Electronic Supplementary Material (ESI) for Analyst.

Supporting Information for

Drop-by-Drop Chemical Reaction and Sample Introduction for Capillary Electrophoresis

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. The 3 different voltages 2 kV, 3 kV and 4 kV were investigated to obtain the appropriate plug overlap time. The maximal amount of product was obtained only when the mixing voltage was applied for 18 s at 2 kV, 12 s at 3 kV, and 9 s at 4 kV.

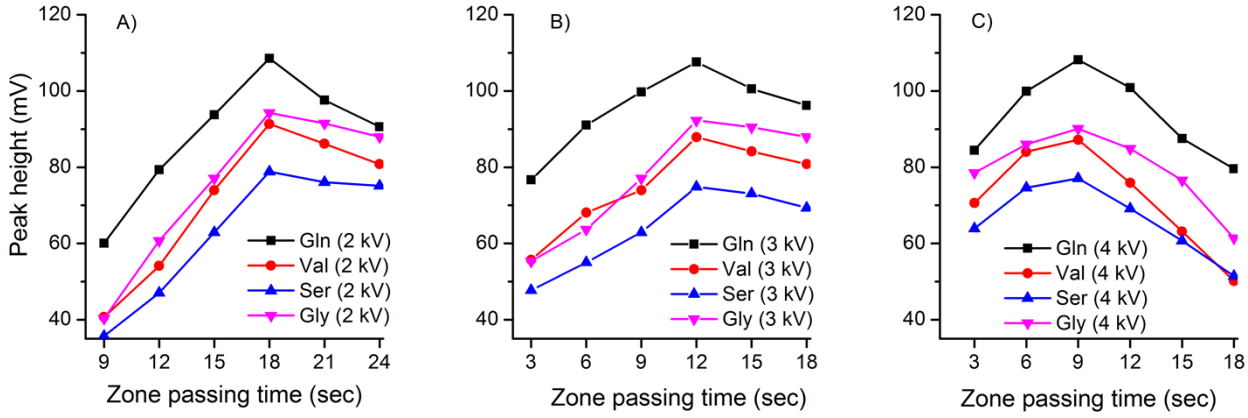

Figure S1. Relationship between the product amount and the time duration of mixing voltage applied. Incubation time was fixed in 5 min after plug overlapping.

Table S1. The volumes of each droplet in different driving waveform (Frequency: 1kHz).

Sample	Channel	Driving voltage	Pulse width	Volume	RSD%(n=10)
Amino acids	1	44 v	22 μs	181 pL	1.5
NBD-F	2	40 v	24 μs	183 pL	2.1
$V_{Amino\ acid}$:V_{NBD-F} 1:1	3	44 v	20 μs	182 pL	2.2

Table S2. Linearity of peak areas v.s. droplet number for four amino acids.

Analyte	Droplet number	Linearity-dose curve	
Gln(5μM)	5-150	Y=163.86 X-395.45	R^2=0.9889
Val (50μM)	5-150	Y=141.65 X-319.56	R^2=0.9930
Ser (50μM)	5-100	Y=161.51 X-313.46	R^2=0.9927
Gly (25μM)	5-100	Y=231.47 X-463.81	R^2=0.9915