

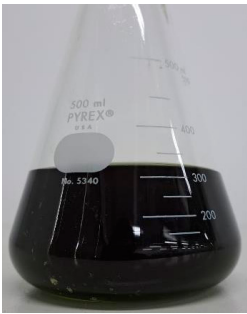
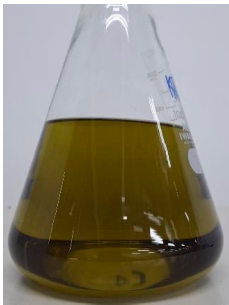
## SUPPLEMENTARY INFORMATION

# An In Vitro Examination of Whether Kratom Extracts Enhance the Cytotoxicity of Low-Dose Doxorubicin against A549 Human Lung Cancer Cells

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**Table S1.** The color appearances and MG extraction

Run	MG relative extraction (%)	Extract solution color	
		1 <sup>st</sup> run	5 <sup>th</sup> run
2	88		
3	74		
4	16		
5	n.d		

**Table S2.** Gradient program of eluent during HPLC analysis of Kratom's extracts

Time (min)	Mobile Phase A (%)	Mobile Phase B (%)
0.01 – 4.00	70 → 30	30 → 70
4.01 – 6.00	30	70
6.01 – 8.00	30 → 70	70 → 30
8.01 – 20.00	70	30

