



**Featuring work from the laboratory of Dr. Trent Northern, Joint BioEnergy Institute and Lawrence Berkeley National Laboratory, California, USA.**

A combinatorial droplet microfluidic device integrated with mass spectrometry for enzyme screening

A droplet arraying microfluidic platform is paired with the high-resolution analytical capability of mass spectrometry. The technology is applied to screening enzymatic reactions, characterizing biomass-hydrolyzing enzymes relevant to the biofuel industry. The microfluidic device combines reactant and enzyme droplets, initiates the reaction, then transfers the reaction mixture to a mass spectrometry surface. Mass spectrometry imaging is used to characterize the reactions and enzymes for each droplet. This platform can screen over 1,000 merged droplets per day.

### As featured in:



See Noel S. Ha *et al.*,  
*Lab Chip*, 2023, **23**, 3361. Copyright  
holders are: Noel Ha, Jenny Onley,  
Kai Deng, Markus de Raad  
and Trent Northern.