The figures which were not showed in manuscript submitted are now as the following, and they are used as supplementary explanation materials.

## 1. Effect of the electrolyte

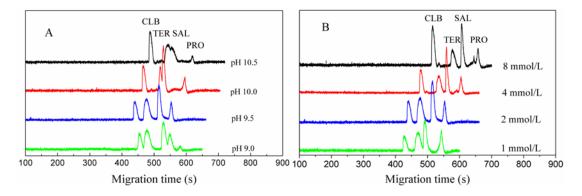


Fig. S1. Effects of pH (A) and concentration (B) of borate buffer on separation of four  $\beta_2$ -agonists Conditions: detection potential 1.17 V, separation voltage 8 kV, electrokinetic injection 8 kV × 6 s, 5 mmol L<sup>-1</sup> Ru(bpy)<sub>3</sub><sup>2+</sup> with 50 mmol L<sup>-1</sup> phosphate buffer at pH 8.5 in the detection cell.

## 2. Effect of separation voltage

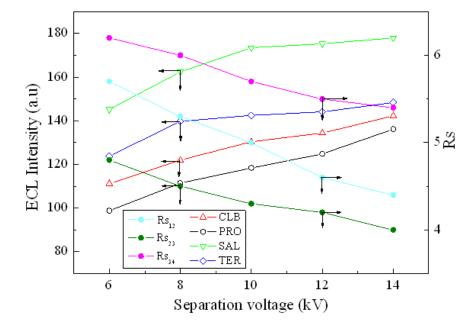


Fig. S2. Effect of separation voltage on ECL intensity and Rs.

Conditions: electrophoretic buffe: 2.0 mmol L<sup>-1</sup> borate buffer at pH 9.5; other conditions are the

same as in the Fig. S1.  $Rs_{12}$  is the Rs between CLB and TER,  $Rs_{23}$  is the Rs between TER and SAL,  $Rs_{34}$  is the Rs between SAL and PRO.

## 3 Effect of injection voltage and time

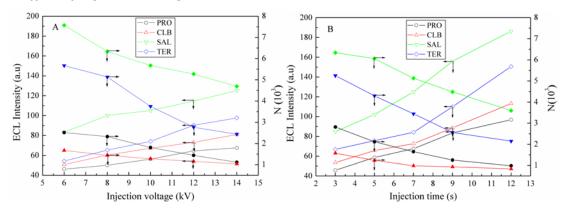


Fig. S3. Effects of injection voltage (A) and injection time (B) on ECL intensity and N

Conditions: running buffer  $2.0 \text{ mmol } L^{-1}$  borate at pH 9.5, separation voltage 8 kV, other conditions are the same as those in the Fig. S1.