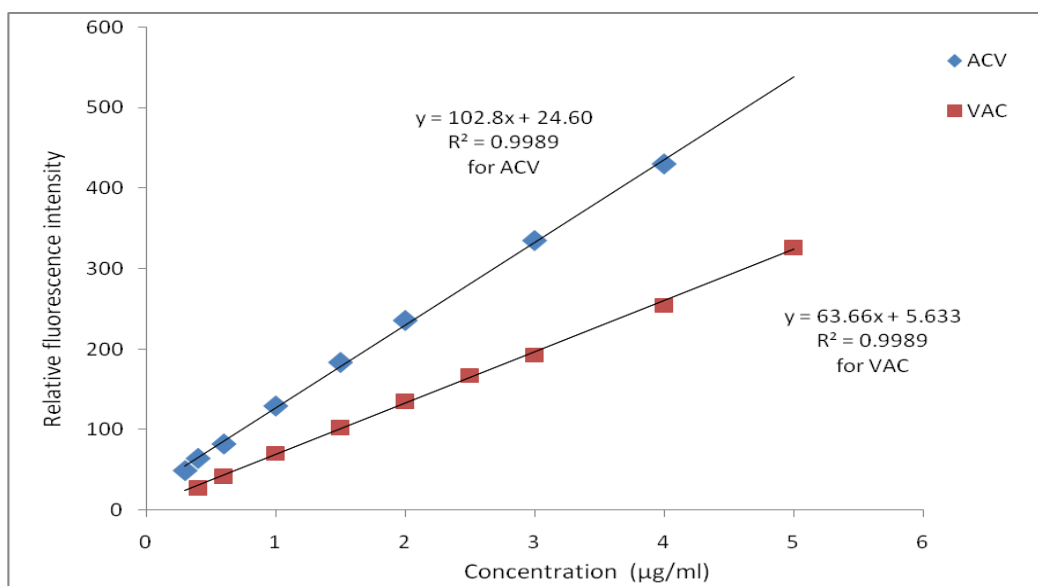
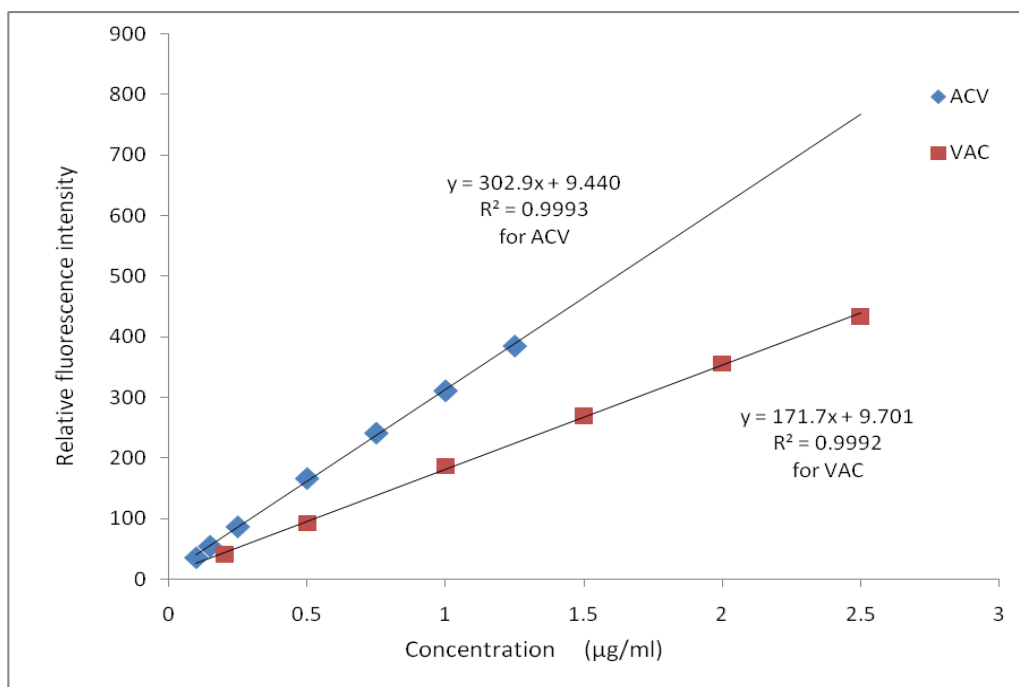