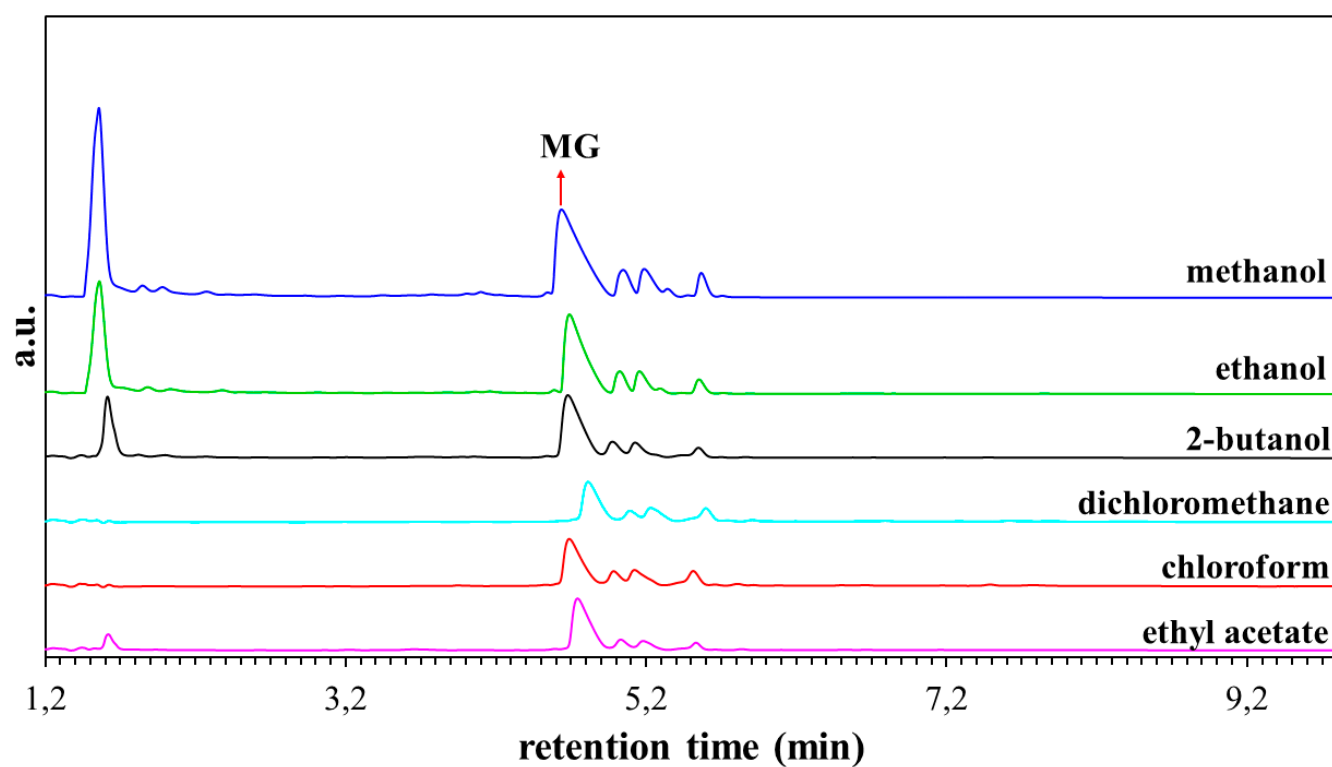
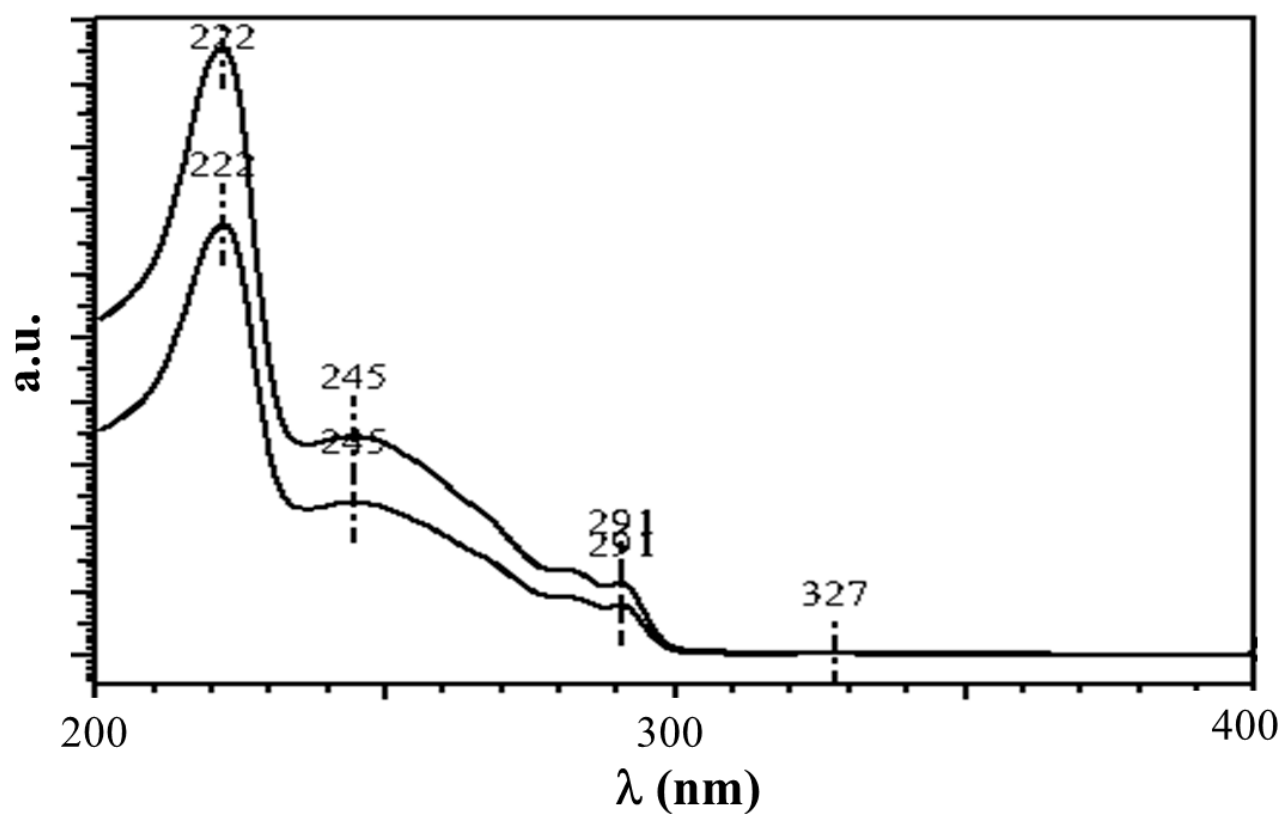
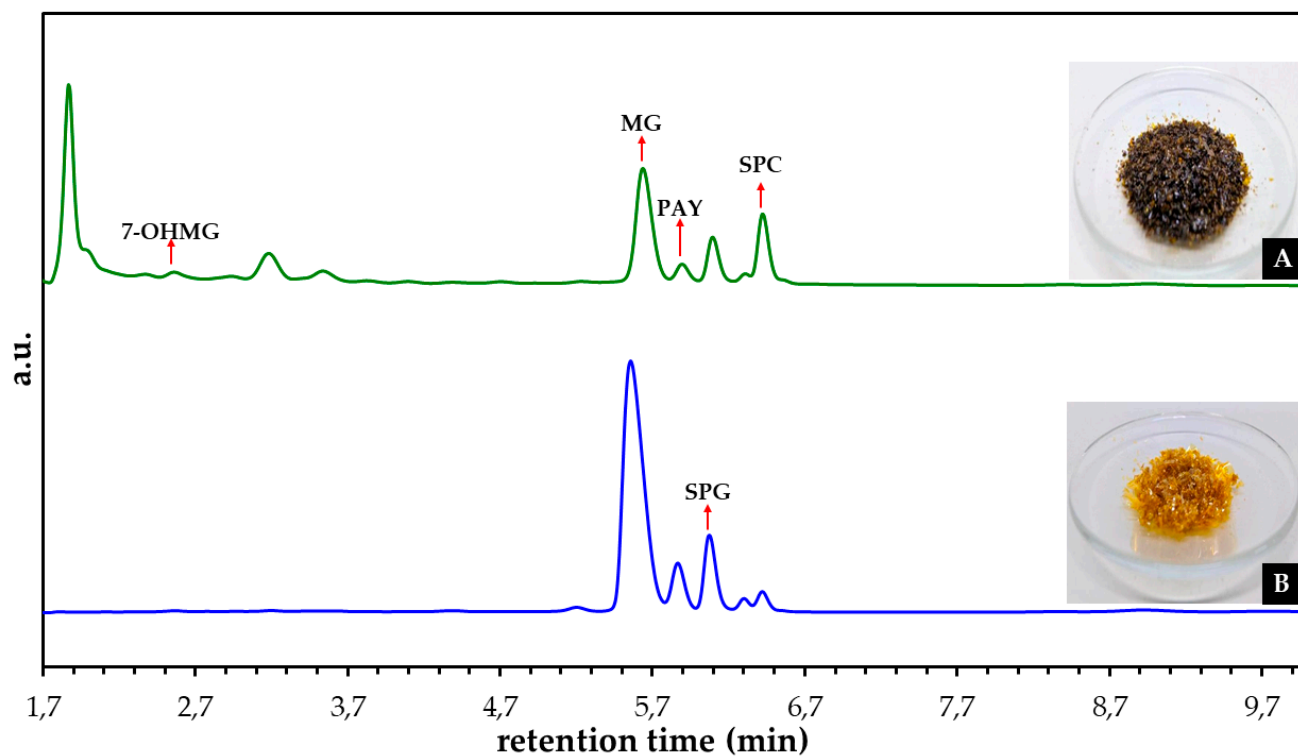


