A Non-Instrumental Green Analytical Method Based on Surfactant-Assisted Dispersive Liquid–Liquid Microextraction–Thin-Layer Chromatography–Smartphone-Based Digital Image Colorimetry(SA-DLLME-TLC-SDIC) for Determining Favipiravir in Biological Samples

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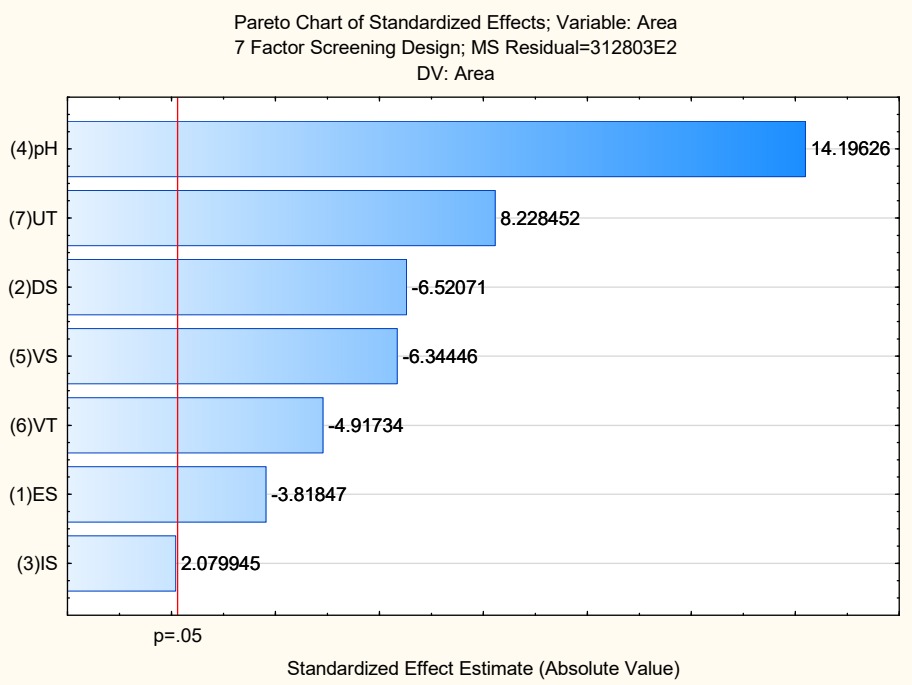


Figure S1: Pareto chart for standardized effects.