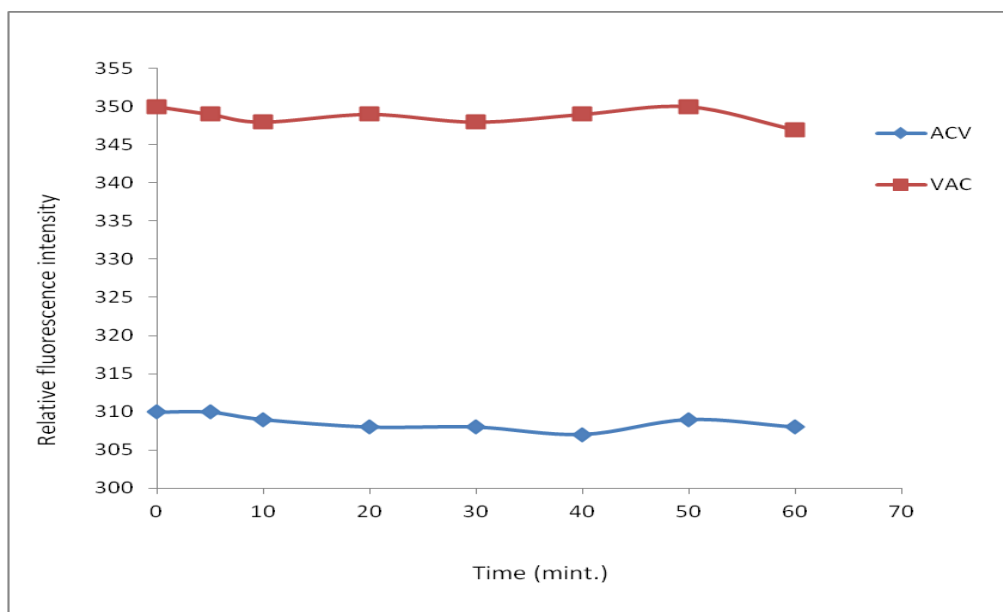
## Supplementary data



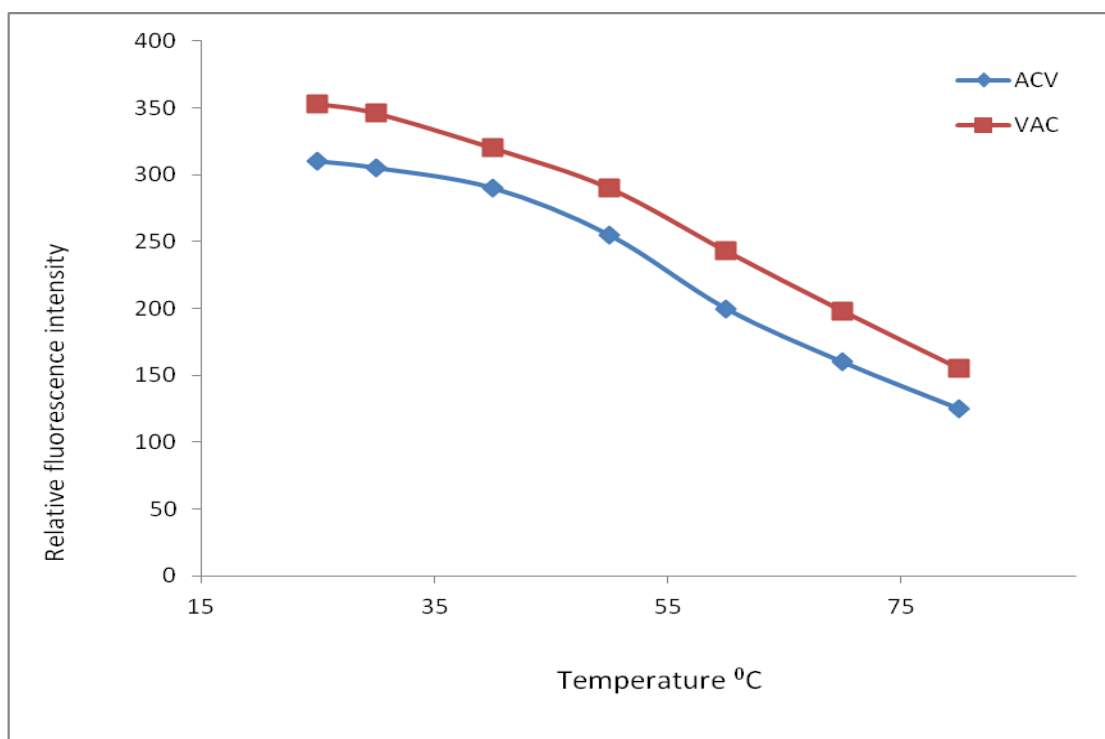
**Fig. 1(a):** Calibration curves of ACV and VAC by aqueous acid spectrofluorimetric method.



