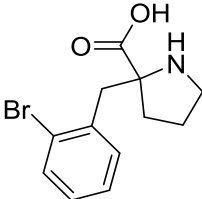
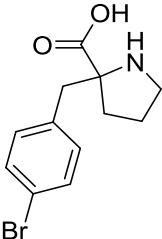
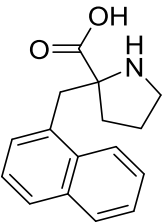


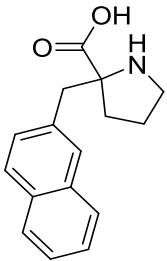
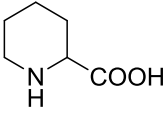
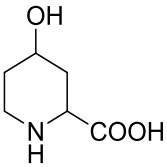
Chromatographic Data,  $k_1$ ,  $\alpha$ ,  $R_S$  and Elution Order for the Enantioseparation of *Unusual Secondary  $\alpha$ -Amino Acids*

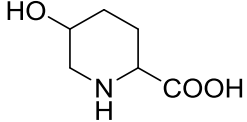
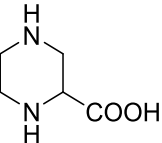
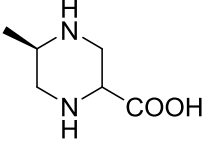
Compound	Column	$k_1$	$\alpha$	$R_S$	Mobile Phase	Elution Order	Ref.
 <p>(cis)-4-hydroxyproline</p>	CHIRALPAK ZWIX(+)	6.04	1.06	1.11	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	SS<RR	[15]
	CHIRALPAK ZWIX(-)	3.44	1.38	3.30	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	RR<SS	[15]
	CHIROBIOTIC T	1.16	1.48	2.66	H <sub>2</sub> O/MeOH (20/80 v/v)	L<D	[16]
	CHIROBIOTIC T	0.16	1.63	1.21	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	L<D	[17]
	CHIROBIOTIC TAG	1.11	1.25	1.19	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	L<D	[17]
	CHIROBIOTIC R	0.35	1.79	1.85	H <sub>2</sub> O/MeOH (50/50 v/v)	L<D	[16]
 <p>(trans)-4-hydroxyproline</p>	CHIRALPAK ZWIX(+)	1.71	1.88	4.90	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	SR<RS	[15]
	CHIRALPAK ZWIX(-)	1.24	2.18	5.30	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	RS<SR	[15]
 <p>2-methylproline</p>	CHIRALPAK ZWIX(+)	1.03	1.99	5.90	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	S<R	[15]
	CHIRALPAK ZWIX(-)	0.76	2.13	4.90	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	R<S	[15]
	CHIROBIOTIC T	2-82	1.36	1.59	H <sub>2</sub> O/MeOH (20/80 v/v)	L<D	[16]
	CHIROBIOTIC T	1.12	1.21	0.47	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	L<D	[17]
	CHIROBIOTIC TAG	2.36	1.35	1.55	0.1% aqueous TEAA(pH 6.5)/MeOH (70/30 v/v)	L<D	[17]
	CHIROBIOTIC R	0.76	1.22	2.83	H <sub>2</sub> O/MeOH (50/50 v/v)	L<D	[16]

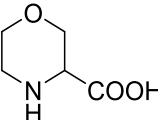
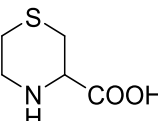
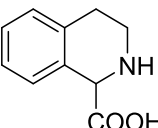
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>2-propylproline</b>	<b>CHIRALPAK ZWIX(+)</b>	0.82	1.62	3.50	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$S < R$	[15]
	<b>CHIRALPAK ZWIX(-)</b>	0.44	1.94	2.90	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$R < S$	[15]
 <b>2-allylproline</b>	<b>CHIRALPAK ZWIX(+)</b>	0.86	1.66	2.90	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$R < S$	[15]
	<b>CHIRALPAK ZWIX(-)</b>	0.51	1.92	2.80	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$S < R$	[15]
 <b>2-benzylproline</b>	<b>CHIRALPAK ZWIX(+)</b>	0.84	1.55	3.50	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$R < S$	[15]
	<b>CHIRALPAK ZWIX(-)</b>	0.46	1.98	3.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$S < R$	[15]
 <b>2-(4-methylbenzyl)proline</b>	<b>CHIRALPAK ZWIX(+)</b>	0.98	1.47	2.60	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$R < S$	[15]
	<b>CHIRALPAK ZWIX(-)</b>	0.50	1.82	3.10	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$S < R$	[15]

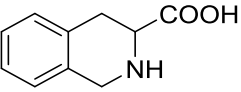
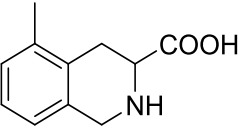
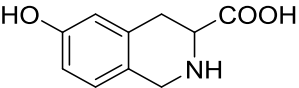
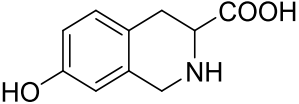
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>2-(4-fluorobenzyl)proline</b>	<b>CHIRALPAK ZWIX(+)</b>	0.85	1.47	2.90	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>R</i> < <i>S</i>	[15]
	<b>CHIRALPAK ZWIX(-)</b>	0.55	1.84	2.60	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>S</i> < <i>R</i>	[15]
 <b>2-(2-chlorobenzyl)proline</b>	<b>CHIRALPAK ZWIX(+)</b>	0.88	1.59	3.90	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>R</i> < <i>S</i>	[15]
	<b>CHIRALPAK ZWIX(-)</b>	0.64	1.80	2.30	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>S</i> < <i>R</i>	[15]
 <b>2-(3-chlorobenzyl)proline</b>	<b>CHIRALPAK ZWIX(+)</b>	1.13	1.45	3.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[15]
	<b>CHIRALPAK ZWIX(-)</b>	0.71	1.68	2.50	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[15]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>2-(2-bromobenzyl)proline</b>	<b>CHIRALPAK ZWIX(+)</b>	1.01	1.56	3.50	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$R < S$	[15]
	<b>CHIRALPAK ZWIX(-)</b>	0.74	1.71	3.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$S < R$	[15]
 <b>2-(4-bromobenzyl)proline</b>	<b>CHIRALPAK ZWIX(+)</b>	1.10	1.53	3.20	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$R < S$	[15]
	<b>CHIRALPAK ZWIX(-)</b>	0.78	1.72	4.40	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$S < R$	[15]
 <b>2-(1-naphthylmethyl)proline</b>	<b>CHIRALPAK ZWIX(+)</b>	1.30	1.81	4.50	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$R < S$	[15]
	<b>CHIRALPAK ZWIX(-)</b>	0.94	1.97	4.50	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$S < R$	[15]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>2-(2-naphthylmethyl)proline</b>	<b>CHIRALPAK ZWIX(+)</b>	1.26	1.28	2.20	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$R < S$	[15]
	<b>CHIRALPAK ZWIX(-)</b>	0.85	1.73	4.20	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$S < R$	[15]
 <b>Pipecolic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	1.66	1.15	1.40	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$R < S$	[15]
	<b>CHIRALPAK ZWIX(-)</b>	1.29	1.31	2.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	$S < R$	[15]
	<b>CHIROBIOTIC T</b>	0.48	2.28	2.93	0.1% aqueous TEAA(pH 6.5)/MeOH (55/45 v/v)	$L < D$	[16]
	<b>CHIROBIOTIC T</b>	1.51	1.45	2.00	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	$L < D$	[17]
	<b>CHIROBIOTIC TAG</b>	2.34	3.03	2.90	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	$L < D$	[17]
	<b>CHIROBIOTIC R</b>	0.49	2.01	3.00	H <sub>2</sub> O/MeOH (50/50 v/v)	$L < D$	[16]
 <b>(cis)-4-hydroxy-pipecolic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	2.57	1.14	1.20	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[15]
	<b>CHIRALPAK ZWIX(-)</b>	1.72	1.24	1.70	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[15]
	<b>CHIROBIOTIC T</b>	1.28	1.07	0.53	H <sub>2</sub> O/MeOH (20/80 v/v)	$L < D$	[16]
	<b>CHIROBIOTIC T</b>	2.23	1.34	1.81	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	$L < D$	[17]
	<b>CHIROBIOTIC TAG</b>	1.07	1.80	2.00	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	$L < D$	[17]
	<b>CHIROBIOTIC R</b>	0.20	2.12	2.20	H <sub>2</sub> O/MeOH (50/50 v/v)	$L < D$	[16]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>(trans)-5-hydroxy-pipecolic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	1.91	1.16	1.30	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[15]
	<b>CHIRALPAK ZWIX(-)</b>	1.33	1.30	1.70	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[15]
	<b>CHIROBIOTIC T</b>	1.28	1.07	0.53	H <sub>2</sub> O/MeOH (20/80 v/v)	<i>L&lt;D</i>	[16]
	<b>CHIROBIOTIC T</b>	0.75	1.35	1.42	0.1% aqueous TEAA(pH 6.5)/MeOH (20/80 v/v)	<i>L&lt;D</i>	[17]
	<b>CHIROBIOTIC TAG</b>	1.85	1.10	0.70	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	<i>L&lt;D</i>	[17]
	<b>CHIROBIOTIC R</b>	0.39	1.57	1.46	H <sub>2</sub> O/MeOH (50/50 v/v)	<i>L&lt;D</i>	[16]
 <b>2-carboxypiperazine</b>	<b>CHIRALPAK ZWIX(+)</b>	0.62	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[15]
	<b>CHIRALPAK ZWIX(-)</b>	0.40	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[15]
	<b>CHIROBIOTIC T</b>	0.55	1.31	1.43	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	<i>L&lt;D</i>	[16]
	<b>CHIROBIOTIC T</b>	6.96	1.32	1.70	0.1% aqueous TEAA(pH 6.5)/MeOH (20/80 v/v)	<i>L&lt;D</i>	[17]
	<b>CHIROBIOTIC TAG</b>	6.63	1.68	2.40	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	<i>L&lt;D</i>	[17]
	<b>CHIROBIOTIC R</b>	2.09	1.32	1.03	0.1% aqueous TEAA(pH 6.5)/MeOH (30/70 v/v)	<i>L&lt;D</i>	[16]
 <b>(5R)-5-methylpiperazine-2-carboxylic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	1.03	1.39	1.60	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[15]
	<b>CHIRALPAK ZWIX(-)</b>	0.43	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[15]
	<b>CHIROBIOTIC T</b>	0.59	1.80	2.72	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	<i>L&lt;D</i>	[16]
	<b>CHIROBIOTIC T</b>	2.33	1.39	1.70	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	<i>L&lt;D</i>	[17]
	<b>CHIROBIOTIC TAG</b>	2.54	2.00	2.30	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	<i>L&lt;D</i>	[17]
	<b>CHIROBIOTIC R</b>	1.64	1.35	1.40	0.1% aqueous TEAA(pH 6.5)/MeOH (20/80 v/v)	<i>L&lt;D</i>	[16]

