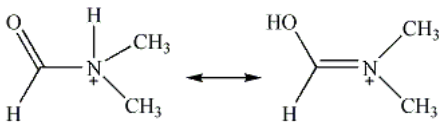
Electronic Supplementary Material (ESI) for Analytical Methods.


# Supporting Information

Capillary electrophoretic separation of anions in dimethylformamide–acetic acid medium

Zhiren Tian, Weidong Qin *

1. Resonance structures of $DMFH^+$



keto form enol form

Scheme S1 Resonance structures of $DMFH^+$

2. Influence of sample solvent

Table S1 Related properties of the solvent studied [1]

| | Relative permittivity | Polarity | Viscosity (cP) |
|---|---|---|---|
| Methanol | 33.0 | 1.70 | 0.551 |
| Acetonitrile | 36.64 | 3.92 | 0.341 |
| Sulfolane | 43.26 | 4.81 | 9.87 |
| Water | 78 | 1.87 | 0.890 |

3. Effective length-dependence of the mobility

In this experiment all the parameters were kept identical except that the effective length of capillary was varied from 10 cm to 50 cm by moving the $C^4D$ detector along

the capillary. The effective mobility of analytes increased with the increasing effective capillary length, suggesting that the ions migrated at lower velocity in the injection plug than in the s-BGE. The results are the consequence of either the higher conductivity of the sample zone or the desolvation/solvation of the solutes, or both.

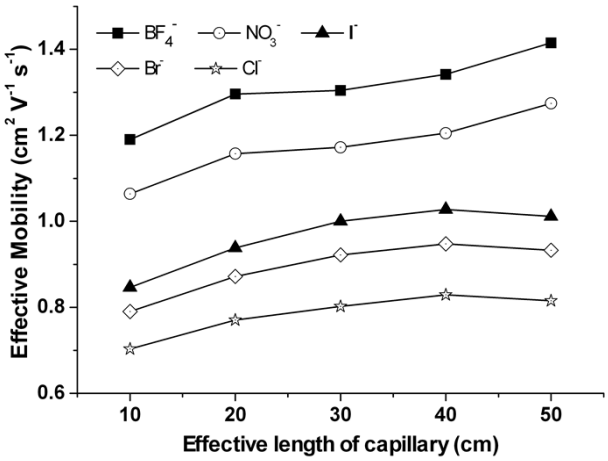



Fig. S1 Variation of effective mobility with effective capillary length
The BGE: DMF-HAc medium. The capillary: 60 cm, with an effective length of 50 cm. Separation voltage: -14kV.

4. Oscillation voltage of $C^4D$

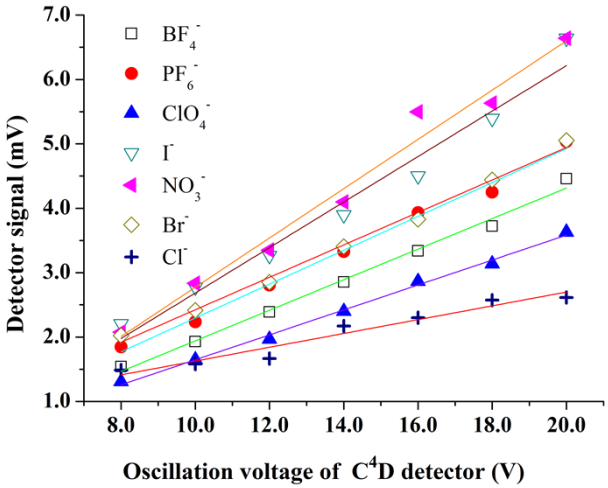



Fig. S2 Influence of oscillation voltage

References

1. S. P. Porras, M. L. Riekkola and E. Kenndler, *Electrophoresis*, 2003, **24**, 1485-1498.