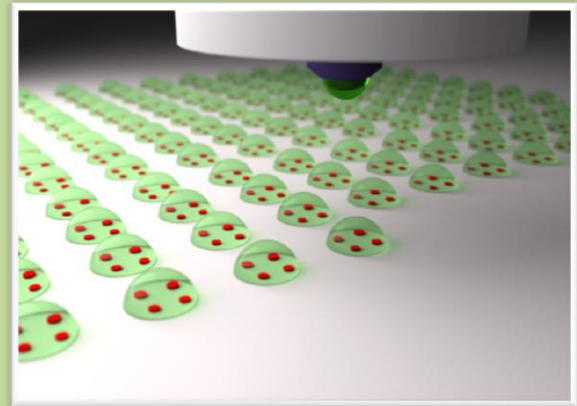


FUNCTIONAL INKJET PRINTING SERVICES

We offer ink jet printing services: training, dispensing tests, prototyping and custom solutions. We specialize to pattern various biological and chemical links in aqueous and ethanol solutions.



After dispensing, a droplet evaporates, leaving solute on the surface. The size of solute can be controlled by precisely tuning the properties of the surface.

MICROARRAYS

Piezoelectric Ink-jet nozzle produces 30/70 μm diameter droplets.

The small volume (10pl) of droplet is an excellent way to lower costs of expensive materials.

Multiple inks can be deposited sequentially to make aligned/multilayer patterns. Deposition is monitored in real time with an optical microscope.

Suitable for:

- Self-assembled monolayers
- Antibodies (biocompatible substrates are made by us or provided by the customer)
- Transfection mixtures
- Cells (cell culture facility is on site)
- Nanoparticles

INKJET SPECIFICATIONS

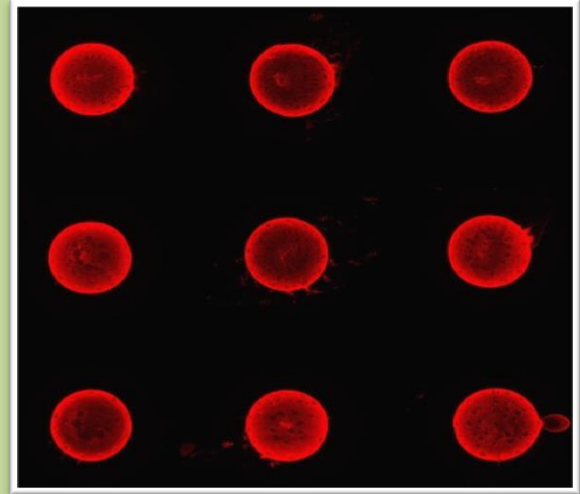
Dispensing rate	From droplet on demand to continuous printing Up to 200 droplets/s
Droplet diameter/volume	30 μm / 10 pL
Stage movement, submicron precision	25x25 mm
Min solution volume	1 ml
Dispensing liquids	Aqueous and EtOH solutions
N ₂ atmosphere	Available

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CHEMICAL GRADIENTS

Suitable for:

- Density gradient of functional groups (-COOH, -NH₂, -biotinyl, -NTA etc) on a chip are fabricated by varying the number of deposited droplets on the same spot.
- Gradient of adhesion proteins (e.g. fibronectin)



Up to 10 different solutions can be deposited, creating a gradient or an array chip

Different reactions or reaction conditions on the **same** surface can be tested

VARIATIONS

Liquid droplets are deposited at the same spot using XY stage.

Reactions between different solutions can be tested at the same surface preparation conditions.

A solute can be concentrated from solution.

Suitable for:

- Low concentration material can be concentrated on a substrate for IR or Raman spectroscopy studies.
- Ink jet printing conditions (Ink jet device is in an environmental hood) can be screened for optimal deposition patterns, ranging from uniform to “coffee ring” like depositions.

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