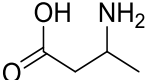
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>3-carboxymorpholine</b>	CHIRALPAK ZWIX(+)	1.96	1.15	1.20	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[15]
	CHIRALPAK ZWIX(-)	1.67	1.29	1.90	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[15]
	CHIROBIOTIC T	1.24	1.88	3.19	H <sub>2</sub> O/MeOH (20/80 v/v)	<i>L&lt;D</i>	[16]
	CHIROBIOTIC T	0.21	2.76	2.56	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	<i>L&lt;D</i>	[17]
	CHIROBIOTIC TAG	1.86	2.24	2.80	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	<i>L&lt;D</i>	[17]
	CHIROBIOTIC R	0.51	1.44	1.60	H <sub>2</sub> O/MeOH (40/60 v/v)	<i>L&lt;D</i>	[16]
 <b>3-carboxythiomorpholine</b>	CHIRALPAK ZWIX(+)	2.34	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[15]
	CHIRALPAK ZWIX(-)	2.14	1.14	1.40	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>R&lt;S</i>	[15]
	CHIROBIOTIC T	0.45	1.95	2.24	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	<i>L&lt;D</i>	[16]
	CHIROBIOTIC T	0.45	1.96	2.24	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	<i>L&lt;D</i>	[17]
	CHIROBIOTIC TAG	2.80	3.14	3.26	0.1% aqueous TEAA(pH 6.5)/MeOH (60/40 v/v)	<i>L&lt;D</i>	[17]
	CHIROBIOTIC R	0.74	1.57	2.23	0.1% aqueous TEAA(pH 6.5)/MeOH (50/50 v/v)	<i>L&lt;D</i>	[16]
 <b>1-carboxy-1,2,3,4-tetrahydroisoquinoline</b>	CHIRALPAK ZWIX(+)	2.48	1.27	2.00	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[15]
	CHIRALPAK ZWIX(-)	1.80	1.41	3.20	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[15]
	CHIROBIOTIC T	4.15	2.65	4.61	H <sub>2</sub> O/MeOH (10/90 v/v)	<i>n.d.</i>	[13]
	CHIROBIOTIC R	1.38	1.27	1.55	H <sub>2</sub> O/MeOH (80/20 v/v)	<i>n.d.</i>	[14]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>3-carboxy-1,2,3,4-tetrahydroisoquinoline</b>	CHIRALPAK ZWIX(+)	2.11	1.31	2.80	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	S<R	[15]
	CHIRALPAK ZWIX(-)	1.74	1.42	3.20	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	R<S	[15]
	CHIROBIOTIC T	3.44	2.43	5.66	H <sub>2</sub> O/MeOH (10/90 v/v)	L<D	[17]
	CHIROBIOTIC R	1.60	1.85	4.00	H <sub>2</sub> O/MeOH (80/20 v/v)	L<D	[14]
 <b>3-carboxy-5-methyl-1,2,3,4-tetrahydroisoquinoline</b>	CHIRALPAK ZWIX(+)	2.13	1.22	1.90	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	S<R	[15]
	CHIRALPAK ZWIX(-)	1.76	2.46	1.40	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	R<S	[15]
	CHIROBIOTIC T	2.73	2.87	5.00	H <sub>2</sub> O/MeOH (10/90 v/v)	L<D	[13]
	CHIROBIOTIC R	1.98	2.14	4.66	H <sub>2</sub> O/MeOH (80/20 v/v)	L<D	[14]
 <b>3-carboxy-6-hydroxy-1,2,3,4-tetrahydroisoquinoline</b>	CHIRALPAK ZWIX(+)	2.93	1.33	2.80	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	S<R	[15]
	CHIRALPAK ZWIX(-)	2.53	3.35	1.32	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	R<S	[15]
	CHIROBIOTIC T	--	--	--	H <sub>2</sub> O/MeOH (10/90 v/v)	L<D	[13]
	CHIROBIOTIC R	1.03	1.38	7.50	H <sub>2</sub> O/MeOH (80/20 v/v)	L<D	[14]
 <b>3-carboxy-7-hydroxy-1,2,3,4-tetrahydroisoquinoline</b>	CHIRALPAK ZWIX(+)	2.34	3.07	1.31	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	S<R	[15]
	CHIRALPAK ZWIX(-)	2.34	3.07	1.31	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	R<S	[15]
	CHIROBIOTIC T	2.75	2.03	4.45	H <sub>2</sub> O/MeOH (10/90 v/v)	L<D	[13]
	CHIROBIOTIC R	0.86	2.42	3.30	H <sub>2</sub> O/MeOH (80/20 v/v)	L<D	[14]

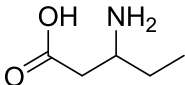


## Enantioseparation of $\beta$ -amino acids

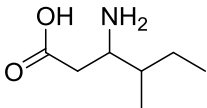
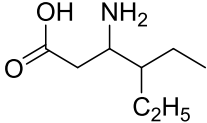
### Chromatographic Data, $k_1$ , $\alpha$ , $R_s$ and Elution Order for the Enantioseparation of Unusual $\beta^3$ -Amino Acids

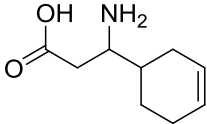
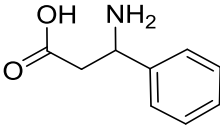
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <p><b>3-aminobutanoic acid</b></p>	CHIRALPAK ZWIX(-)	5.50	1.21	1.12	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	CHIRALPAK ZWIX(-)	3.32	1.05	0.40	H <sub>2</sub> O/MeCN (10/90 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	CHIRALPAK ZWIX(+)	6.80	1.05	1.04	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	CHIRALPAK ZWIX(+)	6.12	1.02	<0.2	H <sub>2</sub> O/MeCN (10/90 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	CHIROBIOTIC T	3.15	1.07	0.63	H <sub>2</sub> O/MeOH (10/90 v/v) (5°C)	$R < S$	[19]
	CHIROBIOTIC T	3.38	1.69	2.62	0.1 % aqueous TEAA (pH 4.1)/MeOH (20/80 v/v)	$R < S$	[20]
	CHIROBIOTIC TAG	4.01	1.11	0.48	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	$R < S$	[20]
	CHIROBIOTIC R	3.47	1.16	1.48	MeOH/AcOH/TEA (100/0.4/0.1 v/v/v) (5°C)	<i>n.d.-</i>	[19]
	CHIROBIOTIC R	1.38	1.09	0.80	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	$R < S$	[21]
	CHIROBIOTIC V	0.70	1.13	0.80	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	$S < R$	[21]

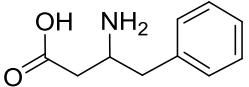
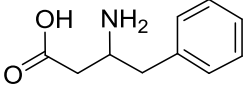
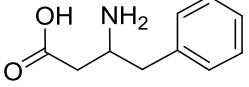
Abbreviations and References starting on page 70

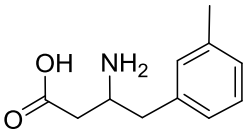
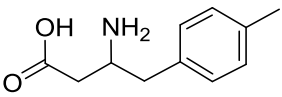
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>3-aminopentanoic acid</b>	CHIRALPAK ZWIX(-)	4.84	1.39	2.52	MeOH/MeCN (50/50 v/v) containing 25 mM and TEA 50 mM AcOH	<i>n.d.</i>	[18]
	CHIRALPAK ZWIX(-)	3.03	1.13	1.36	H <sub>2</sub> O/MeCN (10/90 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d.</i>	[18]
	CHIRALPAK ZWIX(+)	5.91	1.14	2.11	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d.</i>	[18]
	CHIRALPAK ZWIX(+)	5.65	1.11	1.01	H <sub>2</sub> O/MeCN (10/90 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d.</i>	[18]
	CHIROBIOTIC T	2.85	1.16	1.05	H <sub>2</sub> O/MeOH (5/95 v/v)	<i>n.d.</i>	[19]
	CHIROBIOTIC T	2.10	1.12	1.03	H <sub>2</sub> O/MeOH (10/90 v/v)	<i>n.d.</i>	[20]
	CHIROBIOTIC T	2.00	1.00	0.00	0.1 % aqueous TEAA (pH 4.1)/MeOH (30/70 v/v)	<i>n.d.</i>	[22]
	CHIROBIOTIC T2	1.52	1.00	0.00	0.1 % aqueous TEAA (pH 4.1)/MeOH (30/70 v/v)	<i>n.d.</i>	[22]
	CHIROBIOTIC TAG	2.06	1.64	1.26	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	<i>n.d.</i>	[20]
	CHIROBIOTIC R	2.66	1.23	1.52	MeOH/AcOH/TEA (100/0.4/0.1 v/v/v) (5°C)	<i>n.d.</i>	[19]

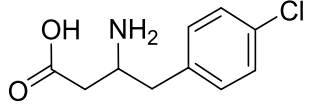
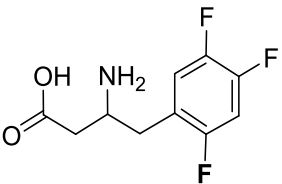
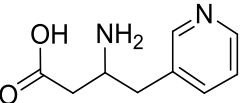
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>3-amino-4-methylpentanoic acid</b>	CHIRALPAK ZWIX(-)	4.84	1.39	2.52	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	CHIRALPAK ZWIX(-)	2.69	1.21	3.11	H <sub>2</sub> O/MeCN (10/90 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	CHIRALPAK ZWIX(+)	4.99	1.32	2.78	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	CHIRALPAK ZWIX(+)	4.74	1.19	1.81	H <sub>2</sub> O/MeCN (10/90 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	CHIROBIOTIC T	1.91	1.23	1.55	H <sub>2</sub> O/MeOH (10/90 v/v)	<i>n.d.</i>	[19]
	CHIROBIOTIC T	1.94	1.08	0.55	0.1 % aqueous TEAA (pH 4.1)/MeOH (10/90 v/v)	<i>n.d.</i>	[20]
	CHIROBIOTIC T	1.97	1.07	0.90	0.1 % aqueous TEAA (pH 4.1)/MeOH (30/70 v/v)	<i>n.d.</i>	[22]
	CHIROBIOTIC T2	1.29	1.06	0.55	0.1 % aqueous TEAA (pH 4.1)/MeOH (30/70 v/v)	<i>n.d.</i>	[22]
	CHIROBIOTIC TAG	1.97	1.21	0.75	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	<i>n.d.</i>	[20]
	CHIROBIOTIC R	0.93	1.23	1.38	H <sub>2</sub> O/MeOH (95/5 v/v) (5°C)	<i>n.d.</i>	[19]
 <b>3-amino-4,4-dimethylpentanoic acid</b>	CHIRALPAK ZWIX(-)	3.29	1.86	5.50	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d.</i>	[18]
	CHIRALPAK ZWIX(+)	3.37	1.54	6.49	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d.</i>	[18]
	CHIROBIOTIC T	1.57	1.20	1.54	H <sub>2</sub> O/MeOH (5/95 v/v)	<i>n.d.</i>	[19]
	CHIROBIOTIC T	1.44	1.19	1.47	0.1 % aqueous TEAA (pH 4.1)/MeOH (10/90 v/v)	<i>n.d.</i>	[20]
	CHIROBIOTIC TAG	5.77	1.06	0.40	H <sub>2</sub> O/MeOH (0/100 v/v)	<i>n.d.</i>	[20]
	CHIROBIOTIC R	1.26	1.25	1.43	H <sub>2</sub> O MeOH (95/5 v/v) (5°C)	<i>n.d.</i>	[19]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>3-amino-4-methylhexanoic acid</b>	CHIRALPAK ZWIX(-)	4.64	1.57	5.25	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d.</i>	[18]
	CHIRALPAK ZWIX(+)	4.55	1.27	1.72	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d.</i>	[18]
	CHIROBIOTIC T	2.27	1.21	0.93	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	<i>n.d.</i>	[20]
	CHIROBIOTIC TAG	2.06	1.10	0.47	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	<i>n.d.</i>	[20]
 <b>3-amino-4-ethylhexanoic acid</b>	CHIRALPAK ZWIX(-)	3.90	1.73	5.30	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d.</i>	[18]
	CHIRALPAK ZWIX(+)	4.75	1.40	4.29	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d.</i>	[18]
	CHIROBIOTIC T	3.26	1.13	1.35	H <sub>2</sub> O MeOH (0/100 v/v)	<i>n.d.</i>	[19]
	CHIROBIOTIC T	1.87	1.03	0.30	0.1 % aqueous TEAA (pH 4.1)/MeOH (10/90 v/v)	<i>n.d.</i>	[20]
	CHIROBIOTIC TAG	1.90	1.11	0.71	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	<i>n.d.</i>	[20]
	CHIROBIOTIC R	1.17	1.00	0.00	H <sub>2</sub> O/MeOH (90/10 v/v)	<i>n.d.</i>	[19]
 <b>3-amino-3-cyclohexylpropanoic acid</b>	CHIRALPAK ZWIX(-)	5.20	1.45	3.17	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>R &lt; S</i>	[18]
	CHIRALPAK ZWIX(+)	5.53	1.19	2.62	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>S &lt; R</i>	[18]
	CHIROBIOTIC T	1.60	1.16	1.45	H <sub>2</sub> O/MeOH (10/90 v/v)	<i>S &lt; R</i>	[19]
	CHIROBIOTIC T	4.12	1.16	1.45	H <sub>2</sub> O/MeOH (10/90 v/v)	<i>S &lt; R</i>	[20]
	CHIROBIOTIC T	3.90	1.06	0.83	H <sub>2</sub> O/MeOH (10/90 v/v) 0.4 mL/min	<i>S &lt; R</i>	[23]
	CHIROBIOTIC TAG	2.11	1.08	0.50	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	<i>S &lt; R</i>	[20]
	CHIROBIOTIC R	1.27	1.07	<0.4	MeOH/AcOH/TEA (100/0.4/0.1 v/v/v)	<i>S &lt; R</i>	[19]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>3-amino-3-(cyclohex-3-en-1-yl) propanoic acid</b>	CHIRALPAK ZWIX(-)	5.39	1.08	0.70	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d.</i>	[18]
	CHIRALPAK ZWIX(+)	6.04	1.06	1.05	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d.</i>	[18]
	CHIROBIOTIC T	2.52	1.06	<0.40	H <sub>2</sub> O/MeOH (10/90 v/v) T=15 °C	<i>n.d.</i>	[19]
	CHIROBIOTIC T	2.66	1.24	0.97	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	<i>n.d.</i>	[20]
	CHIROBIOTIC TAG	3.39	1.15	0.40	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	<i>n.d.</i>	[20]
	CHIROBIOTIC R	1.93	1.11	0.63	H <sub>2</sub> O/MeOH (95/5 v/v) (5°C)	<i>n.d.</i>	[19]
 <b>β-phenylalanine</b>	CHIRALPAK ZWIX(-)	5.14	1.60	5.73	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	CHIRALPAK ZWIX(+)	6.70	1.25	3.69	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	CHIRALPAK ZWIX(+)	3.28	1.11	1.20	MeOH/MeCN (0/100 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[1]
	CHIRALPAK ZWIX(+)	6.71	1.26	2.70	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM FA	<i>n.d.</i>	[1]
	CHIROBIOTIC T	0.46	1.90	2.60	H <sub>2</sub> O/MeOH (60/40 v/v)	$L < D$	[3]
	CHIROBIOTIC T	2.57	1.07	0.97	H <sub>2</sub> O/MeOH (10/90 v/v) (5 °C)	$S < R$	[19]
	CHIROBIOTIC T	3.90	1.06	0.83	H <sub>2</sub> O/MeOH (10/90 v/v)	$S < R$	[20]
	CHIROBIOTIC T	1.67	1.00	0.0	MeOH/AcOH/TEA (100/0.01/0.01 v/v/v) 0.8 mL/min	<i>n.d.</i>	[21]
	CHIROBIOTIC T	3.90	1.06	0.83	H <sub>2</sub> O/MeOH (10/90 v/v) 0.4 mL/min	$S < R$	[23]
	CHIROBIOTIC T2	2.08	1.17	1.00	MeOH/AcOH/TEA (100/0.01/0.01 v/v/v) 0.5 mL/min	$S < R$	[21]
	CHIROBIOTIC T2	1.66	1.07	0.45	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d.</i>	[22]
	CHIROBIOTIC TAG	2.99	1.00	0.00	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	<i>n.d.</i>	[20]
CHIROBIOTIC R	2.61	1.25	1.54	MeOH/AcOH/TEA (100/0.4/0.1 v/v/v) (5°C)	$R < S$	[19]	

