

Fig. 23. The current of stacking and separation.

Separation micellar buffer, 180 mM SDS in 25 mM citric acid/disodium hydrogen phosphate buffer at pH 2.6; separation nonmicellar buffer, in 25 mM citric acid/disodium hydrogen phosphate buffer at pH 2.6; injection pressure, 5 p.s.i.; injection time, 7 min; stacking voltage, -20 kV; applied voltage, -30 kV; sample concentration, 50 μg/ L, sample dissolved in water, effect length, 50 cm x 50 μm I.D; detection wavelength, 210 nm; temperature, 25 .

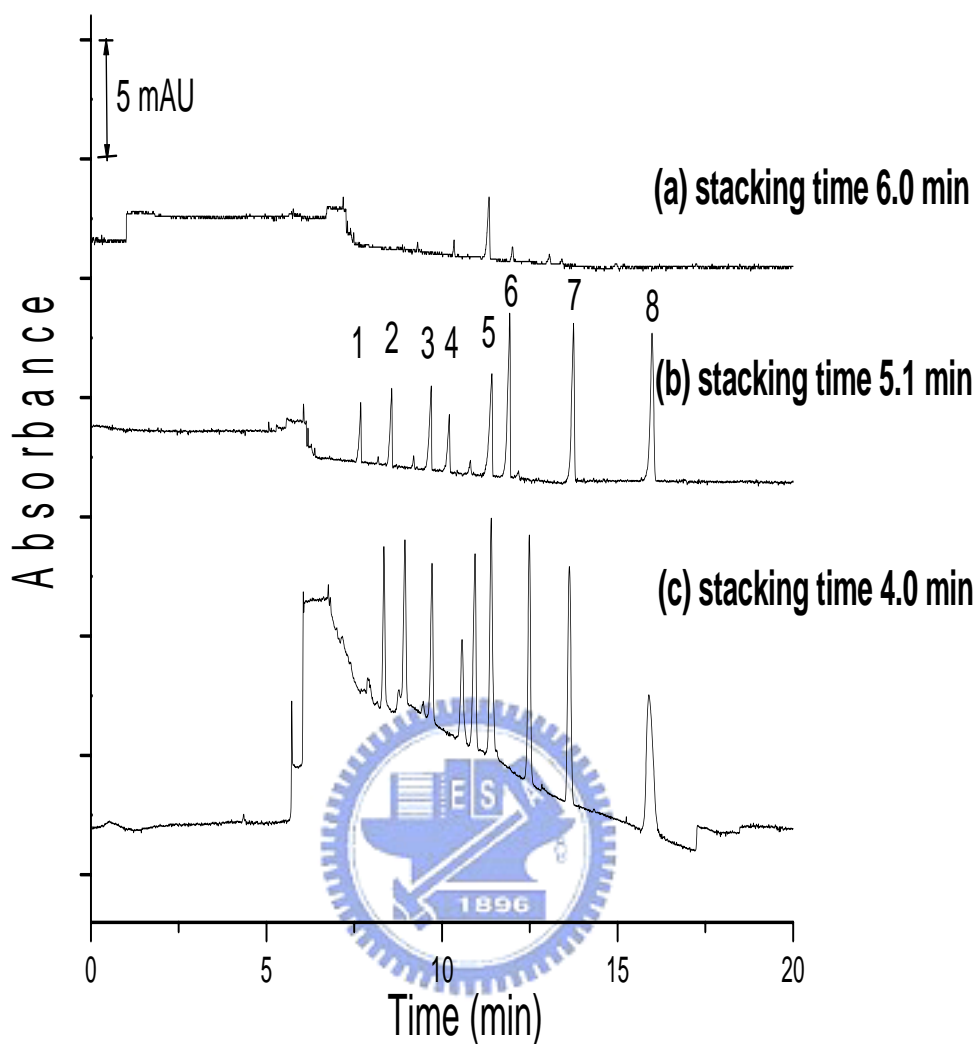


Fig. 24. Effect of the stacking time.

Separation micellar buffer, 180 mM SDS in 25 mM citric acid/disodium hydrogen phosphate buffer at pH 2.6; separation nonmicellar buffer, in 25 mM citric acid/disodium hydrogen phosphate buffer at 25 mM citric acid/disodium hydrogen phosphate buffer pH 2.6; injection pressure, 5 p.s.i.; injection time, 7 min; stacking voltage, -20 kV; applied voltage, -30 kV; sample concentration, 50  $\mu\text{g}/\text{L}$ , sample dissolved in water, effect length, 50 cm x 50  $\mu\text{m}$  I.D; detection wavelength, 210 nm; temperature, 25  $^{\circ}\text{C}$ .

