

Figure 1. S. Chemical structures and full scan product ion of precursor ions of ATP, ADP, AMP, ATR, CATR and IS.

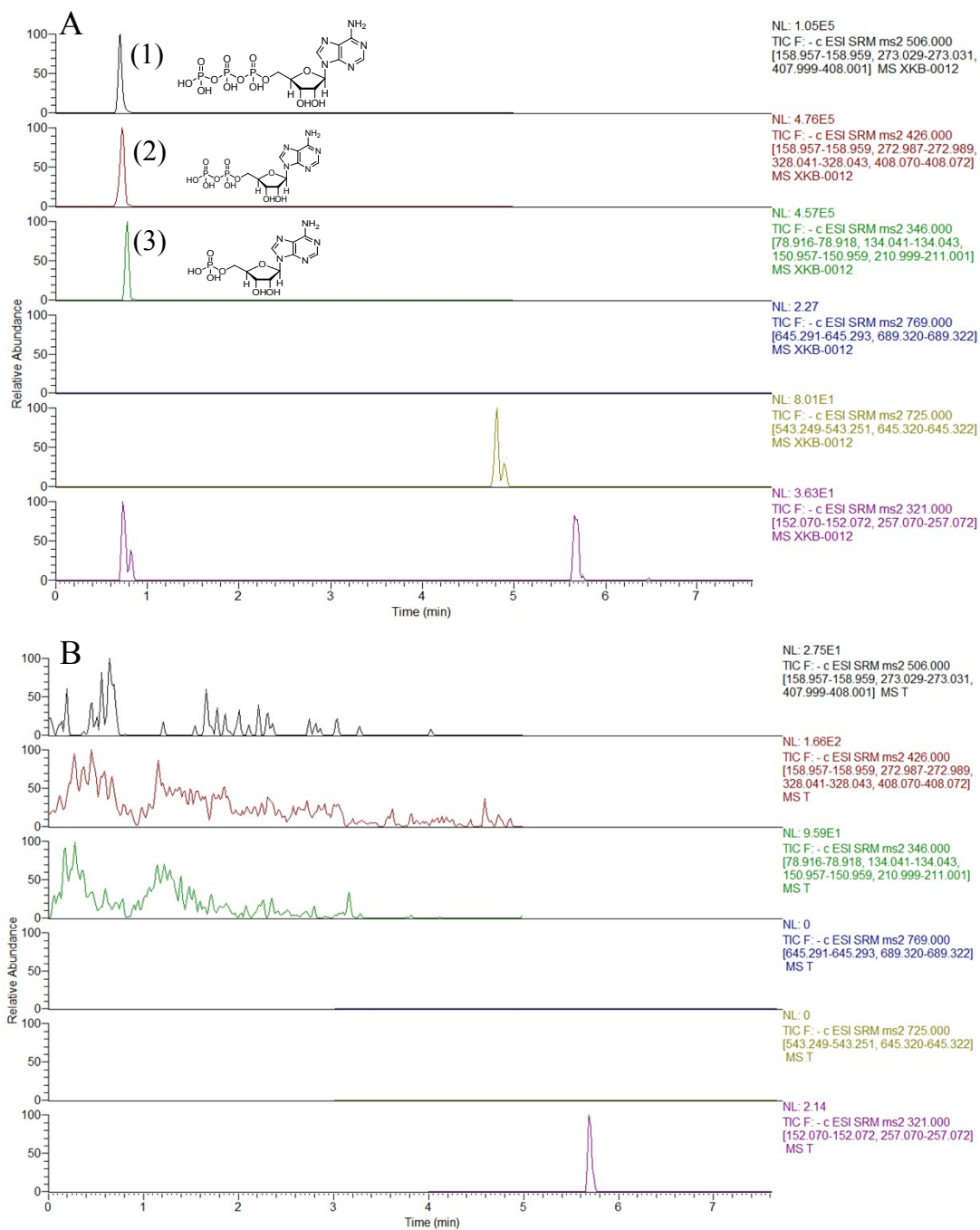


Figure 2S. The UPLC–MS/MS analysis SRM chromatogram of 5 analytes: ATP (1), ADP (2), AMP (3), ATR (4), CATR (5) and IS (6) in different matrix.

