Supplemental information for

A multiple biomarker assay for quality assessment of botanical drugs using a versatile microfluidic chip

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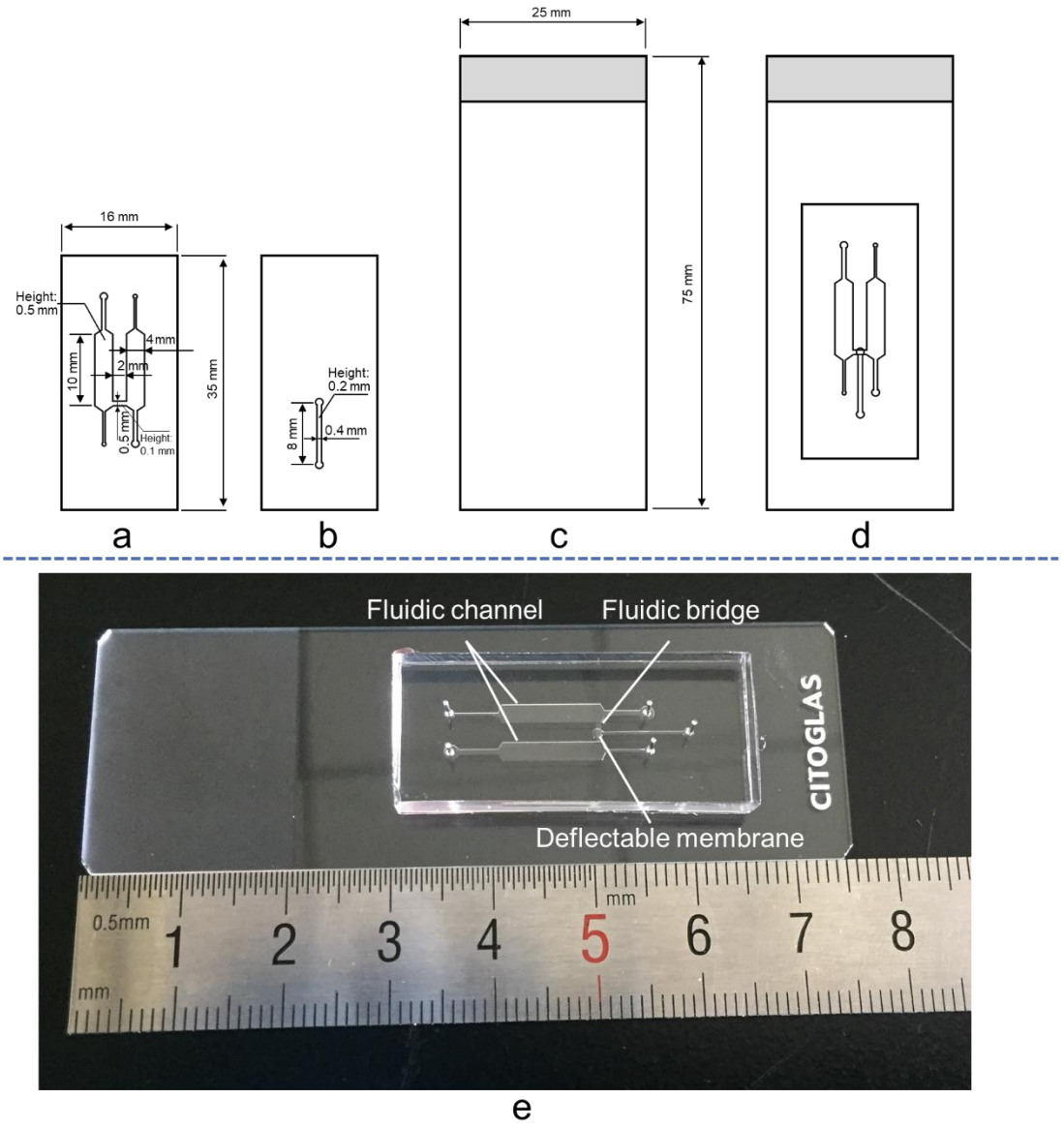

Figure S1. Structure and geometry parameters of the microfluidic chip. (a) the top PDMS fluidic layer, (b) the middle PDMS actuation layer, (c) the bottom glass slide, (d) the PDMS layers bonded on the glass slide, (e) photograph of the microfluidic chip.

No.	Precision	Repeatability	Stability (sample)	Stability (enzyme)	Linear range (mg/mL)	r^2
Bioassay						
Thrombin	10.76	13.45	13.09	8.72[a]	6.00-60.00	0.9988
ACE	6.52	5.63	8.14	7.19[b]	1.27-12.73	0.9810
Chromatographic method						
1	0.65	3.09	0.49			
2	1.11	1.18	0.73			
3	0.64	1.06	0.51			
4	0.73	4.97	0.44			
5	0.49	2.43	0.69			
6	0.71	0.56	0.57			
7	0.76	1.35	0.43			
8	1.36	2.09	1.83			
9	0.64	7.68	0.49			
10	0.28	0.85	0.27			
11	3.19	1.52	8.90			
12	1.04	1.06	5.58			
13	3.12	1.20	7.39			
14	1.27	0.59	1.19			
15	0.69	0.88	0.39			
16	0.58	2.38	0.41			
17	0.96	0.56	0.82			
18	0.52	0.45	0.33			
19	0.69	0.59	0.29			
20	0.39	1.16	0.44			
21	0.77	1.20	0.50			
22	0.61	0.16	0.41			
23	0.57	0.52	0.35			
24	0.55	0.54	0.52			
25	0.51	0.89	0.37			

Table S1. Precision, repeatability, stability (RSD%, *n*=6) and linearity of the bioassay and the chromatographic method. [a]Data acquired within three consecutive days. [b]Data acquired within one day. RSD (relative standard deviation, c_v) is defined as the ratio of the standard deviation σ to the mean μ, which are calculated by the following equations: $\mu = \frac{\sum_{i=1}^{n} x_i}{n}$; $\sigma = \sqrt{\frac{1}{n}\sum_{i=1}^{n}(x_i - \mu)^2}$; $c_v = \frac{\sigma}{\mu}$.