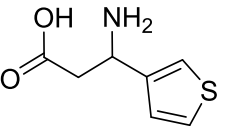
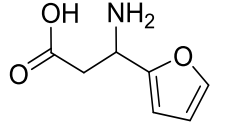
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 3-amino-4-phenyl butanoic acid	CHIRALPAK ZWIX(-)	6.92	1.36	3.57	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	CHIRALPAK ZWIX(+)	7.62	1.10	1.35	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	CHIROBIOTIC T	1.72	2.53	2.88	H <sub>2</sub> O/MeOH (10/90 v/v)	$R < S$	[20]
	CHIROBIOTIC TAG	7.98	1.20	1.37	H <sub>2</sub> O/MeOH (10/90 v/v)	$R < S$	[20]
 3-amino-4-phenyl butanoic acid	CHIRALPAK ZWIX(-)	6.70	1.47	3.76	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	CHIRALPAK ZWIX(+)	6.99	1.16	1.88	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	CHIROBIOTIC T	3.84	1.25	<0.40	0.1 % aqueous TEAA (pH 4.1)/MeOH (80/20 v/v)	$R < S$	[20]
	CHIROBIOTIC TAG	4.31	1.00	0.00	MeOH/AcOH/TEA (100/0.4/0.1 v/v/v)	<i>n.d.</i>	[20]
 3-amino-4-phenyl butanoic acid	CHIRALPAK ZWIX(-)	9.64	1.22	2.08	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	CHIRALPAK ZWIX(-)	4.35	1.23	2.80	H <sub>2</sub> O/MeCN (10/90 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	CHIRALPAK ZWIX(+)	9.50	1.14	2.04	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	CHIRALPAK ZWIX(+)	7.59	1.28	4.26	H <sub>2</sub> O/MeCN (10/90 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	CHIROBIOTIC T	3.67	1.09	<0.40	MeOH/AcOH/TEA (100/0.4/0.1 v/v/v)	$R < S$	[20,23]
	CHIROBIOTIC TAG	10.03	1.11	0.85	H <sub>2</sub> O/MeOH (0/100 v/v) (15 °C)	$R < S$	[20]
	CHIROBIOTIC TAG	4.71	1.12	0.60	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	$R < S$	[23]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>3-amino-4-(m-tolyl)butanoic acid</b>	<b>CHIRALPAK ZWIX(-)</b>	7.08	1.30	2.75	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	<b>CHIRALPAK ZWIX(+)</b>	7.23	1.10	1.36	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	<b>CHIROBIOTIC T</b>	1.72	2.53	2.88	H <sub>2</sub> O/MeOH (10/90 v/v) 0.4 mL/min	$R < S$	[23]
	<b>CHIROBIOTIC TAG</b>	7.98	1.20	1.37	H <sub>2</sub> O/MeOH (0/100 v/v) 0.4 mL/min	$R < S$	[23]
 <b>3-amino-4-(p-tolyl)butanoic acid</b>	<b>CHIRALPAK ZWIX(-)</b>	7.03	1.36	3.47	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	<b>CHIRALPAK ZWIX(-)</b>	3.27	1.27	3.18	H <sub>2</sub> O/MeCN (10/90 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	<b>CHIRALPAK ZWIX(+)</b>	7.45	1.13	1.87	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	<b>CHIRALPAK ZWIX(+)</b>	5.70	1.25	3.77	H <sub>2</sub> O/MeCN (10/90 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	<b>CHIROBIOTIC T</b>	2.43	1.19	1.13	0.1 % aqueous TEAA (pH 4.1)/MeOH (10/90 v/v)	$R < S$	[20]
	<b>CHIROBIOTIC T</b>	1.26	1.14	0.90	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v) 0.25 mL/min	$R < S$	[20]
	<b>CHIROBIOTIC T</b>	1.62	1.00	0.00	MeOH/AcOH/TEA (100/0.01/0.01 v/v/v) 0.8 mL/min	<i>n.d.</i>	[21]

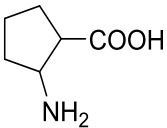
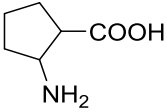
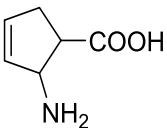
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>3-amino-4-(4-chlorophenyl)butanoic acid</b>	CHIRALPAK ZWIX(-)	8.97	1.36	4.13	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	CHIRALPAK ZWIX(-)	4.05	1.31	4.14	H <sub>2</sub> O/MeCN (10/90 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	CHIRALPAK ZWIX(+)	8.97	1.17	2.63	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	CHIRALPAK ZWIX(+)	6.66	1.27	4.28	H <sub>2</sub> O/MeCN (10/90 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	CHIROBIOTIC T	3.25	1.09	1.06	0.1 % aqueous TEAA (pH 4.1)/MeOH (5/95 v/v)	$R < S$	[20]
	CHIROBIOTIC T	1.88	1.06	<0.40	MeOH/AcOH/TEA (100/0.01/0.01 v/v/v) 0.8 mL/min	<i>n.d.</i>	[21]
	CHIROBIOTIC T	2.56	1.11	1.00	0.1 % aqueous TEAA (pH 4.1)/MeOH (10/90 v/v)	$R < S$	[23]
	CHIROBIOTIC T2	2.72	1.18	1.10	MeOH/AcOH/TEA (100/0.01/0.01 v/v/v) 0.4 mL/min	$S < R$	[21]
	CHIROBIOTIC TAG	3.53	1.27	0.86	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	$R < S$	[20]
	CHIROBIOTIC TAG	8.68	1.06	0.45	H <sub>2</sub> O/MeOH (0/100 v/v)	$R < S$	[23]
 <b>3-amino-4-(2,4,5-trifluorophenyl)butanoic acid</b>	CHIRALPAK ZWIX(-)	6.66	1.46	5.06	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	CHIRALPAK ZWIX(+)	6.19	1.31	4.77	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
 <b>3-amino-4-(pyridin-3-yl)butanoic acid</b>	CHIRALPAK ZWIX(-)	6.83	1.34	2.58	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	CHIRALPAK ZWIX(+)	8.38	1.19	1.64	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]

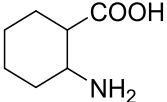
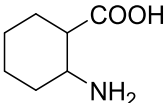


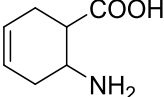
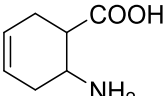
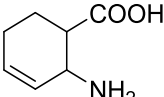
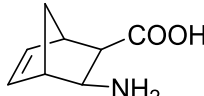
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>3-amino-4-(pyridin-4-yl)butanoic acid</b>	<b>CHIRALPAK ZWIX(-)</b>	8.67	1.25	2.09	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	<b>CHIRALPAK ZWIX(+)</b>	11.12	1.09	1.17	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
 <b>3-amino-3-(pyridin-3-yl)propanoic acid</b>	<b>CHIRALPAK ZWIX(-)</b>	5.51	1.58	2.73	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d.</i>	[18]
	<b>CHIRALPAK ZWIX(+)</b>	7.34	1.20	2.29	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d.</i>	[18]
	<b>CHIROBIOTIC T</b>	6.29	1.09	1.00	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	$S < R$	[21]
	<b>CHIROBIOTIC T</b>	18.08	1.23	1.52	H <sub>2</sub> O/MeOH (0/100 v/v) 0.4 mL/min	$S < R$	[23]
	<b>CHIROBIOTIC T2</b>	3.93	1.00	0.0	MeOH/AcOH/TEA (100/0.01/0.01 v/v/v)	<i>n.d.</i>	[21]
	<b>CHIROBIOTIC TAG</b>	10.26	1.18	1.10	0.1 % aqueous TEAA (pH 4.1)/MeOH (10/90 v/v)	$S < R$	[21]
	<b>CHIROBIOTIC TAG</b>	26.74	1.19	0.40	H <sub>2</sub> O/MeOH (0/100 v/v) 0.4 mL/min	$S < R$	[23]
 <b>3-amino-3-(thiophen-2-yl)propanoic acid</b>	<b>CHIRALPAK ZWIX(-)</b>	5.04	1.34	3.43	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	<b>CHIRALPAK ZWIX(+)</b>	5.64	1.14	2.22	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	<b>CHIROBIOTIC T</b>	3.79	1.03	<0.40	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v) 0.8 mL/min	$S < R$	[21,23]
	<b>CHIROBIOTIC T2</b>	2.28	1.00	0.00	MeOH/AcOH/TEA (100/0.01/0.01 v/v/v)	<i>n.d.</i>	[21]
	<b>CHIROBIOTIC TAG</b>	4.53	1.07	0.80	0.1 % aqueous TEAA (pH 4.1)/MeOH (10/90 v/v)	$S < R$	[21]
	<b>CHIROBIOTIC TAG</b>	4.13	1.07	0.52	H <sub>2</sub> O/MeOH (0/100 v/v)	$S < R$	[23]

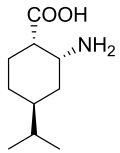
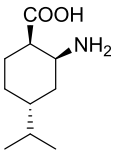
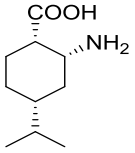
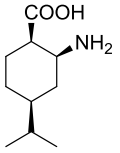
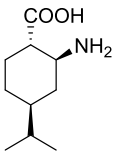
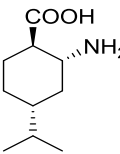
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>3-amino-3-(thiophen-3-yl)propanoic acid</b>	<b>CHIRALPAK ZWIX(-)</b>	6.41	1.53	5.17	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	<b>CHIRALPAK ZWIX(+)</b>	7.64	1.17	2.36	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	<b>CHIROBIOTIC T</b>	4.92	1.02	<0.40	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v) 0.8 mL/min	$R < S$	[23]
	<b>CHIROBIOTIC TAG</b>	3.90	1.04	<0.40	0.1 % TEAA (pH 4.1)/MeOH (30/70 v/v) 0.8 mL/min	$R < S$	[23]
 <b>3-amino-3-(furan-2-yl)propanoic acid</b>	<b>CHIRALPAK ZWIX(-)</b>	3.73	1.32	3.09	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	<b>CHIRALPAK ZWIX(+)</b>	4.50	1.10	1.34	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	<b>CHIROBIOTIC T</b>	3.84	1.15	1.00	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v) 0.8 mL/min	$S < R$	[21]
	<b>CHIROBIOTIC T</b>	4.77	1.13	1.33	H <sub>2</sub> O/MeOH (0/100 v/v) 0.8 mL/min	$S < R$	[23]
	<b>CHIROBIOTIC T2</b>	1.99	1.27	1.65	MeOH/AcOH/TEA (100/0.01/0.01 v/v/v)	$S < R$	[21]
	<b>CHIROBIOTIC TAG</b>	4.10	1.14	1.05	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v) 0.8 mL/min	$S < R$	[23]
 <b>3-amino-3-(furan-3-yl)propanoic acid</b>	<b>CHIRALPAK ZWIX(-)</b>	5.77	1.46	5.23	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[18]
	<b>CHIRALPAK ZWIX(+)</b>	7.08	1.10	1.80	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[18]
	<b>CHIROBIOTIC TAG</b>	4.88	1.07	1.02	0.1 % TEAA (pH 4.1)/MeOH (10/90 v/v)	$S < R$	[23]

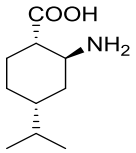
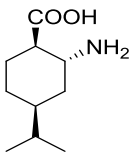
Chromatographic Data,  $k_1$ ,  $\alpha$ ,  $R_s$  and Elution Order for the Enantioseparation of *Unusual Cyclic  $\beta^3$ -Amino Acids*