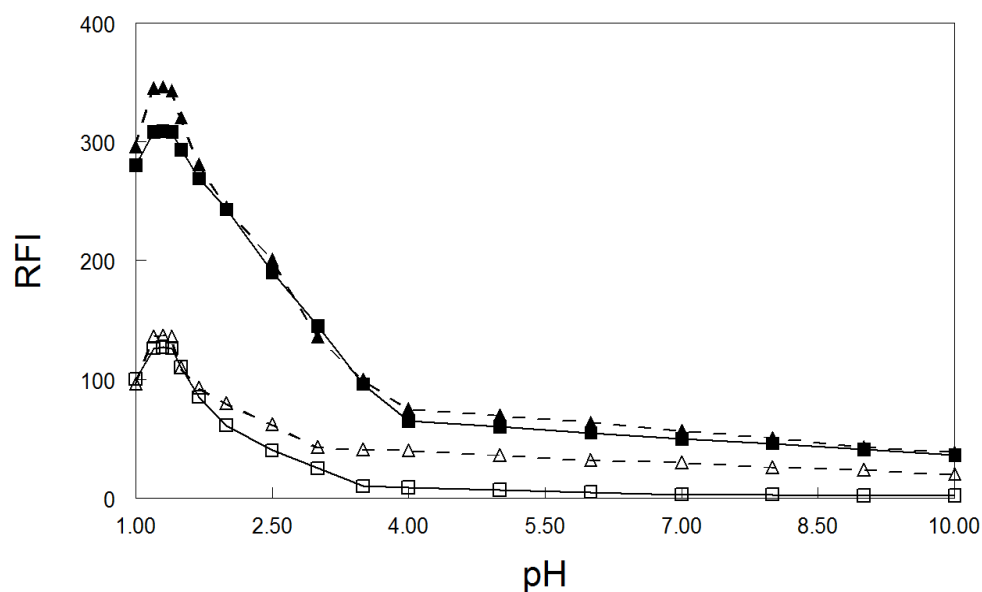
**Fig. 1(b):** Calibration curves of ACV and VAC by micelle-enhanced spectrofluorimetric method.



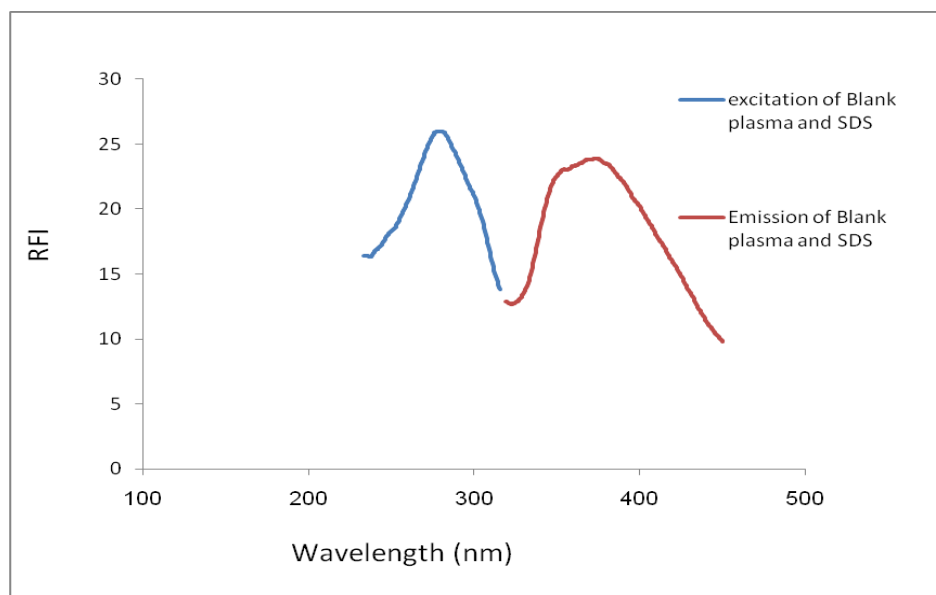
**Fig. 2:** Effect of time on the relative fluorescence intensities of ACV  $1 \mu\text{g ml}^{-1}$  and VAC is  $2 \mu\text{g ml}^{-1}$  in micellar system.