1.sinapic acid

2. ferulic acid

3.coumaric acid

4.chlorogenic acid

5.caffeic acid

6.syringic acid

7.vanillic acid

8.hydroxybenzoic acid

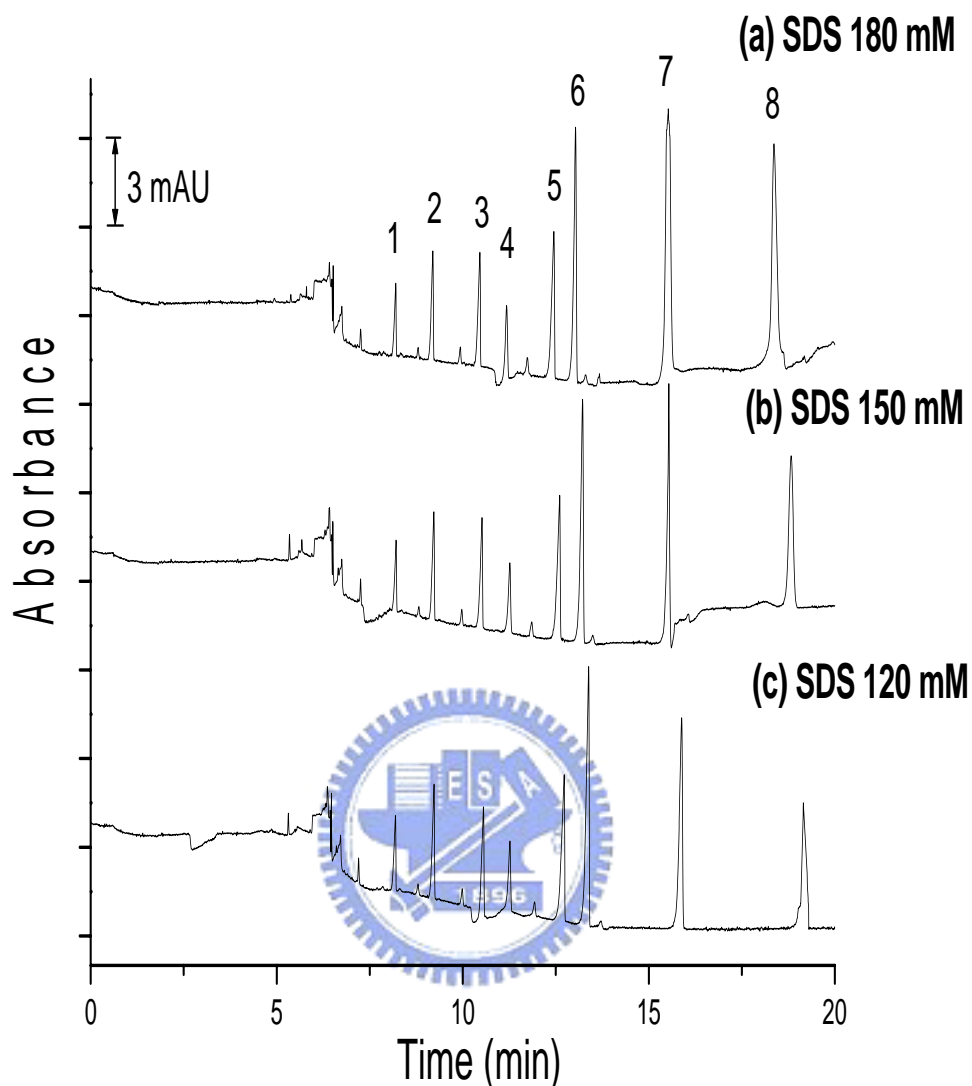


Fig. 25. Effect of the concentration of SDS in running buffer. Separation micellar buffer, 25 mM citric acid/disodium hydrogen phosphate buffer at pH 2.6; separation nonmicellar buffer, 25 mM citric acid/disodium hydrogen phosphate buffer at pH 2.6; injection pressure, 5 p.s.i.; injection time, 7 min; stacking time, 5.1 min; stacking voltage, -20 kV; applied voltage, -30 kV; sample concentration, 50  $\mu\text{g}/\text{L}$ , sample dissolved in water, effect length, 50 cm x 50  $\mu\text{m}$  I.D; detection wavelength, 210 nm; temperature, 25  $^{\circ}\text{C}$ .