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>(cis)-2-aminocyclopentane-1-carboxylic acid</b>	CHIRALPAK ZWIX(+)	2.35	1.09	0.88	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	1 <i>R</i> ,2 <i>S</i> < 1 <i>S</i> ,2 <i>R</i>	[24]
	CHIRALPAK ZWIX(-)	11.19	1.06	0.25	MeOH/MeCN (25/75 v/v) containing 25 mM TEA and 50 mM AcOH (50°C)	1 <i>R</i> ,2 <i>S</i> < 1 <i>S</i> ,2 <i>R</i>	[24]
	CHIRALPAK ZWIX(+)	3.46	1.02	<0.3	MeOH/THF (80/20 v/v) containing 25 mM DEA and 50 mM AcOH	1 <i>R</i> ,2 <i>S</i> < 1 <i>S</i> ,2 <i>R</i>	[26]
	CHIRALPAK ZWIX(-)	4.66	1.17	0.86	MeOH/THF (80/20 v/v) containing 25 mM DEA and 50 mM AcOH	1 <i>S</i> ,2 <i>R</i> < 1 <i>R</i> ,2 <i>S</i>	[26]
	CHIROBIOTIC T	6.37	1.08	0.40	H <sub>2</sub> O/MeOH (10/90 v/v)	<i>L</i> < <i>D</i>	[13]
	CHIROBIOTIC T	3.52	1.21	0.93	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	<i>S</i> < <i>R</i>	[25]
	CHIROBIOTIC TAG	2.86	1.14	0.77	0.1% aqueous TEAA (pH 4.1)/MeOH (30/70 v/v)	<i>S</i> < <i>R</i>	[25]
 <b>(trans)-2-aminocyclopentane-1-carboxylic acid</b>	CHIRALPAK ZWIX(+)	3.00	1.27	2.18	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	1 <i>R</i> ,2 <i>R</i> < 1 <i>S</i> ,2 <i>S</i>	[24]
	CHIRALPAK ZWIX(-)	3.76	1.07	0.22	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	1 <i>S</i> ,2 <i>S</i> < 1 <i>R</i> ,2 <i>R</i>	[24]
	CHIROBIOTIC T	7.18	1.04	0.40	H <sub>2</sub> O/MeOH (0/100 v/v)	<i>L</i> < <i>D</i>	[13]
	CHIROBIOTIC TAG	1.81	1.36	2.40	0.1% aqueous TEAA (pH 4.1)/MeOH (30/70 v/v)	<i>S</i> < <i>R</i>	[25]
 <b>(cis)-2-aminocyclopent-3-ene-1-carboxylic acid</b>	CHIRALPAK ZWIX(+)	2.75	1.24	1.57	MeOH/MeCN (75/25 v/v) containing 25 mM NH <sub>3</sub> and 50 mM AcOH	1 <i>R</i> ,2 <i>S</i> < 1 <i>S</i> ,2 <i>R</i>	[24]
	CHIRALPAK ZWIX(-)	3.04	1.00	0.00	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d.</i>	[24]
	CHIRALPAK ZWIX(+)	2.61	1.10	0.68	MeOH/THF (80/20 v/v) containing 25 mM DEA and 50 mM AcOH	1 <i>R</i> ,2 <i>S</i> < 1 <i>S</i> ,2 <i>R</i>	[26]
	CHIRALPAK ZWIX(-)	3.48	1.20	1.21	MeOH/THF (80/20 v/v) containing 25 mM DEA and 50 mM AcOH	1 <i>S</i> ,2 <i>R</i> < 1 <i>R</i> ,2 <i>S</i>	[26]

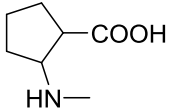
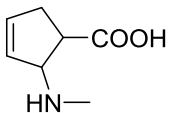
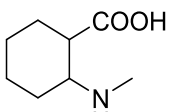
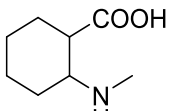
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>(cis)-2-aminocyclohexane-1-carboxylic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	2.22	1.17	1.60	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	$1R,2S < 1S,2R$	[24]
	<b>CHIRALPAK ZWIX(-)</b>	2.90	1.28	1.83	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	$1S,2R < 1R,2S$	[24]
	<b>CHIRALPAK ZWIX(+)</b>	3.96	1.21	1.31	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	$1R,2S < 1S,2R$	[26]
	<b>CHIRALPAK ZWIX(-)</b>	4.33	1.35	2.17	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	$1S,2R < 1R,2S$	[26]
	<b>CHIROBIOTIC T</b>	3.19	1.07	0.50	H <sub>2</sub> O/MeOH (0/100 v/v)	$L < D$	[13]
	<b>CHIROBIOTIC T</b>	3.18	1.08	0.63	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	$S < R$	[25]
	<b>CHIROBIOTIC TAG</b>	5.22	1.24	0.87	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	$S < R$	[25]
 <b>(trans)-2-aminocyclohexane-1-carboxylic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	2.86	1.08	0.50	MeOH/MeCN (75/25 v/v) containing 25 mM NH <sub>3</sub> and 50 mM AcOH	$1R,2R < 1S,2S$	[24]
	<b>CHIRALPAK ZWIX(-)</b>	3.93	1.33	2.58	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	$1S,2S < 1R,2R$	[24]
	<b>CHIRALPAK ZWIX(+)</b>	6.22	1.12	0.99	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	$1R,2R < 1S,2S$	[26]
	<b>CHIRALPAK ZWIX(-)</b>	8.42	1.41	2.83	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	$1S,2S < 1R,2R$	[26]
	<b>CHIROBIOTIC T</b>	3.51	1.14	0.85	H <sub>2</sub> O/MeOH (0/100 v/v)	$L < D$	[13]
	<b>CHIROBIOTIC T</b>	4.64	1.15	0.56	H <sub>2</sub> O/MeOH (0/100 v/v)	$S < R$	[25]
	<b>CHIROBIOTIC TAG</b>	2.06	1.45	2.10	0.1% aqueous TEAA (pH 4.1)/MeOH (30/70 v/v)	$S < R$	[25]

Compound	Column	$k_1$	$\alpha$	$R_S$	Mobile Phase	Elution Order	Ref.
 <b>(cis)-2-aminocyclohex-4-ene-1-carboxylic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	2.71	1.17	1.00	MeOH/MeCN (75/25 v/v) containing 25 mM NH <sub>3</sub> and 50 mM AcOH	1 <i>R</i> ,2 <i>S</i> < 1 <i>S</i> ,2 <i>R</i>	[24]
	<b>CHIRALPAK ZWIX(-)</b>	3.58	1.23	1.37	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	1 <i>S</i> ,2 <i>R</i> < 1 <i>R</i> ,2 <i>S</i>	[24]
	<b>CHIROBIOTIC T</b>	5.70	1.37	1.75	H <sub>2</sub> O/MeOH (0/100 v/v)	<i>L</i> < <i>D</i>	[13]
	<b>CHIROBIOTIC T</b>	4.78	1.13	0.56	H <sub>2</sub> O/MeOH (0/100 v/v)	<i>S</i> < <i>R</i>	[25]
	<b>CHIROBIOTIC TAG</b>	2.44	1.32	2.00	0.1% aqueous TEAA (pH 4.1)/MeOH (30/70 v/v)	<i>S</i> < <i>R</i>	[25]
 <b>(trans)-2-aminocyclohex-4-ene-1-carboxylic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	2.72	1.17	1.14	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	1 <i>R</i> ,2 <i>R</i> < 1 <i>S</i> ,2 <i>S</i>	[24]
	<b>CHIRALPAK ZWIX(-)</b>	3.33	1.40	2.38	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	1 <i>S</i> ,2 <i>S</i> < 1 <i>R</i> ,2 <i>R</i>	[24]
	<b>CHIROBIOTIC T</b>	3.51	1.14	0.85	H <sub>2</sub> O/MeOH (0/100 v/v)	<i>L</i> < <i>D</i>	[13]
	<b>CHIROBIOTIC T</b>	1.94	1.04	0.89	0.1% aqueous TEAA (pH 4.1)/MeOH (30/70 v/v)	<i>S</i> < <i>R</i>	[25]
	<b>CHIROBIOTIC TAG</b>	2.80	1.35	2.13	0.1% aqueous TEAA (pH 4.1)/MeOH (30/70 v/v)	<i>S</i> < <i>R</i>	[25]
 <b>(trans)-2-aminocyclohex-3-ene-1-carboxylic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	2.66	1.38	2.75	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	1 <i>R</i> ,2 <i>S</i> < 1 <i>S</i> ,2 <i>R</i>	[24]
	<b>CHIRALPAK ZWIX(-)</b>	2.17	1.41	2.82	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	1 <i>S</i> ,2 <i>R</i> < 1 <i>R</i> ,2 <i>S</i>	[24]
 <b>(1<i>R</i>,3<i>S</i>,4<i>S</i>)-3-aminobicyclo[2.2.1]hept-5-ene-2-carboxylic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	3.39	1.05	0.49	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	2 <i>R</i> ,3 <i>S</i> <2 <i>S</i> ,3 <i>R</i>	[26]
	<b>CHIRALPAK ZWIX(-)</b>	1.66	1.25	1.25	MeOH/THF (95/5 v/v) containing 25 mM DEA and 50 mM AcOH	2 <i>S</i> ,3 <i>R</i> <2 <i>R</i> ,3 <i>S</i>	[26]
	<b>CHIROBIOTIC T</b>	3.67	1.16	0.80	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	<i>n.d.</i>	[26]
	<b>CHIROBIOTIC TAG</b>	6.21	1.15	0.70	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	<i>n.d.</i>	[26]

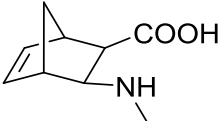
Compound		Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>(1S,2R,4S)-2-amino-4-isopropylcyclohexane-1-carboxylic acid</b>	 <b>(1R,2S,4R)-2-amino-4-isopropylcyclohexane-1-carboxylic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	2.53	1.50	3.60	MeOH/MeCN (75/25 v/v) containing 25 mM DEA and 50 mM AcOH; T=20°C	1R,2S,4R < 1S,2R,4S	[27]
		<b>CHIRALPAK ZWIX(-)</b>	2.81	1.51	2.20	MeOH/MeCN (75/25 v/v) containing 25 mM DEA and 50 mM AcOH; T=20°C	1S,2R,4S < 1R,2S,4R	[27]
		<b>CHIROBIOTIC TAG</b>	1.73	1.24	1.14	MeOH/AcOH/TEA (100/0.01/0.01 v/v/v); T=5°C	1S,2R,4S < 1R,2S,4R	[28]
 <b>(1S,2R,4R)-2-amino-4-isopropylcyclohexane-1-carboxylic acid</b>	 <b>(1R,2S,4S)-2-amino-4-isopropylcyclohexane-1-carboxylic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	3.45	1.00	0.00	MeOH/MeCN (75/25 v/v) containing 25 mM DEA and 50 mM AcOH; T=20°C	1S,2R,4R < 1R,2S,4S	[27]
		<b>CHIRALPAK ZWIX(-)</b>	3.84	1.32	2.08	MeOH/MeCN (75/25 v/v) containing 25 mM DEA and 50 mM AcOH; T=20°C	1R,2S,4S < 1S,2R,4R	[27]
		<b>CHIROBIOTIC TAG</b>	1.26	1.14	1.14	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v); T=40°C	1R,2S,4S < 1S,2R,4R	[28]
 <b>(1S,2S,4S)-2-amino-4-isopropylcyclohexane-1-carboxylic acid</b>	 <b>(1R,2R,4R)-2-amino-4-isopropylcyclohexane-1-carboxylic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	1.84	1.39	2.59	MeOH/MeCN (75/25 v/v) containing 25 mM DEA and 50 mM AcOH; T=20°C	1S,2S,4S < 1R,2R,4R	[27]
		<b>CHIRALPAK ZWIX(-)</b>	2.03	1.96	3.88	MeOH/MeCN (75/25 v/v) containing 25 mM DEA and 50 mM AcOH; T=20°C	1R,2R,4R < 1S,2S,4S	[27]
		<b>CHIROBIOTIC TAG</b>	0.99	1.14	1.05	MeOH/AcOH/TEA (100/0.01/0.01 v/v/v); T=40°C	1S,2S,4S < 1R,2R,4R	[28]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <chem>C[C@H]1CC[C@@H](C(=O)O)[C@H](N)C1</chem> (1S,2S,4R)-2-amino-4-isopropylcyclohexane-1-carboxylic acid	CHIRALPAK ZWIX(+)	3.24	1.12	0.63	MeOH/MeCN (75/25 v/v) containing 25 mM DEA and 50 mM AcOH; T=20°C	1R,2R,4S < 1S,2S,4R	[27]
 <chem>C[C@H]1CC[C@@H](C(=O)O)[C@@H](N)C1</chem> (1R,2R,4S)-2-amino-4-isopropylcyclohexane-1-carboxylic acid	CHIRALPAK ZWIX(-)	3.44	1.46	2.41	MeOH/MeCN (75/25 v/v) containing 25 mM DEA and 50 mM AcOH; T=20°C	1S,2S,4R < 1R,2R,4S	[27]
	CHIROBIOTIC TAG	1.38	1.47	2.94	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v); T=40°C	1S,2S,4R < 1R,2R,4S	[28]

