

the analyte is charged;

the applied electric field has a significant component substantially aligned with said gradient and in a direction such that the resulting electrophoretic motion of the at least one ionic analyte is substantially aligned in a direction from a region of low retention factor to a region of high retention factor; and

the applied bulk solution flow has a significant component substantially aligned in a direction opposite the direction of the electrophoretic motion of the at least one ionic analyte.

10. The method of claim 9, wherein said step of establishing a steady-state spatial gradient in the retention factor comprises producing a temperature gradient in the solution.

11. The method of claim 9, wherein said step of establishing a steady-state spatial gradient in the retention factor comprises producing a gradient in the composition of the solution.

12. The method of claim 9, further comprising adding a chiral selector to the solution.

13. The method of claim 9, wherein the pseudostationary phase is selected from the group comprising micelles, microemulsions, liposomes, and dendrimers.

14. A device for equilibrium gradient focusing, said device comprising:

a separation channel;

a solution containing a pseudostationary phase disposed in said separation channel, said pseudostationary phase having a retention factor for at least one analyte; and

a first means for producing a steady-state gradient in said retention factor;

whereby the concentration of said at least one analyte is caused to change at one or more positions along said separation channel.

15. The device of claim 14, further comprising a second means for moving said at least one analyte within said separation channel.

16. The device of claim 15, wherein said first means comprises a third means for applying a temperature gradient along the length of said separation channel.

17. The device of claim 15, wherein said second means comprises:

a power supply for applying an electric field along said separation channel; and

a fourth means for applying a bulk flow of said solution through said separation channel.

18. The device of claim 17, wherein said fourth means comprises a pump.

19. The device of claim 17, wherein said fourth means comprises said power supply and whereby said bulk flow is driven by electroosmosis.

20. The device of claim 17, wherein said fourth means comprises the combination of a pump and said power supply and whereby said bulk flow is driven by a combination of pressure gradients and electroosmosis.

21. The device of claim 15, wherein said first means comprises a third means for creating a steady-state gradient in the composition of said solution.

22. The device of claim 21, wherein said second means comprises a power supply for applying an electric field along said separation channel; and

a fourth means for applying a bulk flow of said solution through said separation channel.

23. The device of claim 22, wherein said fourth means comprises a pump.

24. The device of claim 22, wherein said fourth means comprises said power supply and whereby said bulk flow is driven by electroosmosis.

25. The device of claim 22, wherein said fourth means comprises the combination of a pump and said power supply and whereby said bulk flow is driven by a combination of pressure gradients and electroosmosis.

26. The device of claim 21, wherein said third means comprises

a fluid chamber containing a second solution and being largely disconnected from said separation channel; and

a semi-permeable structure connecting said fluid chamber to said separation channel and allowing the passage of one or more components of said solution and said second solution.

27. The device of claim 26, wherein said second means comprises:

a power supply for applying an electric field along said separation channel; and

a fourth means for applying a bulk flow of said solution through said separation channel.

28. The device of claim 27, wherein said fourth means comprises a pump.

29. The device of claim 27, wherein said fourth means comprises said power supply and whereby said bulk flow is driven by electroosmosis.

30. The device of claim 27, wherein said fourth means comprises the combination of a pump and said power supply and whereby said bulk flow is driven by a combination of pressure gradients and electroosmosis.

31. The device of claim 16, wherein said third means comprises at least one heat source or heat sink, thermally coupled to the separation channel for providing the temperature gradient.

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