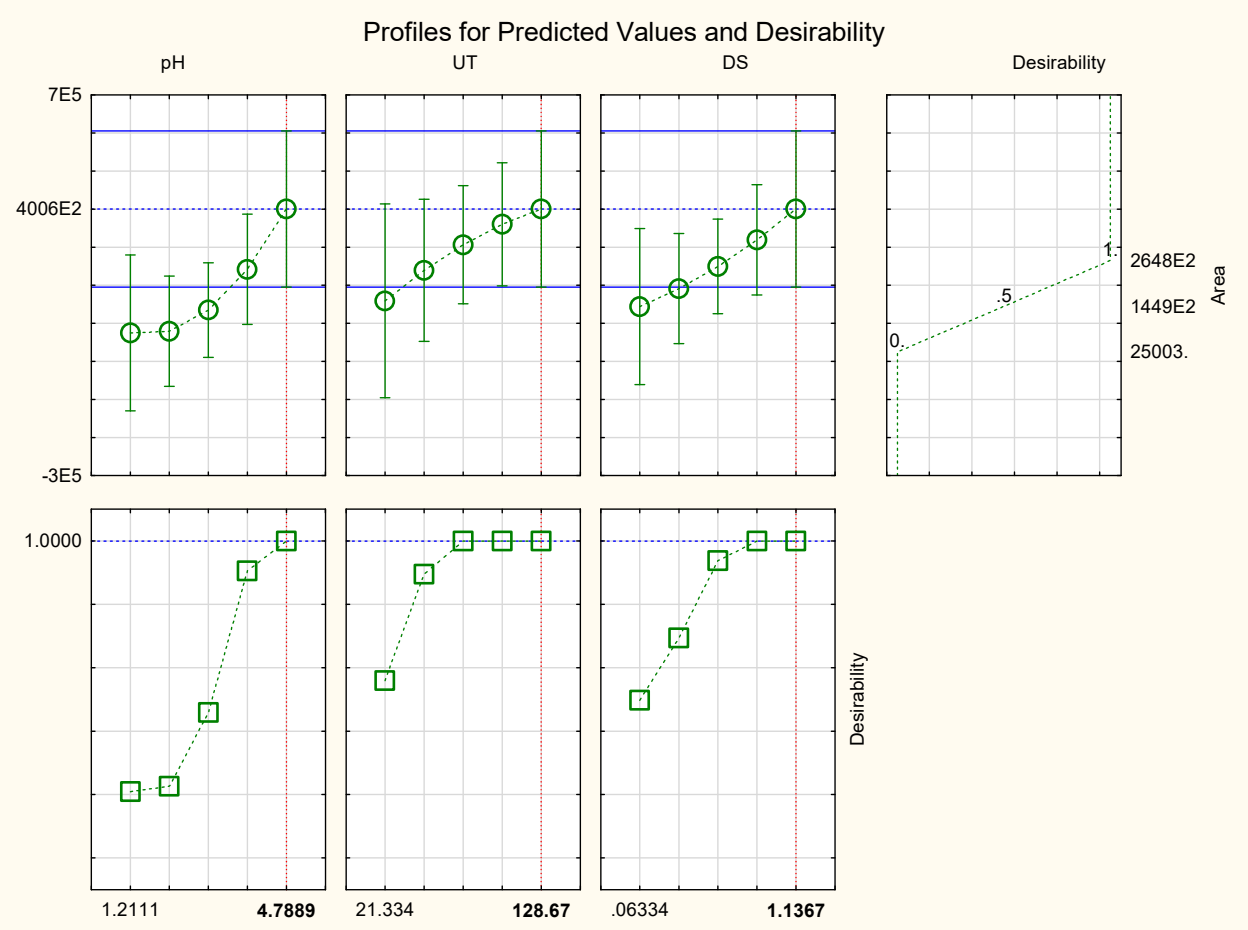


Figure S2: Profiles for predicted values and desirability functions for peak responses of FAV. Vertical red line indicates current values after optimization.