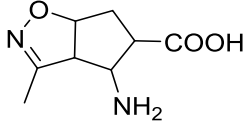
Chromatographic Data,  $k_1$ ,  $\alpha$ ,  $R_S$  and Elution Order for the Enantioseparation of *N*-methylated Cyclic  $\beta^3$ -amino Acids

Compound	Column	$k_1$	$\alpha$	$R_S$	Mobile Phase	Elution Order	Ref.
 <b>(cis)-2-(methylamino)cyclopentane-1-carboxylic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	2.55	1.71	7.07	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	1 <i>S</i> ,2 <i>R</i> <1 <i>R</i> ,2 <i>S</i>	[26]
	<b>CHIRALPAK ZWIX(-)</b>	3.34	1.70	6.45	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	1 <i>R</i> ,2 <i>S</i> <1 <i>S</i> ,2 <i>R</i>	[26]
 <b>(cis)-2-(methylamino)cyclopent-3-ene-1-carboxylic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	1.60	1.54	3.75	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	1 <i>S</i> ,2 <i>R</i> <1 <i>R</i> ,2 <i>S</i>	[26]
	<b>CHIRALPAK ZWIX(-)</b>	1.78	1.63	3.41	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	1 <i>R</i> ,2 <i>S</i> <1 <i>S</i> ,2 <i>R</i>	[26]
 <b>(cis)-2-(methylamino)cyclohexane-1-carboxylic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	2.13	1.50	3.59	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	1 <i>S</i> ,2 <i>R</i> <1 <i>R</i> ,2 <i>S</i>	[26]
	<b>CHIRALPAK ZWIX(-)</b>	2.55	1.35	2.30	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	1 <i>R</i> ,2 <i>S</i> <1 <i>S</i> ,2 <i>R</i>	[26]
 <b>(trans)-2-(methylamino)cyclohexane-1-carboxylic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	2.46	2.00	9.24	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	1 <i>R</i> ,2 <i>R</i> <1 <i>S</i> ,2 <i>S</i>	[26]
	<b>CHIRALPAK ZWIX(-)</b>	2.55	2.23	8.74	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	1 <i>S</i> ,2 <i>S</i> <1 <i>R</i> ,2 <i>R</i>	[26]

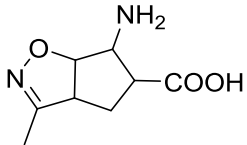


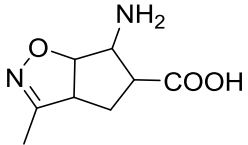
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <p>(1R,3S,4S)-3-(methylamino)bicyclo[2.2.1]hept-5-ene-2-carboxylic acid</p>	CHIRALPAK ZWIX(+)	1.47	1.38	3.37	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	2S,3R<2R,3S	[26]
	CHIRALPAK ZWIX(-)	1.23	1.64	3.29	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	2R,3S<2S,3R	[26]

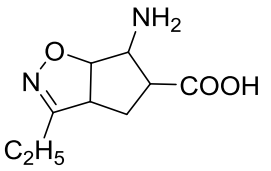
Chromatographic Data,  $k_1$ ,  $\alpha$ ,  $R_s$  and Elution Order for the Enantioseparation of Isoxazoline-fused Cyclic  $\beta^3$ -Amino Acids

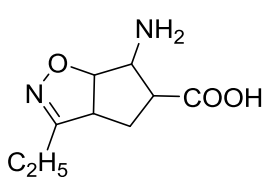
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <p>(cis)-4-amino-3-methyl-3a,5,6,6a-tetrahydro-4H-cyclopenta[d]isoxazole-5-carboxylic acid</p>	CHIRALPAK ZWIX(+)	4.20	1.40	2.71	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	3aS4R5S6aS < 3aR4S5R6aR	[29]
	CHIRALPAK ZWIX(-)	7.03	1.36	3.43	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	3aR4S5R6aR < 3aS4R5S6aS	[29]
	CHIROBIOTIC T	4.76	1.07	0.80	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS4R5S6aS < 3aR4S5R6aR	[30]
	CHIROBIOTIC T	9.29	1.11	0.90	MeOH (100 %)	3aR4S5R6aR < 3aS4R5S6aS	[30]
	CHIROBIOTIC T2	2.96	1.16	1.65	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS4R5S6aS < 3aR4S5R6aR	[30]
	CHIROBIOTIC T2	5.23	1.16	0.90	MeOH (100 %)	3aS4R5S6aS < 3aR4S5R6aR	[30]
	CHIROBIOTIC TAG	4.76	1.33	3.25	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS4R5S6aS < 3aR4S5R6aR	[30]
	CHIROBIOTIC TAG	1.91	1.05	0.30	MeOH (100 %)	3aR4S5R6aR < 3aS4R5S6aS	[30]
 <p>(trans)-4-amino-3-methyl-3a,5,6,6a-tetrahydro-4H-cyclopenta[d]isoxazole-5-carboxylic acid</p>	CHIRALPAK ZWIX(+)	5.42	1.46	3.00	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	3aR4S5S6aR < 3aS4R5R6aS	[29]
	CHIRALPAK ZWIX(-)	7.34	1.16	2.32	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	3aS4R5R6aS < 3aR4S5S6aR	[29]
	CHIROBIOTIC T	7.51	1.01	0.20	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS4R5R6aS < 3aR4S5S6aR	[30]
	CHIROBIOTIC T	7.41	1.04	0.95	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	3aR4S5S6aR < 3aS4R5R6aS	[30]
	CHIROBIOTIC T2	8.16	1.04	0.65	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS4R5R6aS < 3aR4S5S6aR	[30]
	CHIROBIOTIC T2	16.65	1.04	0.65	MeOH (100 %)	3aS4R5R6aS < 3aR4S5S6aR	[30]
	CHIROBIOTIC TAG	3.26	1.06	0.70	0.1% TEAA (pH 4.1)/MeOH (90/10 v/v)	3aR4S5S6aR < 3aS4R5R6aS	[30]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <p>(cis)-4-amino-3-ethyl-3a,5,6,6a-tetrahydro-4H-cyclopenta[d]isoxazole-5-carboxylic acid</p>	CHIRALPAK ZWIX(+)	3.50	1.25	1.71	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	3aS4R5S6aS < 3aR4S5R6aR	[29]
	CHIRALPAK ZWIX(-)	6.96	1.20	2.47	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	3aR4S5R6aR < 3aS4R5S6aS	[29]
	CHIROBIOTIC T	3.75	1.07	1.00	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS4R5S6aS < 3aR4S5R6aR	[30]
	CHIROBIOTIC T	6.66	1.02	0.25	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	3aS4R5S6aS < 3aR4S5R6aR	[30]
	CHIROBIOTIC T2	2.28	1.24	2.60	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS4R5S6aS < 3aR4S5R6aR	[30]
	CHIROBIOTIC T2	4.19	1.24	1.40	MeOH (100 %)	3aS4R5S6aS < 3aR4S5R6aR	[30]
	CHIROBIOTIC TAG	2.92	1.30	2.25	0.1% TEAA (pH 4.1)/MeOH (60/40 v/v)	3aS4R5S6aS < 3aR4S5R6aR	[30]
	CHIROBIOTIC TAG	11.01	1.26	1.20	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	3aS4R5S6aS < 3aR4S5R6aR	[30]
 <p>(trans)-4-amino-3-ethyl-3a,5,6,6a-tetrahydro-4H-cyclopenta[d]isoxazole-5-carboxylic acid</p>	CHIRALPAK ZWIX(+)	4.74	1.63	2.73	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	3aR4S5S6aR < 3aS4R5R6aS	[29]
	CHIRALPAK ZWIX(-)	5.36	1.55	1.92	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	5R,4R < 5S,4S	[29]
	CHIROBIOTIC T2	6.64	1.03	0.60	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS4R5R6aS < 3aR4S5S6aR	[30]
	CHIROBIOTIC T2	14.49	1.17	1.00	MeOH (100 %)	3aS4R5R6aS < 3aR4S5S6aR	[30]
	CHIROBIOTIC TAG	4.52	1.09	1.55	0.1% TEAA (pH 4.1)/MeOH (60/40 v/v)	3aR4S5S6aR < 3aS4R5R6aS	[30]

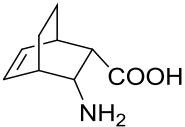
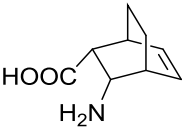
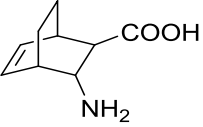
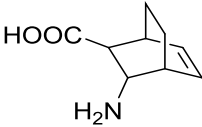
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <p>(cis)-6-amino-3-methyl-3a,5,6,6a-tetrahydro-4H-cyclopenta[d]isoxazole-5-carboxylic acid</p>	CHIRALPAK ZWIX(+)	3.02	1.61	6.00	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	3aR5S6S6aS < 3aS5R6R6aR	[29]
	CHIRALPAK ZWIX(-)	4.16	1.57	6.16	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	3aS5R6R6aR < 3aR5S6S6aS	[29]
	CHIROBIOTIC T	5.01	1.17	1.45	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aR5S6S6aS < 3aS5R6R6aR	[30]
	CHIROBIOTIC T	7.27	1.46	3.75	MeOH (100 %)	3aS5R6R6aR < 3aR5S6S6aS	[30]
	CHIROBIOTIC T2	5.95	1.03	0.25	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	3aS5R6R6aR < 3aR5S6S6aS	[30]
	CHIROBIOTIC TAG	6.09	1.09	1.00	0.1% TEAA (pH 4.1)/MeOH (90/10 v/v)	3aS5R6R6aR < 3aR5S6S6aS	[30]
	CHIROBIOTIC TAG	11.63	1.29	1.45	MeOH (100 %)	3aS5R6R6aR < 3aR5S6S6aS	[30]
	CHIROBIOTIC V	0.98	1.36	2.95	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS5R6R6aR < 3aR5S6S6aS	[30]
	CHIROBIOTIC V	1.60	1.44	3.05	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	3aS5R6R6aR < 3aR5S6S6aS	[30]
	CHIROBIOTIC VAG	1.18	1.31	2.70	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS5R6R6aR < 3aR5S6S6aS	[30]
	CHIROBIOTIC VAG	2.41	1.34	3.50	MeOH (100 %)	3aS5R6R6aR < 3aR5S6S6aS	[30]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <p>(trans)-6-amino-3-methyl-3a,5,6,6a-tetrahydro-4H-cyclopenta[d]isoxazole-5-carboxylic acid</p>	CHIRALPAK ZWIX(+)	1.93	2.33	4.62	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	3aR5S6R6aS < 3aS5R6S6aR	[29]
	CHIRALPAK ZWIX(-)	4.57	1.25	1.55	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	3aS5R6S6aR < 3aR5S6R6aS	[29]
	CHIROBIOTIC T	1.90	1.13	1.30	0.1% TEAA (pH 4.1)/MeOH (90/10 v/v)	3aS5R6S6aR < 3aR5S6R6aS	[30]
	CHIROBIOTIC T	7.85	1.05	0.45	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	3aR5S6R6aS < 3aS5R6S6aR	[30]
	CHIROBIOTIC T2	3.23	1.14	1.65	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS5R6S6aR < 3aR5S6R6aS	[30]
	CHIROBIOTIC T2	5.57	1.29	2.00	MeOH (100 %)	3aS5R6S6aR < 3aR5S6R6aS	[30]
	CHIROBIOTIC TAG	5.75	1.24	2.15	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aR5S6R6aS < 3aS5R6S6aR	[30]
	CHIROBIOTIC TAG	6.00	1.09	1.25	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	3aR5S6R6aS < 3aS5R6S6aR	[30]
	CHIROBIOTIC V	0.78	1.13	0.80	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS5R6S6aR < 3aR5S6R6aS	[30]
	CHIROBIOTIC V	1.74	1.14	1.10	MeOH (100 %)	3aS5R6S6aR < 3aR5S6R6aS	[30]
	CHIROBIOTIC VAG	1.63	1.06	0.60	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS5R6S6aR < 3aR5S6R6aS	[30]
	CHIROBIOTIC VAG	1.58	1.14	0.95	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	3aS5R6S6aR < 3aR5S6R6aS	[30]

