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Microfluidic device enables high-speed generation of monodispersed water-in-oil droplets. These picoliter-sized droplets can work as independent and uniform environments for single-molecule and single-cell reactions. Droplets are compatible with many kinds of chemicals or biological materials, so a variety of biochemical reactions can be performed inside droplets. For example, fragmented single-cell genomes were encapsulated in the droplets and then uniformly amplified with DNA polymerase. The amplicons obtained from droplets (green) can provide uniform and wide genome sequence coverages from single bacterial cells.

The image was taken by **Yohei Nishikawa** and **Dr. Masahito Hosokawa** at Prof. Haruko Takeyama laboratory, Waseda University (<http://www.f.waseda.jp/haruko-takeyama/>).

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