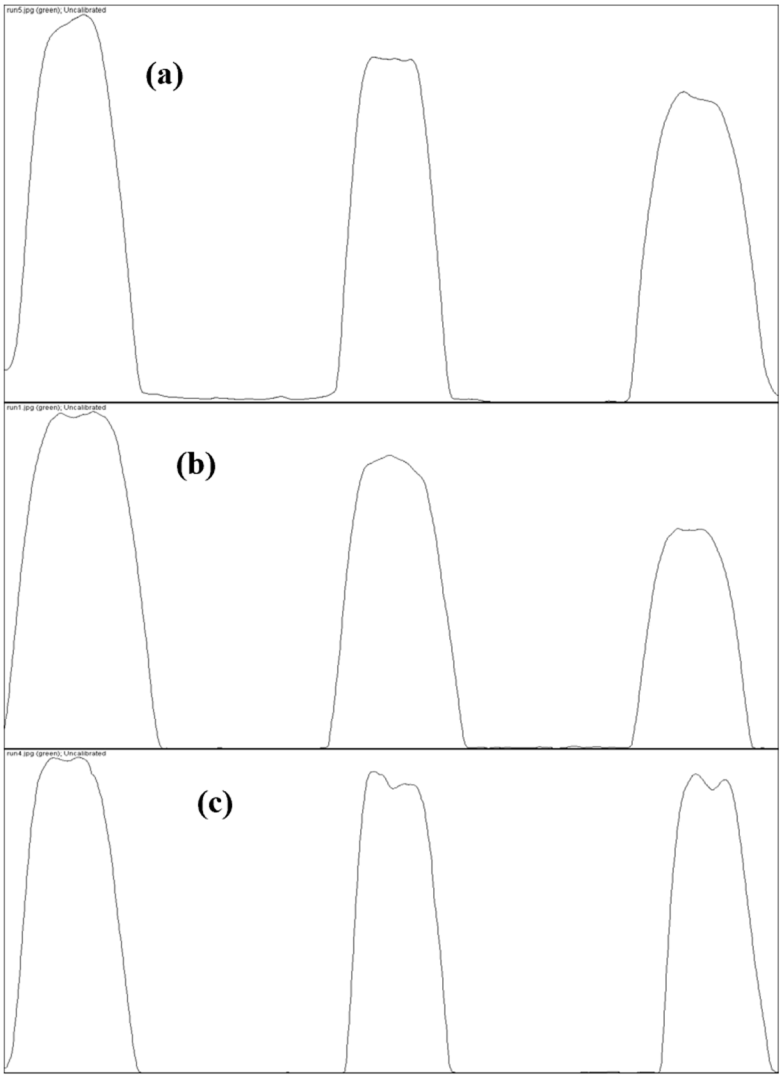
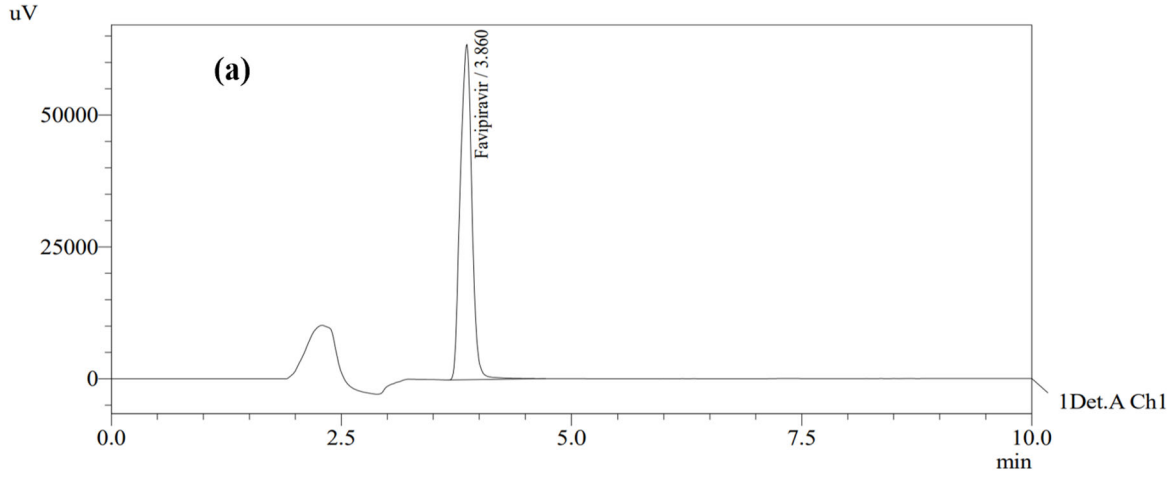
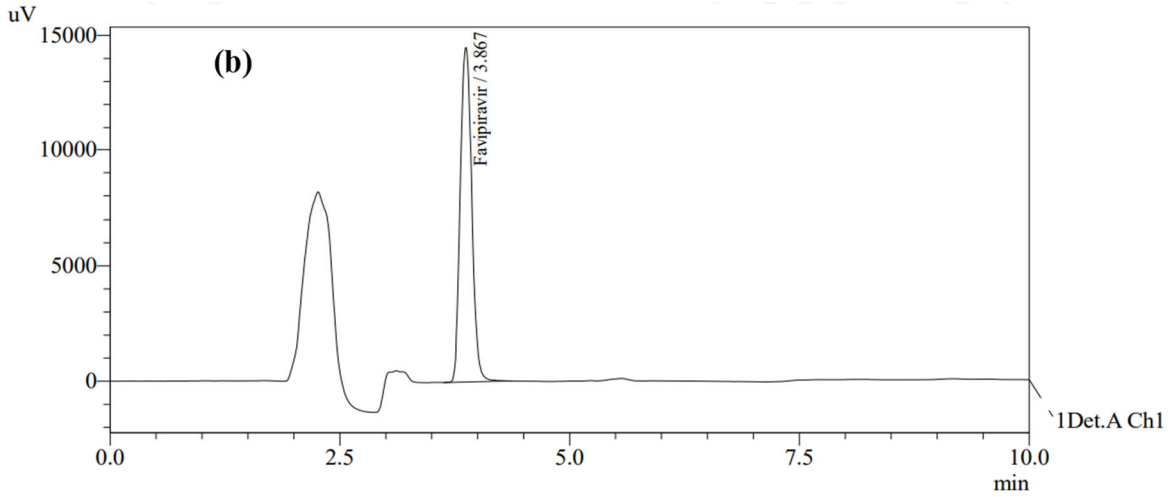


Figure S3: TLC densitogram of FAV obtained after SA-DLLME-TLC-SDIC (a) Standard, (b) Urine sample and (c) Plasma sample.


uV
(a)
50000
25000
0
Favipiravir / 3.860
1Det.A Ch1
0.0
2.5
5.0
7.5
10.0
min


uV
(b)
15000
10000
5000
0
Favipiravir / 3.867
1Det.A Ch1
0.0
2.5
5.0
7.5
10.0
min