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|--------------------|-----------------------|-----------------|
| 1.sinapic acid     | 2. ferulic acid       | 3.coumaric acid |
| 4.chlorogenic acid | 5.caffeic acid        | 6.syringic acid |
| 7.vanillic acid    | 8.hydroxybenzoic acid |                 |

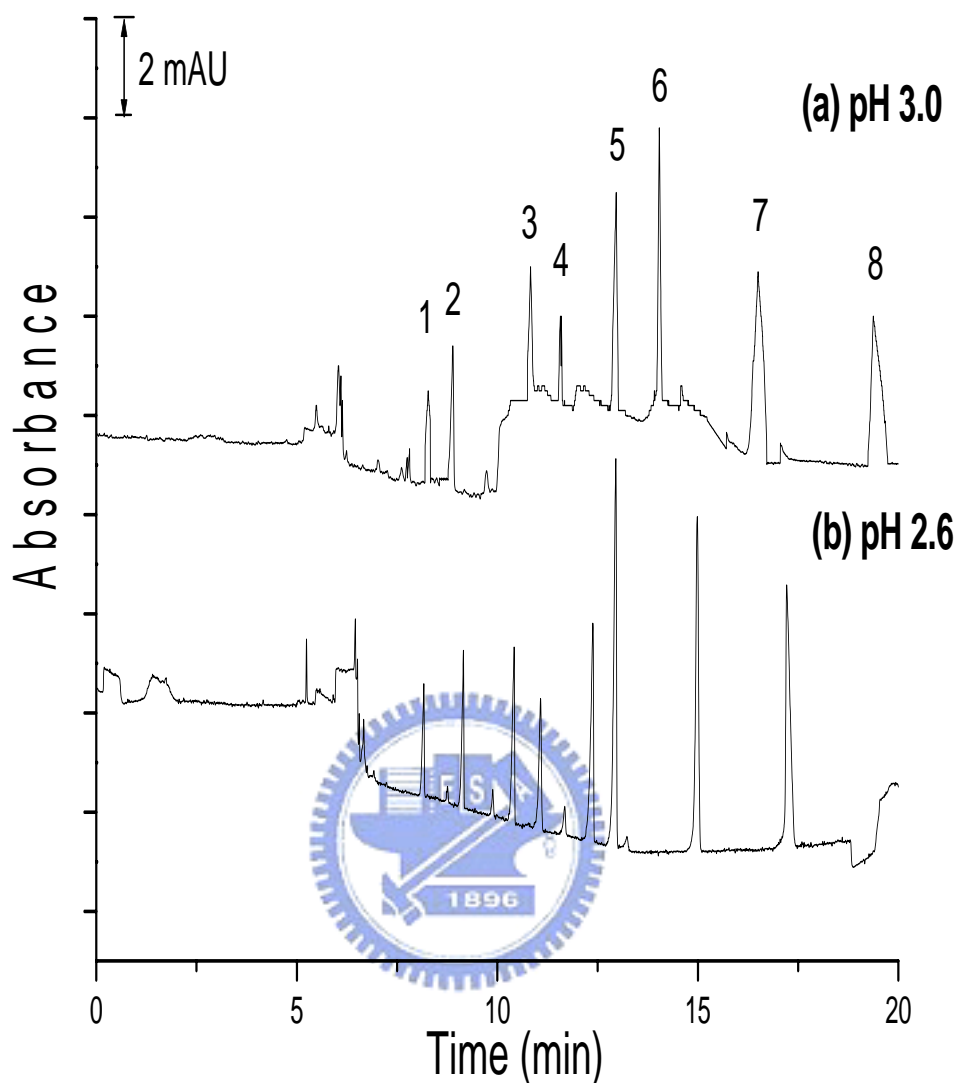


Fig. 26. Effect of the pH of micellar buffer and nonmicellar buffer. Separation micellar buffer, 180 mM SDS in 25 mM citric acid/disodium hydrogen phosphate buffer; separation nonmicellar buffer, 25 mM citric acid/disodium hydrogen phosphate buffer; injection pressure, 5 p.s.i.; injection time, 7 min; stacking time, 5.1 min; stacking voltage, -20 kV; applied voltage, -30 kV; sample concentration, 50  $\mu\text{g}/\text{L}$ , sample dissolved in water, effect length, 50 cm x 50  $\mu\text{m}$  I.D; detection wavelength, 210 nm; temperature, 25  $^{\circ}\text{C}$ .

