CAT'S CLAW OXINDOLE ALKALOID ISOMERIZATION INDUCED BY COMMON EXTRACTION METHODS

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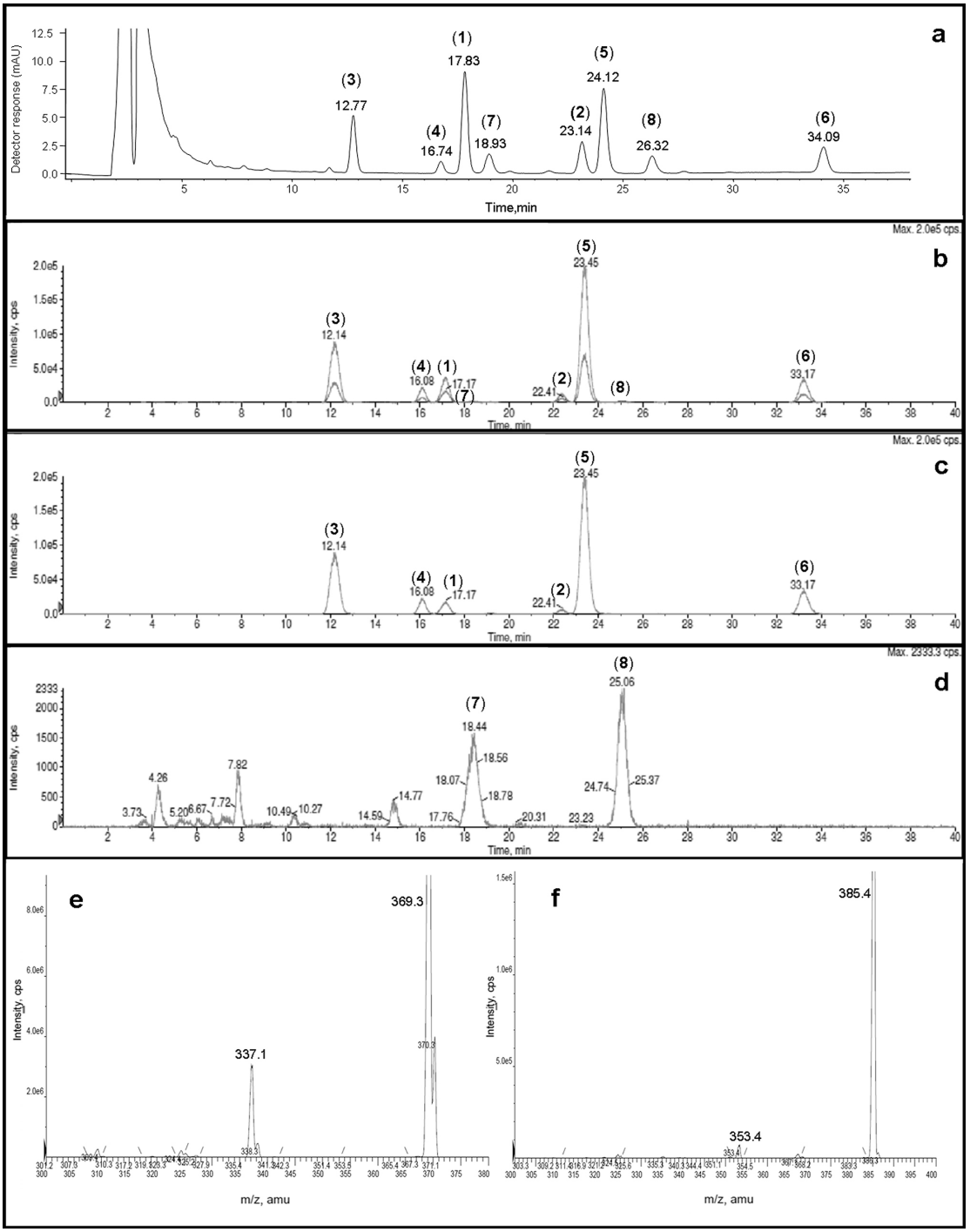

Figure 1S. *HPLC-PDA profile of oxindole alkaloids in DM extract, at 245 nm* ***(a)****; HPLC-MS/MS profiles monitoring the pseudomolecular ions [M+H]⁺ at m/z 369.3 for pentacyclic oxindole alkaloid (POA), and m/z 385.4 for tetracyclic oxindole alkaloids (TOA)* ***(b)****; Distinctive transitions of POA at m/z 369.3 → 337.1* ***(c)****, and TOA at m/z 385.4 → 353.4* ***(d)****; MS/MS spectra of POA* ***(e)****, and TOA* ***(f)****. Mitraphylline (**1**), isomitraphylline (**2**), speciophylline (**3**), uncarine F (**4**), pteropodine (**5**), isopteropodine (**6**), rhyncophylline (7), and isorhyncophylline (**8**)*