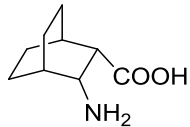
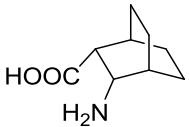
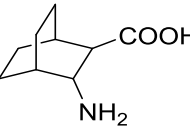
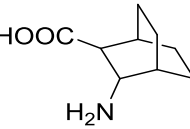
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <p>(cis)-6-amino-3-ethyl-3a,5,6,6a-tetrahydro-4H-cyclopenta[d]isoxazole-5-carboxylic acid</p>	CHIRALPAK ZWIX(+)	2.84	1.64	5.54	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	3aR5S6S6aS < 3aS5R6R6aR	[29]
	CHIRALPAK ZWIX(-)	4.08	1.54	6.08	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	3aR5S6S6aS < 3aR5S6S6aS	[29]
	CHIROBIOTIC T	4.82	1.17	1.65	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aR5S6S6aS < 3aS5R6R6aR	[30]
	CHIROBIOTIC T	10.06	1.20	1.70	MeOH (100 %)	3aR5S6S6aS < 3aS5R6R6aR	[30]
	CHIROBIOTIC TAG	4.91	1.18	2.15	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aR5S6S6aS < 3aR5S6S6aS	[30]
	CHIROBIOTIC TAG	11.07	1.25	1.50	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	3aR5S6S6aS < 3aR5S6S6aS	[30]
	CHIROBIOTIC V	0.92	1.35	2.60	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aR5S6S6aS < 3aR5S6S6aS	[30]
	CHIROBIOTIC V	1.47	1.41	3.30	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	3aR5S6S6aS < 3aR5S6S6aS	[30]
	CHIROBIOTIC VAG	1.08	1.31	3.00	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aR5S6S6aS < 3aR5S6S6aS	[30]
	CHIROBIOTIC VAG	1.49	1.38	3.10	MeOH (100 %)	3aR5S6S6aS < 3aR5S6S6aS	[30]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <p>(trans)-6-amino-3-ethyl-3a,5,6,6a-tetrahydro-4H-cyclopenta[d]isoxazole-5-carboxylic acid</p>	CHIRALPAK ZWIX(+)	1.80	2.42	6.00	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	3aR5S6R6aS < 3aS5R6S6aR	[29]
	CHIRALPAK ZWIX(-)	2.77	2.00	5.66	MeOH/MeCN (75/25 v/v) containing 25 mM TEA and 50 mM AcOH	5R,6S < 5S,6R	[29]
	CHIROBIOTIC T	4.50	1.08	1.10	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS5R6S6aR < 3aR5S6R6aS	[30]
	CHIROBIOTIC T	5.74	1.12	1.15	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	3aS5R6S6aR < 3aR5S6R6aS	[30]
	CHIROBIOTIC T2	2.88	1.14	1.55	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS5R6S6aR < 3aR5S6R6aS	[30]
	CHIROBIOTIC T2	4.90	1.26	1.75	MeOH (100 %)	3aS5R6S6aR < 3aR5S6R6aS	[30]
	CHIROBIOTIC TAG	4.60	1.27	2.50	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aR5S6R6aS < 3aS5R6S6aR	[30]
	CHIROBIOTIC TAG	6.54	1.14	0.50	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	3aR5S6R6aS < 3aS5R6S6aR	[30]
	CHIROBIOTIC V	0.71	1.08	0.50	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS5R6S6aR < 3aR5S6R6aS	[30]
	CHIROBIOTIC V	1.09	1.12	1.30	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	3aS5R6S6aR < 3aR5S6R6aS	[30]
	CHIROBIOTIC VAG	1.47	1.05	0.55	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	3aS5R6S6aR < 3aR5S6R6aS	[30]
	CHIROBIOTIC VAG	1.28	1.10	0.55	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	3aS5R6S6aR < 3aR5S6R6aS	[30]

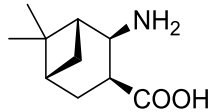
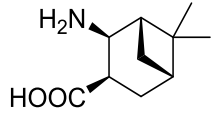
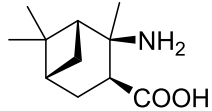
Chromatographic data,  $k_1$ ,  $\alpha$ ,  $R_s$  and elution order for the enantioseparation of *Bicyclo[2.2.2]octane-based 3-Amino-2-carboxylic Acids*

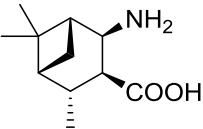
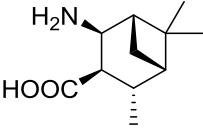
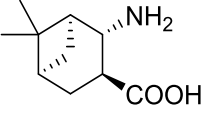
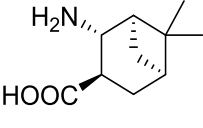
Compound		Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <p><b>(1R,2S,4S)-3-aminobicyclo[2.2.2]oct-5-ene-2-carboxylic acid</b></p>	 <p><b>(1S,2R,4R)-3-aminobicyclo[2.2.2]oct-5-ene-2-carboxylic acid</b></p>	<b>CHIRALPAK ZWIX(+)</b>	2.29	1.28	1.91	MeOH/MeCN (50/50 v/v) containing 25 mM PRA and 50 mM AcOH	1S2R3S4R < 1R2S3R4S	[31]
		<b>CHIRALPAK ZWIX(-)</b>	1.02	1.66	4.40	MeOH/MeCN (50/50 v/v) containing 25 mM EA and 50 mM FA	1R2S3R4S < 1S2R3S4R	[31]
		<b>CHIROBIOTIC T</b>	2.36	1.62	3.79	MeOH/MeCN/AcOH/TEA (100/0/0/0 v/v/v/v)	1R2S3R4S < 1S2R3S4R	[32]
		<b>CHIROBIOTIC T2</b>	1.90	1.49	3.14	MeOH/MeCN/AcOH/TEA (100/0/0/0 v/v/v/v)	1R2S3R4S < 1S2R3S4R	[32]
		<b>CHIROBIOTIC TAG</b>	3.70	1.97	9.20	MeOH/MeCN/AcOH/TEA (100/0/0/0 v/v/v/v)	1R2S3R4S < 1S2R3S4R	[32]
		<b>CHIROBIOTIC R</b>	3.53	1.09	0.93	MeOH/MeCN/AcOH/TEA (50/50/0.1/0.1 v/v/v/v)	1S2R3S4R < 1R2S3R4S	[32]
 <p><b>(1R,4S)-3-aminobicyclo[2.2.2]oct-5-ene-2-carboxylic acid</b></p>	 <p><b>(1S,4R)-3-aminobicyclo[2.2.2]oct-5-ene-2-carboxylic acid</b></p>	<b>ZWIX (+)</b>	3.30	1.30	3.00	MeOH/MeCN (50/50 v/v) containing 25 mM NH <sub>3</sub> and 50 mM AcOH	1R2R3R4S < 1S2S3S4R	[31]
		<b>ZWIX (-)</b>	2.93	1.46	4.55	MeOH/MeCN (50/50 v/v) containing 25 mM DEA and 50 mM AcOH	1S2S3S4R < 1R2R3R4S	[31]
		<b>CHIROBIOTIC T</b>	1.51	1.10	0.76	MeOH/MeCN/AcOH/TEA (100/0/0.1/0.1 v/v/v/v)	1R2R3R4S < 1S2S3S4R	[32]
		<b>CHIROBIOTIC TAG</b>	2.11	1.06	0.63	MeOH/MeCN/AcOH/TEA (100/0/0.1/0.1 v/v/v/v)	1R2R3R4S < 1S2S3S4R	[32]
		<b>CHIROBIOTIC R</b>	0.54	1.22	1.51	MeOH/MeCN/AcOH/TEA (100/0/0.1/0.1 v/v/v/v)	1R2R3R4S < 1S2S3S4R	[32]

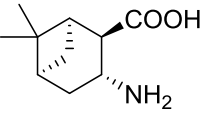
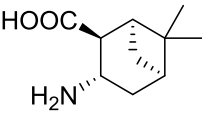


Compound		Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <p><b>(1R,2S,4S)-3-aminobicyclo[2.2.2]octane-2-carboxylic acid</b></p>	 <p><b>(1S,2R,4R)-3-aminobicyclo[2.2.2]octane-2-carboxylic acid</b></p>	<b>CHIRALPAK ZWIX(+)</b>	2.79	1.29	3.23	MeOH/MeCN (50/50 v/v) containing 25 mM EA and 50 mM AcOH	2R3S < 2S3R	[31]
		<b>CHIRALPAK ZWIX(-)</b>	2.69	1.39	4.74	MeOH/MeCN (50/50 v/v) containing 25 mM PRA and 50 mM FA	2S3R < 2R3S	[31]
		<b>CHIROBIOTIC T</b>	1.88	1.04	<0.20	MeOH/MeCN/AcOH/TEA (100/0/0.1/0.1 v/v/v/v)	-	[32]
		<b>CHIROBIOTIC TAG</b>	3.33	1.04	<0.20	MeOH/MeCN/AcOH/TEA (100/0/0/0 v/v/v/v)	-	[32]
		<b>CHIROBIOTIC R</b>	0.72	1.24	1.93	MeOH/MeCN/AcOH/TEA (100/0/0.1/0.1 v/v/v/v)	2R3S < 2S3R	[32]
 <p><b>(1R,4S)-3-aminobicyclo[2.2.2]octane-2-carboxylic acid</b></p>	 <p><b>(1S,4R)-3-aminobicyclo[2.2.2]octane-2-carboxylic acid</b></p>	<b>CHIRALPAK ZWIX(+)</b>	6.49	1.30	2.70	MeOH/MeCN (50/50 v/v) containing 25 mM PRA and 50 mM AcOH	2R3R < 2S3S	[31]
		<b>CHIRALPAK ZWIX(-)</b>	5.06	1.53	4.48	MeOH/MeCN (50/50 v/v) containing 25 mM PRA and 50 mM AcOH	2S3S < 2R3R	[31]
		<b>CHIROBIOTIC T</b>	1.72	1.05	0.29	MeOH/MeCN/AcOH/TEA (100/0/0.1/0.1 v/v/v/v)	2R3R < 2S3S	[32]
		<b>CHIROBIOTIC TAG</b>	3.80	1.05	0.30	MeOH/MeCN/AcOH/TEA (100/0/0/0 v/v/v/v)	2R3R < 2S3S	[32]
		<b>CHIROBIOTIC TAG</b>	5.17	1.17	1.88	MeOH/MeCN/AcOH/TEA (50/50/0.1/0.1 v/v/v/v)	2R3R < 2S3S	[32]

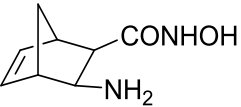
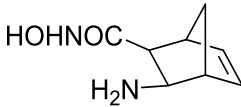
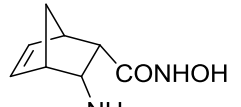
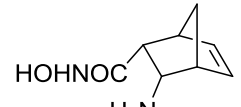
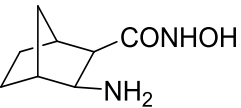
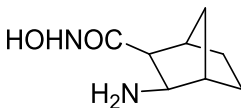
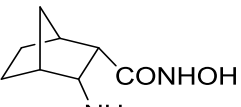
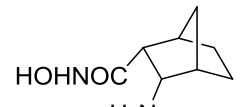
Chromatographic Data,  $k_1$ ,  $\alpha$ ,  $R_s$  and Elution Order for the Enantioseparation of *Bulky Monoterpene-based  $\beta^3$ -Amino Acids*

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.	
 <b>(1R,2R,3S,5R)-2-amino-6,6-dimethylbicyclo[3.1.1]heptane-3-carboxylic acid</b>	CHIRALPAK ZWIX(+)	2.84	1.26	3.00	MeOH/MeCN (50/50 v/v) containing 50 mM AcOH and 25 mM DEA	1R2R3S5R < 1S2S3R5S	[33]	
	CHIRALPAK ZWIX(+)	3.66	1.26	2.70	MeOH/MeCN (50/50 v/v) containing 50 mM AcOH 25 mM TEA T=10°C	1R2R3S5R < 1S2S3R5S	[34]	
	CHIRALPAK ZWIX(-)	2.41	1.55	4.40	MeOH/MeCN (50/50 v/v) containing 50 mM FA and 25 mM EA	1S2S3R5S < 1R2R3S5R	[33]	
	CHIRALPAK ZWIX(-)	4.23	1.55	3.80	MeOH/MeCN (50/50 v/v) containing 50 mM FA and 25 mM TEA T=10°C	1S2S3R5S < 1R2R3S5R	[34]	
	CHIROBIOTIC T	4.18	1.19	1.85	0.1% TEAA (pH 4.1)/MeOH (0/100 v/v)	1R2R3S5R < 1S2S3R5S	[35]	
	CHIROBIOTIC T2	2.00	1.16	1.40	0.1% TEAA (pH 4.1)/MeOH (10/90 v/v)	1R2R3S5R < 1S2S3R5S	[35]	
 <b>(1S,2S,3R,5S)-2-amino-6,6-dimethylbicyclo[3.1.1]heptane-3-carboxylic acid</b>	CHIROBIOTIC TAG	3.74	1.15	1.79	0.1% TEAA (pH 4.1)/MeOH (40/60 v/v)	1R2R3S5R < 1S2S3R5S	[35]	
	 <b>(1R,2R,3S,5R)-2-amino-2,6,6-trimethylbicyclo[3.1.1]heptane-3-carboxylic acid</b>	CHIRALPAK ZWIX(+)	2.13	1.05	0.60	MeOH/MeCN (50/50 v/v) containing 50 mM AcOH and 25 mM EA	1R2R3S5R < 1S2S3R5S	[33]
		CHIRALPAK ZWIX(+)	1.94	1.08	0.60	MeOH/MeCN (50/50 v/v) containing 50 mM AcOH and 25 mM TEA T=50°C	1R2R3S5R < 1S2S3R5S	[34]
		CHIRALPAK ZWIX(-)	2.27	1.15	1.81	MeOH/MeCN (50/50 v/v) containing 50 mM AcOH and 25 mM EA	1S2S3R5S < 1R2R3S5R	[33]
		CHIRALPAK ZWIX(-)	2.99	1.22	2.20	MeOH/MeCN (50/50 v/v) containing 50 mM FA and 25 mM TEA T=50°C	1S2S3R5S < 1R2R3S5R	[34]
		CHIROBIOTIC T	3.28	1.34	2.95	0.1% TEAA (pH 4.1)/MeOH (90/10 v/v)	1S2S3R5S < 1R2R3S5R	[35]
		CHIROBIOTIC T2	1.25	1.65	2.11	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	1S2S3R5S < 1R2R3S5R	[35]
CHIROBIOTIC TAG		2.69	1.49	3.27	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	1S2S3R5S < 1R2R3S5R	[35]	