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|--------------------|-----------------------|-----------------|
| 1.sinapic acid     | 2. ferulic acid       | 3.coumaric acid |
| 4.chlorogenic acid | 5.caffeic acid        | 6.syringic acid |
| 7.vanillic acid    | 8.hydroxybenzoic acid |                 |

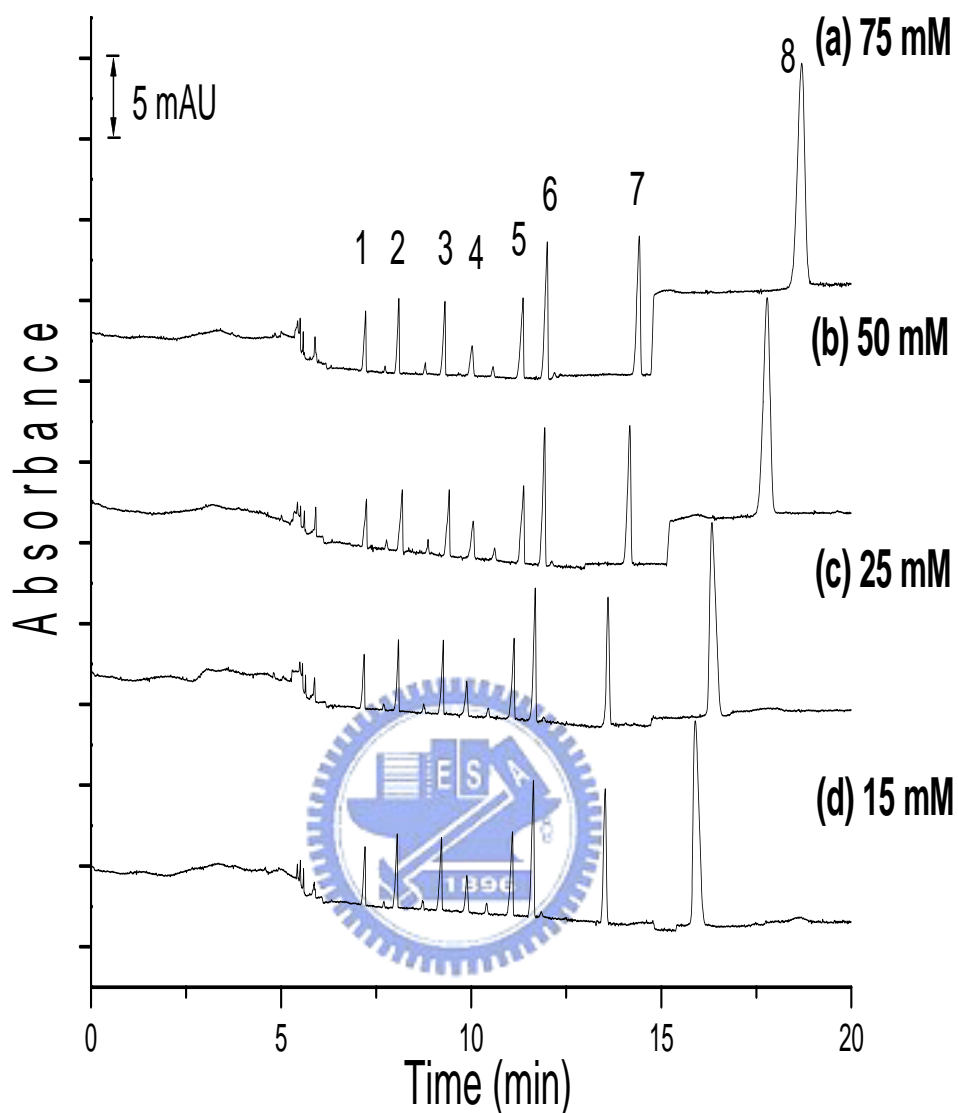


Fig. 27. Effect of the concentration of micellar buffer.

Separation micellar buffer, 180 mM SDS at pH 2.6; separation nonmicellar buffer, 25 mM citric acid/disodium hydrogen phosphate at pH 2.6; injection pressure, 5 p.s.i.; injection time, 7 min; stacking time, 5.1 min; stacking voltage, -20 kV; applied voltage, -30 kV; sample concentration, 50  $\mu\text{g/L}$ , sample dissolved in water, effect length, 50 cm x 50  $\mu\text{m}$  I.D; detection wavelength, 210 nm; temperature, 25  $^{\circ}\text{C}$ .