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Table 1S. HPLC-PDA validation parameters concerning to individual alkaloid contents in dynamic maceration (DM) extract of cat's claw bark

Parameters	Pentacyclic oxindole alkaloid (POA)						Tetracyclic oxindole alkaloids (TOA)	
	mitraphylline (**1**)	isomitraphylline (**2**)	speciophylline (**3**)	uncarine F (**4**)	pteropodine (**5**)	isopteropodine (**6**)	rhyncophylline (**7**)	isorhyncophylline (**8**)
Peak purity index								
Extractive solution	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
Reference compound	*0.9999*	*0.9999*	–	–	*0.9999*	*0.9999*	–	–
R^2								
Extractive solution	0.9994	0.9988	0.9989	0.9984	0.9993	0.9987	0.9989	0.9988
Reference compound	*0.9995*	*0.9994*	–	–	–	–	–	–
Regression equation								
Extractive solution	y=55784x-658	y=20675x-1336	y=31011x+1835	y=5475.2x-658	y=53253x-3785	y=20802x-5131	y=13333x-917	y=12412x-1566
Reference compound	*y=35492x-745*	*y=33708x-1766*	–	–	–	–	–	–
LOD (µg/mL); LOQ (µg/mL)								
Reference compound	*0.08; 0.24*	*0.09; 0.27*	–	–	–	–	–	–
Repeatability (RSD %)								
Extractive solution	0.15	0.94	0.51	1.53	0.58	1.01	2.96	0.93
Reference compound	*0.70*	*0.20*	–	–	–	–	–	–
Intermediate precision (RSD %)								
Extractive solution	1.13	4.48	0.89	2.80	0.97	1.40	3.28	1.82
Reference compound	*2.40*	*0.70*	–	–	–	–	–	–
Recovery % ($\overline{X}$ ± SD)			–	–	–	–	–	–
Reference compound	*101.0 ± 0.5*	*101.9 ± 1.8*						

Coefficient of determination (R^2); Limit of detection (LOD) and quantification (LOQ); Relative standard deviation (RSD%); mean ± standard deviation ($\overline{X}$ ± SD).

Table 2S. Coefficients of determination (R^2) and regression variance (S) after fitting of kinetic data through linear and non-linear models

Alkaloid	Models: zero-order; first-order; second-order; Weibull; MMF	
	R^2	S
mitraphylline (**1**)	0.661; 0.717; 0.761; 0.999; 0.999	2.77; 0.05; 0.01; 0.16; 0.13
isomitraphylline (**2**)	0.650; 0.584; 0.516; 0.999; 0.999	2.30; 0.07; 0.01; 0.07; 0.17
speciophylline (**3**)	0.360; 0.435; 0.500; 0.999; 0.999	3.96; 0.18; 0.06; 0.05; 0.05
uncarine F (**4**)	0.730; 0.790; 0.823; ND; ND	0.28; 0.49; 0.05; ND; ND
pteropodine (**5**)	0.809; 0.798; 0.782; 0.999; 0.999	1.46; 0.02; 0.01; 0.04; 0.16
isopteropodine (**6**)	0.720; 0.569; 0.443; 0.999; 0.999	4.47; 0.13; 0.02; 0.32; 0.37
rhyncophylline (**7**)	0.589; 0.564; 0.537; 0.999; 0.999	4.54; 0.03; 0.01; 0.36; 0.23
isorhyncophylline (**8**)	0.589; 0.629; 0.658; 0.999; 0.999	4.54; 0.06; 0.01; 0.22; 0.23

Not determined (ND).

Table 3S. Fitted values of the four-parameter Weibull model for kinetic curves of oxindole alkaloids on dynamic maceration (DM) extract after heating under reflux

Alkaloid	Parameter			
	a	b	c	d
mitraphylline (**1**)	29.68	19.78	2.84	-0.57
isomitraphylline (**2**)	21.45	11.29	0.13	0.92
speciophylline (**3**)	16.91	13.42	4.56	-1.81
pteropodine (**5**)	30.94	12.07	26.70	-1.06
isopteropodine (**6**)	37.14	29.35	0.24	0.57
rhyncophylline (**7**)	74.18	17.81	0.09	1.10
isorhyncophylline (**8**)	43.47	19.32	6.51	-1.15