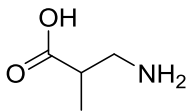
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.	
 <p>(1R,2R,3S,4R,5R)-2-amino-4,6,6-trimethylbicyclo[3.1.1]heptane-3-carboxylic acid</p>	CHIRALPAK ZWIX(+)	3.52	1.05	0.71	MeOH/MeCN (50/50 v/v) containing 50 mM FA and 25 mM EA	1R2R3S4R5R < 1S2S3R4S5S	[33]	
	CHIRALPAK ZWIX(+)	2.41	1.15	1.10	MeOH/MeCN (50/50 v/v) containing 50 mM AcOH and 25 mM TEA T=50°C	1R2R3S4R5R < 1S2S3R4S5S	[34]	
	CHIRALPAK ZWIX(-)	4.82	1.37	4.10	MeOH/MeCN (50/50 v/v) containing 50 mM FA and 25 mM TEA	1S2S3R4S5S < 1R2R3S4R5R	[33]	
	CHIRALPAK ZWIX(-)	3.80	1.42	3.90	MeOH/MeCN (50/50 v/v) containing 50 mM AcOH and 25 mM PRA T=10°C	1S2S3R4S5S < 1R2R3S4R5R	[34]	
	CHIROBIOTIC T	2.51	1.12	1.78	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	1S2S3R4S5S < 1R2R3S4R5R	[35]	
	CHIROBIOTIC T2	2.24	1.14	0.90	0.1% TEAA (pH 4.1)/MeOH (0/100 v/v)	1S2S3R4S5S < 1R2R3S4R5R	[35]	
 <p>(1S,2S,3R,4S,5S)-2-amino-4,6,6-trimethylbicyclo[3.1.1]heptane-3-carboxylic acid</p>	CHIROBIOTIC TAG	2.88	1.25	1.36	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v)	1S2S3R4S5S < 1R2R3S4R5R	[35]	
	 <p>(1S,2S,3S,5S)-2-amino-6,6-dimethylbicyclo[3.1.1]heptane-3-carboxylic acid</p>	CHIRALPAK ZWIX(+)	7.83	1.11	1.95	MeOH/MeCN (50/50 v/v) containing 50 mM AcOH 25 mM EA	1S2S3S5S < 1R2R3R5R	[33]
		CHIRALPAK ZWIX(+)	9.32	1.14	1.80	MeOH/MeCN (50/50 v/v) containing 50 mM AcOH and 25 mM PRA T=10°C	1S2S3S5S < 1R2R3R5R	[34]
		CHIRALPAK ZWIX(-)	4.08	1.25	2.90	MeOH/MeCN (50/50 v/v) containing 50 mM FA and 25 mM PRA	1R2R3R5R < 1S2S3S5S	[33]
		CHIRALPAK ZWIX(-)	11.89	1.37	2.60	MeOH/MeCN (50/50 v/v) containing 50 mM AcOH and 25 mM TEA T=10°C	1R2R3R5R < 1S2S3S5S	[34]
		CHIROBIOTIC T	4.73	1.08	0.90	0.1% TEAA (pH 4.1)/MeOH (0/100 v/v)	1R2R3R5R < 1S2S3S5S	[35]
		CHIROBIOTIC T2	3.13	1.18	1.35	0.1% TEAA (pH 4.1)/MeOH (90/10 v/v)	1R2R3R5R < 1S2S3S5S	[35]
CHIROBIOTIC TAG		7.63	1.19	1.06	0.1% TEAA (pH 4.1)/MeOH (90/10 v/v)	1R2R3R5R < 1S2S3S5S	[35]	
 <p>(1R,2R,3R,5R)-2-amino-6,6-dimethylbicyclo[3.1.1]heptane-3-carboxylic acid</p>								

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>(1R,2R,3R,5S)-3-amino-6,6-dimethylbicyclo[3.1.1]heptane-2-carboxylic acid</b>   <b>(1S,2S,3S,5R)-3-amino-6,6-dimethylbicyclo[3.1.1]heptane-2-carboxylic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	15.28	1.10	2.10	MeOH/MeCN (25/75 v/v) containing 50 mM AcOH and 25 mM PRA	1S2S3S5R < 1R2R3R5S	[33]
	<b>CHIRALPAK ZWIX(+)</b>	18.05	1.11	2.00	MeOH/MeCN (25/75 v/v) containing 50 mM AcOH and 25 mM PRA T=10°C	1S2S3S5R < 1R2R3R5S	[34]
	<b>CHIRALPAK ZWIX(-)</b>	5.68	1.21	2.44	MeOH/MeCN (50/50 v/v) containing 50 mM AcOH 25 mM EA	1R2R3R5S < 1S2S3S5R	[33]
	<b>CHIRALPAK ZWIX(-)</b>	9.11	1.35	4.50	MeOH/MeCN (50/50 v/v) containing 50 mM AcOH and 25 mM TEA T=10°C	1R2R3R5S < 1S2S3S5R	[34]
	<b>CHIROBIOTIC T</b>	1.30	1.48	3.49	0.1% TEAA (pH 4.1)/MeOH (0/100 v/v)	1R2R3R5S < 1S2S3S5R	[35]
	<b>CHIROBIOTIC T2</b>	1.80	1.29	1.97	0.1% TEAA (pH 4.1)/MeOH (0/100 v/v)	1R2R3R5S < 1S2S3S5R	[35]
	<b>CHIROBIOTIC TAG</b>	4.84	1.32	2.76	0.1% TEAA (pH 4.1)/MeOH (0/100 v/v)	1R2R3R5S < 1S2S3S5R	[35]

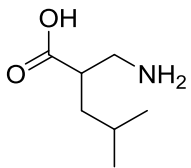
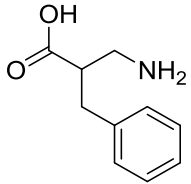
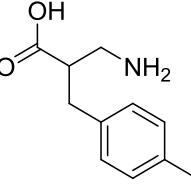
Chromatographic Data,  $k_1$ ,  $\alpha$ ,  $R_S$  and Elution Order for the Enantioseparation of Cyclic  $\beta$ -Aminohydroxamic Acids

Compound		Column	$k_1$	$\alpha$	$R_S$	Mobile Phase	Elution Order	Ref.
 <p><b>(1R,2R,3S,4S)-3-amino-N-hydroxybicyclo[2.2.1]hept-5-ene-2-carboxamide</b></p>	 <p><b>(1S,2S,3R,4R)-3-amino-N-hydroxybicyclo[2.2.1]hept-5-ene-2-carboxamide</b></p>	<b>CHIRALPAK ZWIX(+)</b>	4.06	2.17	2.80	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	2R,3S<2S,3R	[36]
		<b>CHIRALPAK ZWIX(-)</b>	5.49	2.30	2.44	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	2S,3R<2R,3S	[36]
 <p><b>(1R,2S,3R,4S)-3-amino-N-hydroxybicyclo[2.2.1]hept-5-ene-2-carboxamide</b></p>	 <p><b>(1S,2R,3S,4R)-3-amino-N-hydroxybicyclo[2.2.1]hept-5-ene-2-carboxamide</b></p>	<b>CHIRALPAK ZWIX(+)</b>	4.60	1.87	2.42	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	2R,3S<2S,3R	[36]
		<b>CHIRALPAK ZWIX(-)</b>	4.66	1.86	2.43	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	2S,3R<2R,3S	[36]
 <p><b>(1S,2R,3S,4R)-3-amino-N-hydroxybicyclo[2.2.1]heptane-2-carboxamide</b></p>	 <p><b>(1R,2S,3R,4S)-3-amino-N-hydroxybicyclo[2.2.1]heptane-2-carboxamide</b></p>	<b>CHIRALPAK ZWIX(+)</b>	4.38	2.43	3.51	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	2R,3S<2S,3R	[36]
		<b>CHIRALPAK ZWIX(-)</b>	4.40	2.83	3.59	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	2S,3R<2R,3S	[36]
 <p><b>(1S,2S,3R,4R)-3-amino-N-hydroxybicyclo[2.2.1]heptane-2-carboxamide</b></p>	 <p><b>(1R,2R,3S,4S)-3-amino-N-hydroxybicyclo[2.2.1]heptane-2-carboxamide</b></p>	<b>CHIRALPAK ZWIX(+)</b>	4.14	1.67	2.37	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	2R,3S<2S,3R	[36]
		<b>CHIRALPAK ZWIX(-)</b>	4.58	1.58	1.97	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	2S,3R<2R,3S	[36]

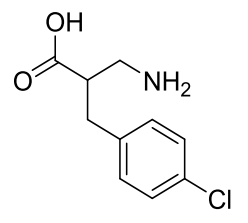
Chromatographic Data,  $k_1$ ,  $\alpha$ ,  $R_s$  and Elution Order for the Enantioseparation of *Unusual*  $\beta^2$ -Amino Acids

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <p><b>3-amino-2-methylpropanoic acid</b></p>	CHIRALPAK ZWIX(+)	7.38	1.12	1.72	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[37]
	CHIRALPAK ZWIX(+)	3.12	1.10	0.63	MeOH/MeCN (50/50 v/v) containing 25 mM BA and 50 mM AcOH	<i>n.d.</i>	[38]
	CHIRALPAK ZWIX(-)	5.50	1.31	2.00	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[37]
	CHIRALPAK ZWIX(-)	3.46	1.28	3.39	MeOH/MeCN (50/50 v/v) containing 25 mM BA and 50 mM AcOH	<i>n.d.</i>	[38]
	CHIROBIOTIC T	2.58	1.15	1.40	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d.</i>	[39]
	CHIROBIOTIC T2	2.26	1.11	0.65	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d.</i>	[39]
	CHIROBIOTIC TAG	4.66	1.07	0.70	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d.</i>	[39]
 <p><b>3-amino-2-ethylpropanoic acid</b></p>	CHIRALPAK ZWIX(+)	3.93	1.28	3.65	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d.</i>	[37]
	CHIRALPAK ZWIX(+)	3.45	1.29	2.80	MeOH/MeCN (50/50 v/v) containing 25 mM PRA and 50 mM AcOH	<i>n.d.</i>	[38]
	CHIRALPAK ZWIX(-)	3.58	1.34	3.49	MeOH/MeCN (50/50 v/v) containing 25 mM NH <sub>3</sub> and 50 mM AcOH	<i>n.d.</i>	[37]
	CHIRALPAK ZWIX(-)	3.19	1.40	3.88	MeOH/MeCN (50/50 v/v) containing 25 mM BA and 50 mM AcOH	<i>n.d.</i>	[38]
	CHIROBIOTIC T	2.34	1.15	1.20	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d.</i>	[39]
	CHIROBIOTIC T2	2.00	1.08	1.00	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d.</i>	[39]
	CHIROBIOTIC TAG	3.71	1.16	1.65	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d.</i>	[39]