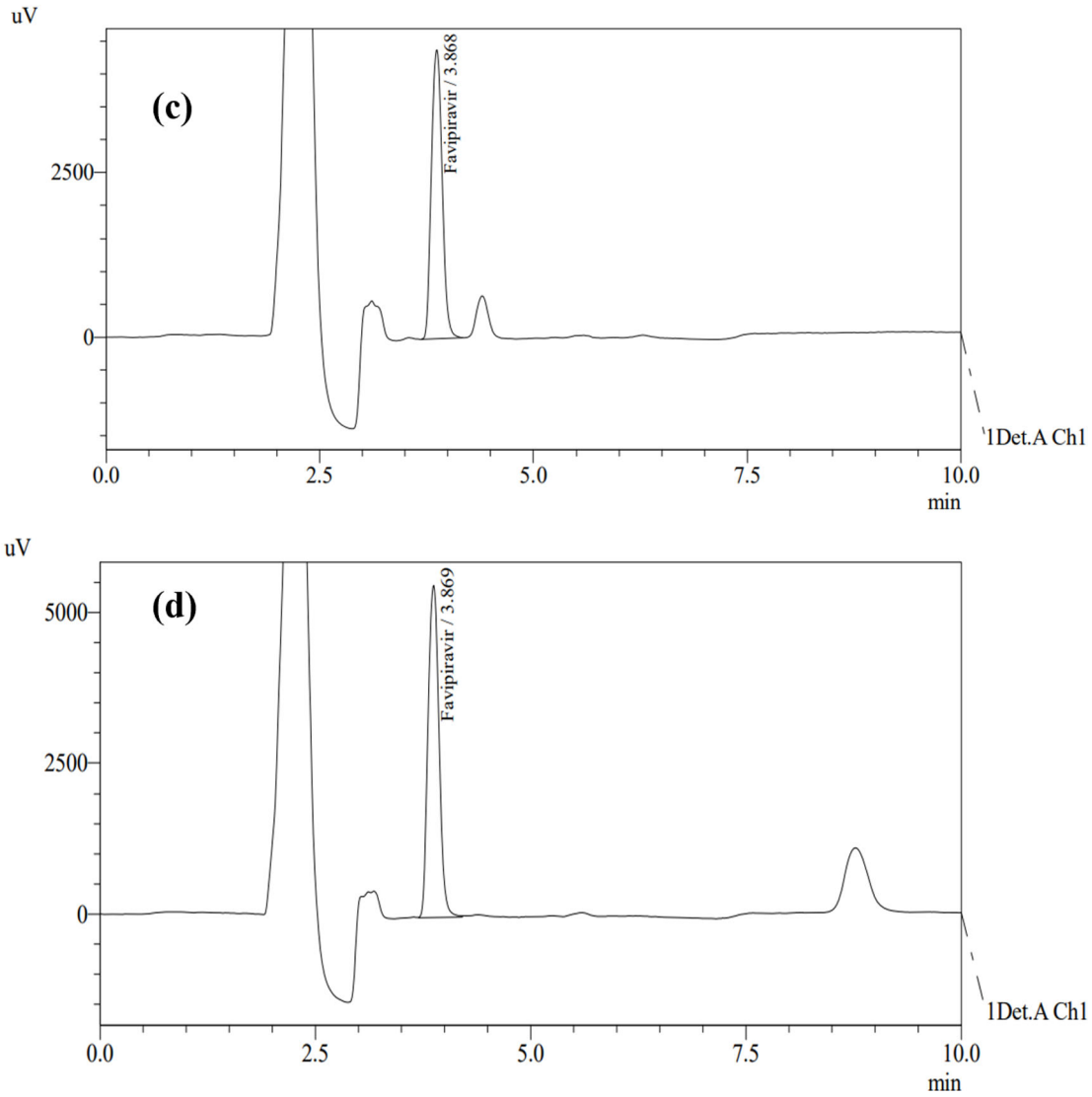


Figure S4: HPLC chromatogram of standard sample at 10 µg mL^{-1}(a); and pharmaceutical sample (b); HPLC chromatogram of Urine sample (c); and Plasma sample (d).

Table S1: Factors and their levels tested in PBD.

Factors	Levels	
	Low (-1)	High (+1)
Volume of extraction solvent (µL)	100	300
Volume of disperser solvent (m mol L^{-1})	0.20	0.3
Ionic strength (% NaCl)	5	10
pH	3	8
Vortex timing (sec.)	30	120
Vortex speed (rpm)	1000	3000
Ultrasonic time (sec.)	30	120

Table S2: Factors and their levels tested in CCD.

Factors	Levels			Star points	
	Low (-1)	Central (0)	High (+1)	-α	+α
pH	2	3	4	1.2	4.7
Ultrasonic time (sec.)	60	75	120	21	128
Volume of disperser solvent (m mol L^{-1})	0.30	0.60	0.90	0.06	1.13

Table S3: Experimental design matrix of CCD.

Standard run	Factors		
	pH	Ultrasonic time	Volume of disperser solvent
1	-1	-1	-1
2	-1	-1	+1
3	-1	+1	-1
4	-1	+1	+1
5	+1	-1	-1
6	+1	-1	+1
7	+1	+1	-1
8	+1	+1	+1
9 (C)	0	0	0
10 (C)	0	0	0
11	-α	0	0
12	+α	0	0
13	0	-α	0
14	0	+α	0
15	0	0	-α
16	0	0	+α
17 (C)	0	0	0
18 (C)	0	0	0