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[\[PDF \(857K\)\]](#) [\[References\]](#) [\[Supplementary Materials\]](#)**Highly Sensitive Detection of Monosaccharides on Microchip Electrophoresis Using pH Discontinuous Solution System**[Hideya NAGATA](#)¹⁾, [Tamitake ITOH](#)¹⁾, [Yoshinobu BABA](#)¹⁾²⁾³⁾⁴⁾ and [Mitsuru ISHIKAWA](#)¹⁾*1) Health Technology Research Center, National Institute of Advanced Industrial Science and Technology (AIST)**2) Department of Applied Chemistry, Graduate School of Engineering, Nagoya University**3) MEXT Innovative Research Center for Preventive Medical Engineering, Nagoya University**4) Plasma Nanotechnology Research Center, Nagoya University***(Received December 22, 2009)****(Accepted May 16, 2010)**

We improved the detection sensitivity of neutral and amino monosaccharides labeled with 2-aminoacridone by a factor of 19.6 – 48.7 and 44.4 – 65.9, respectively, with no deterioration in separation resolution, using a pH discontinuous solution system instead of the conventional solution system. The pH discontinuous solution system is simple, using only a borate solution at pH 6.0 as a sample solution and a Tris-borate solution at pH 9.3 as a separation solution, enabling an enhancement of the sensitivity by monosaccharide stacking. This technique is fully compatible with conventional microchip electrophoresis, thereby allowing us to develop efficient tools for highly sensitive and resolved detection of monosaccharides.

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