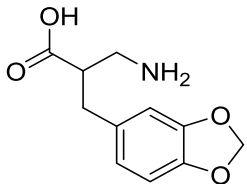
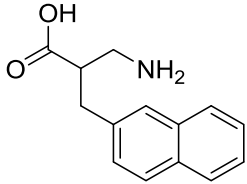
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>3-amino-2-propylpropanoic acid</b>	CHIRALPAK ZWIX(+)	4.25	1.33	4.30	MeOH/MeCN (50/50 v/v) containing 25 mM NH <sub>3</sub> and 50 mM AcOH	<i>n.d</i>	[37]
	CHIRALPAK ZWIX(-)	3.60	1.34	4.13	MeOH/MeCN (50/50 v/v) containing 25 mM NH <sub>3</sub> and 50 mM AcOH	<i>n.d</i>	[37]
	CHIROBIOTIC T	2.33	1.28	2.90	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
	CHIROBIOTIC T2	2.04	1.20	2.05	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
	CHIROBIOTIC TAG	4.32	1.31	2.75	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
 <b>3-amino-2-butylpropanoic acid</b>	CHIRALPAK ZWIX(+)	4.19	1.34	4.50	MeOH/MeCN (50/50 v/v) containing 25 mM NH <sub>3</sub> and 50 mM AcOH	<i>n.d</i>	[37]
	CHIRALPAK ZWIX(-)	3.55	1.35	4.20	MeOH/MeCN (50/50 v/v) containing 25 mM NH <sub>3</sub> and 50 mM AcOH	<i>n.d</i>	[37]
	CHIROBIOTIC T	2.33	1.26	1.90	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
	CHIROBIOTIC T2	2.09	1.17	1.30	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
	CHIROBIOTIC TAG	4.36	1.28	1.40	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
 <b>2-(aminomethyl)-3-methylbutanoic acid</b>	CHIRALPAK ZWIX(+)	5.58	1.5	8.38	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>R &lt; S</i>	[37]
	CHIRALPAK ZWIX(+)	3.10	1.57	4.56	MeOH/MeCN (50/50 v/v) containing 25 mM PRA and 50 mM AcOH	<i>R &lt; S</i>	[38]
	CHIRALPAK ZWIX(-)	3.26	1.62	6.82	MeOH/MeCN (50/50 v/v) containing 25 mM NH <sub>3</sub> 50 mM AcOH	<i>S &lt; R</i>	[37]
	CHIRALPAK ZWIX(-)	6.04	1.68	6.90	MeOH/MeCN (50/50 v/v) containing 25 mM TPRA and 50 mM AcOH	<i>S &lt; R</i>	[38]
	CHIROBIOTIC T	2.10	1.14	1.45	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
	CHIROBIOTIC T2	1.63	1.15	1.60	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
	CHIROBIOTIC TAG	3.36	1.22	3.00	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>2-(aminomethyl)-4-methylpentanoic acid</b>	CHIRALPAK ZWIX(+)	6.19	1.18	2.86	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$R < S$	[37]
	CHIRALPAK ZWIX(-)	6.18	1.20	1.60	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	$S < R$	[37]
	CHIROBIOTIC T	2.20	1.32	2.10	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
	CHIROBIOTIC T2	1.89	1.27	2.20	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
	CHIROBIOTIC TAG	3.87	1.40	2.95	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
 <b>3-amino-2-benzylpropanoic acid</b>	CHIRALPAK ZWIX(+)	8.02	1.09	1.30	MeOH/MeCN (50/50 v/v) containing 20 mM TEAP (pH 4.5)	<i>n.d</i>	[37]
	CHIRALPAK ZWIX(-)	7.59	1.18	2.40	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d</i>	[37]
	CHIROBIOTIC T	2.35	1.32	3.50	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
	CHIROBIOTIC T2	1.95	1.19	1.70	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
	CHIROBIOTIC TAG	4.64	1.38	3.10	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
 <b>3-amino-2-(4-methylbenzyl)propanoic acid</b>	CHIRALPAK ZWIX(+)	8.87	1.06	0.91	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d</i>	[37]
	CHIRALPAK ZWIX(+)	6.87	1.05	0.42	MeOH/MeCN (50/50 v/v) containing 25 mM TPRA and 50 mM AcOH	<i>n.d</i>	[38]
	CHIRALPAK ZWIX(-)	7.51	1.16	1.90	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d</i>	[37]
	CHIRALPAK ZWIX(-)	7.70	1.14	2.19	MeOH/MeCN (50/50 v/v) containing 25 mM TPRA and 50 mM AcOH	<i>n.d</i>	[38]



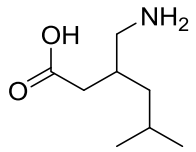
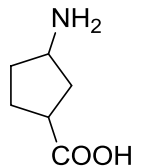
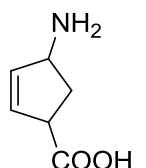
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>3-amino-2-(4-(dimethylamino)benzyl)propanoic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	6.31	1.08	1.45	MeOH/MeCN (50/50 v/v) containing 25 mM NH <sub>3</sub> and 50 mM FA	<i>n.d</i>	[37]
	<b>CHIRALPAK ZWIX(-)</b>	7.90	1.16	2.10	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d</i>	[37]
 <b>3-amino-2-(4-chlorobenzyl)propanoic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	9.99	1.06	0.91	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d</i>	[37]
	<b>CHIRALPAK ZWIX(+)</b>	8.26	1.06	0.60	MeOH/MeCN (50/50 v/v) containing 25 mM TPRA and 50 mM AcOH	<i>n.d</i>	[38]
	<b>CHIRALPAK ZWIX(-)</b>	9.13	1.18	2.00	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d</i>	[37]
	<b>CHIRALPAK ZWIX(-)</b>	9.29	1.16	2.24	MeOH/MeCN (50/50 v/v) containing 25 mM TPRA and 50 mM AcOH	<i>n.d</i>	[38]
 <b>3-amino-2-(4-hydroxybenzyl)propanoic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	10.47	1.07	1.21	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d</i>	[37]
	<b>CHIRALPAK ZWIX(-)</b>	8.72	1.17	1.60	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d</i>	[37]

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>3-amino-2-(3-hydroxybenzyl)propanoic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	8.15	1.08	1.22	MeOH/MeCN (50/50 v/v) containing 20 mM TEAP (pH 4.5)	<i>n.d</i>	[37]
	<b>CHIRALPAK ZWIX(-)</b>	9.21	1.15	1.80	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d</i>	[37]
	<b>CHIROBIOTIC T</b>	2.07	1.30	3.00	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
	<b>CHIROBIOTIC TAG</b>	3.66	1.76	3.20	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
 <b>3-amino-2-(4-ethoxybenzyl)propanoic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	5.88	1.08	1.38	MeOH/MeCN (50/50 v/v) containing 25 mM NH <sub>3</sub> and 50 mM FA	<i>n.d</i>	[37]
	<b>CHIRALPAK ZWIX(-)</b>	10.02	1.15	1.84	MeOH/MeCN (50/50 v/v) containing 20 mM TEAP (pH 4.5)	<i>n.d</i>	[37]
	<b>CHIROBIOTIC T</b>	2.58	1.25	2.85	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
	<b>CHIROBIOTIC T2</b>	2.40	1.19	1.75	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
	<b>CHIROBIOTIC TAG</b>	5.24	1.25	1.85	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
 <b>3-amino-2-(3-hydroxy-4-methoxybenzyl)propanoic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	7.98	1.06	1.19	MeOH/MeCN (50/50 v/v) containing 20 mM TEAP (pH 4.5)	<i>n.d</i>	[37]
	<b>CHIRALPAK ZWIX(-)</b>	8.09	1.16	1.90	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d</i>	[37]

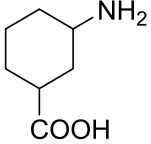
Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 <b>3-amino-2-(benzo[d][1,3]dioxol-5-ylmethyl)propanoic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	8.80	1.14	2.29	MeOH/MeCN (50/50 v/v) containing 20 mM TEAP (pH 4.5)	<i>n.d</i>	[37]
	<b>CHIRALPAK ZWIX (-)</b>	5.30	1.11	1.88	MeOH/MeCN (50/50 v/v) containing 25 mM NH <sub>3</sub> and 50 mM FA	<i>n.d</i>	[37]
 <b>3-amino-2-(naphthalen-2-ylmethyl)propanoic acid</b>	<b>CHIRALPAK ZWIX(+)</b>	10.77	1.00	0.00	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d</i>	[37]
	<b>CHIRALPAK ZWIX(+)</b>	3.81	1.47	3.27	MeOH/MeCN (50/50 v/v) containing 25 mM TBA and 50 mM AcOH	<i>n.d</i>	[38]
	<b>CHIRALPAK ZWIX(-)</b>	9.73	1.11	1.50	MeOH/MeCN (50/50 v/v) containing 25 mM TEA and 50 mM AcOH	<i>n.d</i>	[37]
	<b>CHIRALPAK ZWIX(-)</b>	10.47	1.10	1.07	MeOH/MeCN (50/50 v/v) containing 25 mM TBA and 50 mM AcOH	<i>n.d</i>	[38]
	<b>CHIROBIOTIC T</b>	2.60	1.27	3.20	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
	<b>CHIROBIOTIC T2</b>	2.53	1.24	1.95	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]
	<b>CHIROBIOTIC TAG</b>	5.40	1.44	3.35	0.1% TEAA (pH 4.1)/MeOH (30/70 v/v) 0.5 mL/min	<i>n.d</i>	[39]

## Enantioseparation of $\gamma$ -amino acids

### Chromatographic dData, $k_1$ , $\alpha$ , $R_S$ and Elution Order for the Enantioseparation of $\gamma$ -Amino Acids

Compound	Column	$k_1$	$\alpha$	$R_S$	Mobile Phase	Elution Order	Ref.
 <b>Pregabalin</b>	<b>CHIRALPAK ZWIX(+)</b>	7.25*/10.68*	-	3.0	0.05 M $\text{NH}_4\text{H}_2\text{PO}_4/\text{MeOH}$ (30/70 v/v)	<i>n.d</i>	[40]
 <b>(cis)-3-aminocyclopentane-1-carboxylic acid</b>	<b>CHIROBIOTIC T</b>	8.96	1.07	1.15	$\text{MeOH}/\text{AcOH}/\text{TEA}$ (100/0.1/0.1 v/v/v) 0.5 mL/min	<i>n.d</i>	[41]
	<b>CHIROBIOTIC T2</b>	3.40	1.13	0.55	$\text{MeOH}/\text{AcOH}/\text{TEA}$ (100/0.1/0.1 v/v/v) 0.5 mL/min	<i>n.d</i>	[41]
	<b>CHIROBIOTIC TAG</b>	6.30	1.03	0.20	0.1% TEAA (pH 4.1)/ $\text{MeOH}$ (40/60 v/v) 0.5 mL/min	<i>n.d</i>	[41]
	<b>CHIROBIOTIC R</b>	2.13	1.26	2.00	0.1% TEAA (pH 4.1)/ $\text{MeOH}$ (10/90 v/v) 0.5 mL/min	<i>n.d</i>	[41]
 <b>(cis)-4-aminocyclopent-2-ene-1-carboxylic acid</b>	<b>CHIROBIOTIC T</b>	2.00	1.31	2.95	0.1% TEAA (pH 4.1)/ $\text{MeOH}$ (40/60 v/v) 0.5 mL/min	<i>n.d</i>	[41]
	<b>CHIROBIOTIC T2</b>	1.65	1.59	3.80	0.1% TEAA (pH 4.1)/ $\text{MeOH}$ (40/60 v/v) 0.5 mL/min	<i>n.d</i>	[41]
	<b>CHIROBIOTIC TAG</b>	9.49	2.16	8.80	0.1% TEAA (pH 4.1)/ $\text{MeOH}$ (10/90 v/v) 0.5 mL/min	<i>n.d</i>	[41]
	<b>CHIROBIOTIC R</b>	0.54	1.56	2.95	0.1% TEAA (pH 4.1)/ $\text{MeOH}$ (40/60 v/v) 0.5 mL/min	<i>n.d</i>	[41]

Abbreviations and References starting on page 70

Compound	Column	$k_1$	$\alpha$	$R_s$	Mobile Phase	Elution Order	Ref.
 (cis)-3-aminocyclohexane-1-carboxylic acid	CHIROBIOTIC T	3.71	1.11	1.40	0.1% TEAA (pH 4.1)/MeOH (40/60 v/v) 0.5 mL/min	<i>n.d</i>	[41]
	CHIROBIOTIC T2	3.85	1.25	1.90	0.1% TEAA (pH 4.1)/MeOH (40/60 v/v) 0.5 mL/min	<i>n.d</i>	[41]
	CHIROBIOTIC TAG	9.63	1.17	1.40	0.1% TEAA (pH 4.1)/MeOH (40/60 v/v) 0.5 mL/min	<i>n.d</i>	[41]
	CHIROBIOTIC R	6.45	1.19	2.20	MeOH/AcOH/TEA (100/0.1/0.1 v/v/v) 0.5 mL/min	<i>n.d</i>	[41]

\* retention time ( $t_{R1}$  and  $t_{R2}$ ) in minute

## Abbreviations:

**CHIRALPAK® ZWIX(+)**: quinine-based zwitterionic Chiral Stationary Phase (CSP)

**CHIRALPAK® ZWIX(-)**: quinidine-based zwitterionic CSP

**CHIRALPAK® QN-AZ** quinine-based anion-exchanger CSP

**CHIRALPAK® QD-AX**: quinidine-based anion-exchanger CSP

**CROWNPAK® CR-I(+)** crown ether-based CSP

**T**: CHIROBIOTIC® T

**T2**: CHIROBIOTIC® T2

**TAG**: CHIROBIOTIC® TAG

**R**: CHIROBIOTIC® R

**V**: CHIROBIOTIC® V

**VAG**: CHIROBIOTIC® VAG

**EA**, ethylamine; **DEA**, diethylamine; **TEA**, triethylamine; **PRA**, propylamine; **TPRA**, tripropylamine; **BA**, buthylamine; **TBA**, tributylamine; **TEAA**, triethylammonium acetate; **TEAP**, triethylammonium phosphate; **MeOH**, methanol; **EtOH**, ethanol; **MeCN**, acetonitrile; **AcOH**, acetic acid; **FA**, formic acid; **TFA**, trifluoroacetic acid;

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