**Fig. 3.** Effect of temperature on the relative fluorescence intensities of ACV  $1 \mu\text{g ml}^{-1}$  and VAC is  $2 \mu\text{g ml}^{-1}$  in micellar system.



**Fig. 4:** Effect of pH on the relative fluorescence intensities of aqueous ACV (-□-), VAC (-△-), ACV in SDS system (-■-), and VAC in micellar system (-▲-). ACV concentration is  $1 \mu\text{g ml}^{-1}$  and VAC is  $2 \mu\text{g ml}^{-1}$ .



**Fig. 5.** Fluorescence spectra of drug-free human plasma treated with acetonitrile as precipitating agent and general procedure was followed with SDS.

**N. B. The same figure appears with SDS without plasma.**

**Table 1:** The Intra- and inter-day precision for the determination of VAC and ACV by the proposed spectrofluorimetric methods

Conc. ( $\mu\text{g ml}^{-1}$ )	% Recovery* $\pm$ RSD			
	Intra-day precision		Inter-day precision	
	Method I	Method II	Method I	Method II
<b>For VAC</b>				
<b>1.0</b>	99.12 $\pm$ 0.87	98.95 $\pm$ 0.39	99.50 $\pm$ 0.64	101.31 $\pm$ 2.27
<b>1.5</b>	99.66 $\pm$ 0.60	99.08 $\pm$ 0.46	100.6 $\pm$ 2.42	99.30 $\pm$ 1.08
<b>2</b>	98.86 $\pm$ 1.22	100.14 $\pm$ 1.02	99.77 $\pm$ 0.31	98.90 $\pm$ 1.52
<b>For ACV</b>				
<b>0.5</b>	99.47 $\pm$ 0.98	100.75 $\pm$ 0.70	99.35 $\pm$ 1.42	103.30 $\pm$ 1.70
<b>1</b>	102.80 $\pm$ 0.46	98.91 $\pm$ 0.54	100.60 $\pm$ 2.13	99.96 $\pm$ 1.27
<b>1.25</b>	98.88 $\pm$ 1.01	97.30 $\pm$ 2.01	100.03 $\pm$ 0.63	97.60 $\pm$ 1.50

\*The value is the average of three determinations.

**Table 2:** Robustness for determination of VAC (2  $\mu\text{g ml}^{-1}$ ) and ACV (1  $\mu\text{g ml}^{-1}$ ) using the proposed spectrofluorimetric methods

Method parameter	%Recovery* $\pm$ SD			
	VAC		ACV	
	Method I	Method II	Method I	Method II
<b>pH</b>				
1.2	100.35 $\pm$ 0.87	98.58 $\pm$ 0.57	98.70 $\pm$ 1.09	100.38 $\pm$ 1.68
1.4	99.36 $\pm$ 0.86	99.53 $\pm$ 0.72	98.59 $\pm$ 0.98	98.58 $\pm$ 0.92
<b>Volume of SDS</b>				
4 ml		99.41 $\pm$ 0.93		98.10 $\pm$ 1.05
6 ml		100.01 $\pm$ 1.84		99.88 $\pm$ 1.02

**Table 3.** Analysis of ACV in human plasma using the proposed and reported chromatographic method.

For in vitro study				
Concentration (ng/ml)	% Recovery <sup>a</sup> ± SD		t- value <sup>b</sup>	F- value <sup>b</sup>
	Proposed micellar method	Reported HPLC method <sup>[18]</sup>		
500	98.49 ± 1.42	98.58 ± 1.36	0.112	1.092
700	99.60 ± 1.31	97.70 ± 2.03	1.754	2.419
1000	97.64 ± 1.45	96.87 ± 1.22	0.901	1.409
For in vivo study				
% Recovery in vivo ± SD	Proposed micellar method	Reported HPLC method <sup>[18]</sup>	t- value <sup>b</sup>	F- value <sup>b</sup>
	80.02 ± 0.23	79.63 ± 0.49	1.639	4.842

<sup>a</sup> Average of five determinations.

<sup>b</sup> tabulated values at 95% confidence limit are t=2.306, F=6.338..