

**Table S1.** One-way analysis of variances (ANOVA) for HBV chemical characterization and biological activities outputs ( $n = 5$ ).

Variables	Factor-Regions	Mean	SD	F(2,12)	p
In vitro cytotoxic activity (GI <sub>50</sub> in µg/mL)					
HepG2	NE	3.87	1.12	3.609	0.059
	C	3.56	0.88		
	S	7.36	4.05		
NCI-H460	NE	6.93	2.37	2.960	0.090
	C	7.15	1.74		
	S	10.96	4.16		
HeLa	NE	3.67	0.99	3.792	0.053
	C	4.29	0.91		
	S	6.15	2.17		
MCF-7	NE	4.03	0.81	5.252	0.023*
	C	5.73	1.12		
	S	8.11	3.16		
MM127	NE	3.44	0.79	5.126	0.025*
	C	4.45	0.66		
	S	5.89	1.83		
PLP2	NE	13.85	8.64	0.982	0.40
	C	13.79	1.58		
	S	19.95	10.68		
Anti-inflammatory activity (IC <sub>50</sub> in µg/mL)					
RAW264.7	NE	4.98	0.72	6.673	0.01*
	C	6.83	0.92		
	S	10.74	4.24		
Chemical characterization by LC-DAD-ESI/MS <sup>a</sup> (µg/mL)					
Apamin	NE	2.05	0.14	1.137	0.35
	C	1.99	0.09		
	S	1.80	0.43		
PLA2	NE	7.66	1.13	4.025	0.046*
	C	6.17	1.54		
	S	5.14	1.50		
Melittin	NE	71.71	5.06	0.561	0.585
	C	72.53	1.70		
	S	71.68	8.60		
Metal content					
Ca (mg/g)	NE	1.90	0.83	8.42	0.00*
	C	2.96	0.97		
	S	1.01	0.22		
Zn (mg/g)	NE	1.14	0.15	3.63	0.05*
	C	1.27	0.20		
	S	1.01	0.06		
K (mg/g)	NE	2.87	0.51	6.93	0.01*
	C	2.38	0.67		
	S	1.69	0.16		
Na (mg/g)	NE	1.34	0.22	6.52	0.01*
	C	1.43	0.22		
	S	0.82	0.05		
Mg (mg/g)	NE	0.43	0.11	4.82	0.02*
	C	0.43	0.12		
	S	0.27	0.02		
Pb (µg/g)	NE	7.19	1.82	5.64	0.01*
	C	4.27	0.69		
	S	4.59	1.73		

\*Significant differences

**Table S2.** Geographic coordinates of the apiaries used for sample collection

<b>Samples</b>	<b>Coordinates</b>
<b>NE1</b>	34°00'01.5"N 2°00'48.5"W
<b>NE2</b>	34°19'55.7"N 2°07'48.0"W
<b>NE3</b>	34°02'40.4"N 1°50'55.7"W
<b>NE4</b>	34°47'52.7"N 2°30'08.3"W
<b>NE5</b>	34°59'48.0"N 2°23'35.7"W
<b>C1</b>	33°52'15.1"N 6°21'04.4"W
<b>C2</b>	33°53'48.3"N 6°17'54.8"W
<b>C3</b>	33°54'18.6"N 6°01'38.6"W
<b>C4</b>	32°32'05.7"N 6°22'31.5"W
<b>C5</b>	32°08'38.1"N 6°31'30.5"W
<b>S1</b>	30°37'37.3"N 5°27'17.6"W
<b>S2</b>	29°45'57.9"N 7°59'22.0"W
<b>S3</b>	29°39'58.2"N 7°58'55.6"W
<b>S4</b>	30°25'13.2"N 5°53'03.2"W
<b>S5</b>	30°17'30.2"N 5°48'41.5"W

NE – northeast; C – center; S – Southern Morocco