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|--------------------|-----------------------|-----------------|
| 1.sinapic acid     | 2. ferulic acid       | 3.coumaric acid |
| 4.chlorogenic acid | 5.caffeic acid        | 6.syringic acid |
| 7.vanillic acid    | 8.hydroxybenzoic acid |                 |

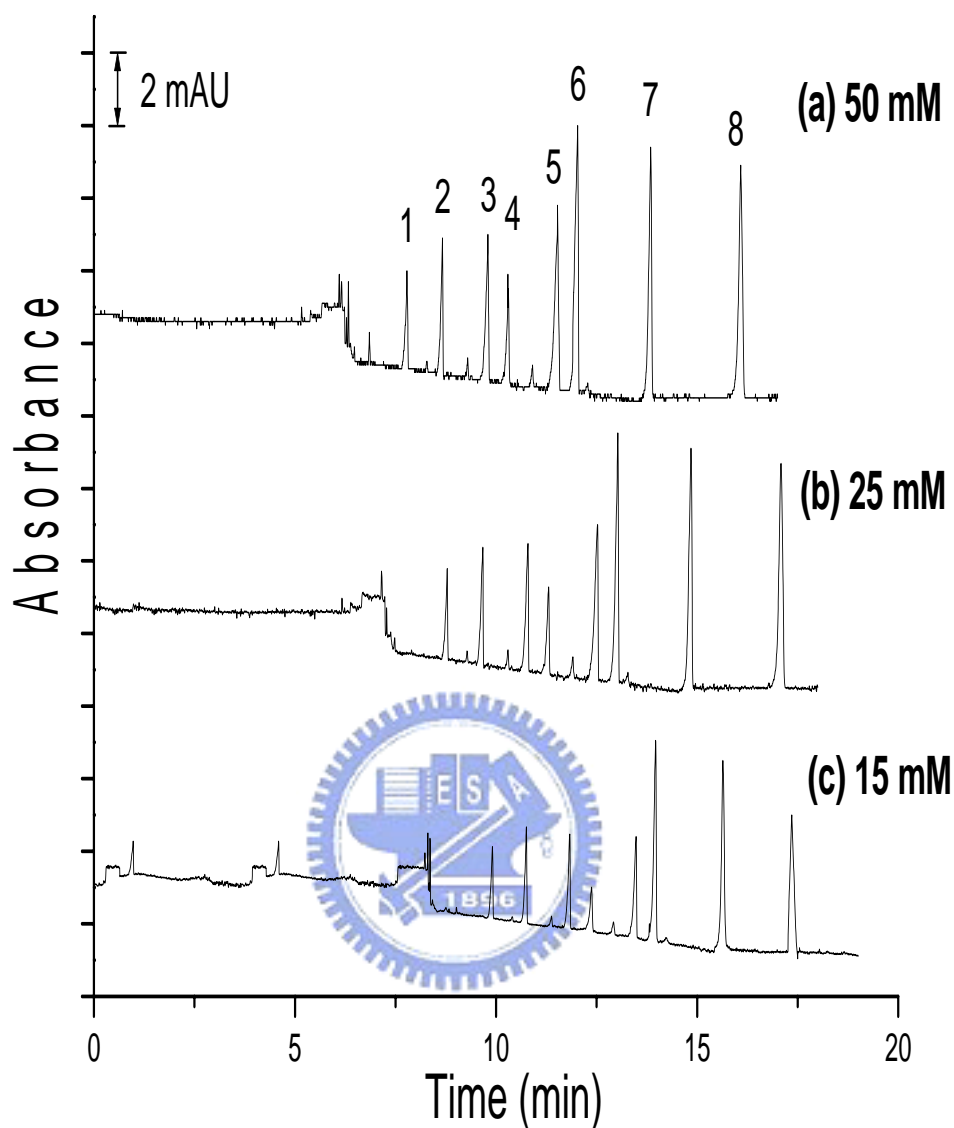


Fig. 28. Effect of the concentration of nonmicellar buffer.

Separation micellar buffer, 180 mM SDS in 15 mM citric acid/disodium hydrogen phosphate buffer at pH 2.6; separation nonmicellar buffer, at pH 2.6; injection pressure, 5 p.s.i.; injection time, 7 min; stacking time, 5.1 min; stacking voltage, -20 kV; applied voltage, -30 kV; sample concentration, 50  $\mu\text{g}/\text{L}$ , sample dissolved in water, effect length, 50 cm x 50  $\mu\text{m}$  I.D; detection wavelength, 210 nm; temperature, 25  $^{\circ}\text{C}$ .

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|--------------------|-----------------------|-----------------|
| 1.sinapic acid     | 2. ferulic acid       | 3.coumaric acid |
| 4.chlorogenic acid | 5.caffeic acid        | 6.syringic acid |
| 7.vanillic acid    | 8.hydroxybenzoic acid |                 |