Table 1S**The content of ATR and CATR in the RXF and PXF ($\mu\text{g/g}$)**

Analyte	Sample	Raw Xanthii Fructus (RXF)	Processed Xanthii Fructus (PXF)
atractyloside (ATR)		875.2 \pm 46.9	1170.3 \pm 49.3
carboxyatractyloside (CATR)		8199.0 \pm 67.9	2977.3 \pm 43.5

Table 2S. Accuracy and precision of the method for the ATP, ADP and AMP (n=6)

Analyte	Background (ng/mL)	Spiked (ng/mL)	Mean found (ng/mL)	Recovery (%)	RSD (%)	
					Intra-day	Inter-day
ATP	504.4	400	896.4	98.0	1.50	2.43
		500	992.7	97.7	1.73	2.00
		605	1101.9	98.5	1.49	2.31
ADP	350.7	280	622.6	97.7	0.87	1.88
		350	705.5	101.4	0.99	1.03
		420	769.8	99.7	0.76	1.34
AMP	250.5	200	447.6	98.4	0.26	0.77
		250	501.2	100.2	0.45	0.96
		300	549.7	99.7	0.58	1.34

Table 3S**Accuracy and precision of the method for the CATR and ATR (n=6)**

Analyte	Spiked concentration (ng/mL)	Intra-day			Inter-day		
		Measured	Accuracy	Precision	Measured	Accuracy	Precision
		(ng/mL)	(RE, %)	(RSD, %)	(ng/mL)	(RE, %)	(RSD, %)
CTAR	725.2	720.7 \pm 11.42	-0.62	1.58	730.05 \pm 14.77	0.67	2.02
	145.0	140.6 \pm 4.49	-3.03	3.19	145.51 \pm 12.48	-0.34	8.58
	14.5	15.03 \pm 0.88	3.65	5.91	15.70 \pm 1.48	8.27	9.45
ATR	740.0	727.10 \pm 14.84	-1.74	2.04	725.43 \pm 15.84	-1.96	2.18
	148.0	145.50 \pm 4.42	-1.68	3.04	142.33 \pm 4.96	-3.83	3.48
	14.8	13.88 \pm 1.14	-6.21	8.23	14.35 \pm 1.30	-3.04	9.08

Table 4S

Extract recoveries and matrix effects of CTAR and ATR in liver tissue samples

Analyte	Spiked concentration (ng/mL)	Recovery		Matrix effect	
		Mean (%)	RSD (%)	Mean (%)	RSD (%)
CATR	725.2	97.57	0.50	97.65	0.69
	145.0	91.52	3.59	92.29	3.27
	14.5	89.42	4.12	91.56	4.55
ATR	740.0	96.72	1.51	96.98	1.56
	148.0	92.97	3.11	91.49	5.14
	14.8	86.35	6.86	86.49	7.76
IS	100.0	96.5	3.18	100.5	3.15

Table 5S**Stability evaluation of samples stored at -20 °C for on weeks (n=6)**

Analyte	concentration (ng/mL)	Stability	
		Mean	RSD
CATR	725.2	719.6	0.84
	145.0	142.7	1.09
	14.5	13.8	4.56
ATR	740.0	727.7	1.59
	148.0	144.0	1.67
	14.8	13.8	3.40

Table 6S**The analytical of the ATR and CATR in group II's liver tissues (ng/g)**

Sample no.	ATR	CATR	Sample no.	ATR	CATR	Sample no.	ATR	CATR
R10-1	144.91	--*	R20-1	164.34	80.76	R30-1	179.77	100.23
R10-2	92.72	--	R20-2	172.66	48.92	R30-2	280.31	194.71
R10-3	160.61	--	R20-3	161.60	89.76	R30-3	216.34	125.12
R10-4	121.91	—	R20-4	221.26	48.67	R30-4	195.67	110.77
R10-5	174.20	15.45	R20-5	106.62	87.54	R30-5	159.64	160.77
R10-6	145.20	--	R20-6	208.10	62.98	R30-6	278.30	197.61
Mean ± SD	139.92±29.01	--	Mean ± SD	172.43±40.42	69.77±18.77	Mean ± SD	218.33 ± 50.76	148.20 ± 42.42

***No data**

Table 7S

The analytical of the ATR and CATR in group III's liver tissues (ng/g)

Sample no.	ATR	CATR
P30-1	--*	--
P30-2	20.55	--
P30-3	16.53	--
P30-4	--	--
P30-5	--	--
P30-6	--	--
Mean ± SD	--	--

***No data**