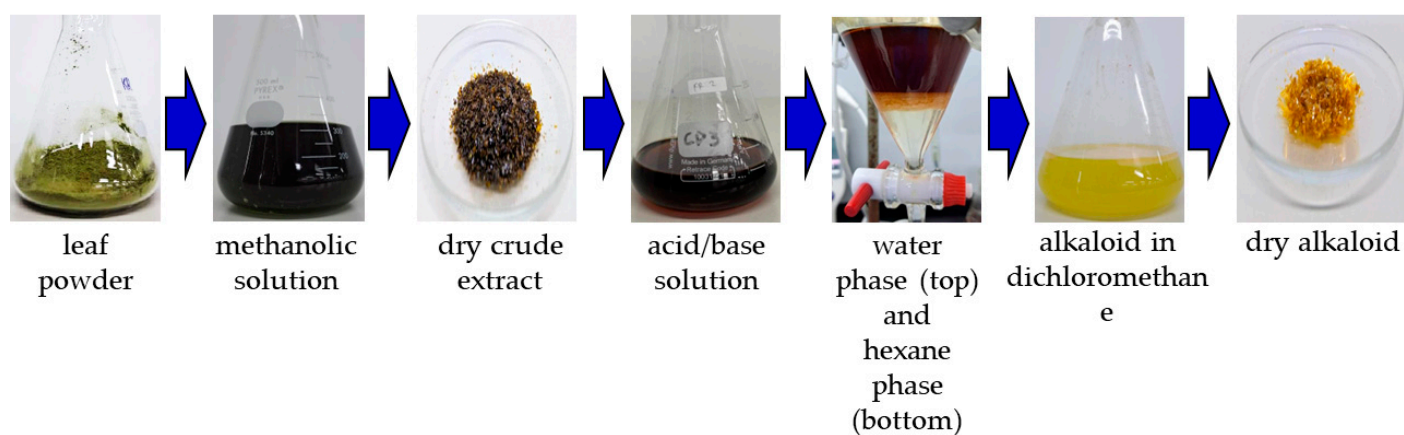
Figure S1. HPLC chromatograms of methanolic crude extracts solution obtained from different extraction solvents.



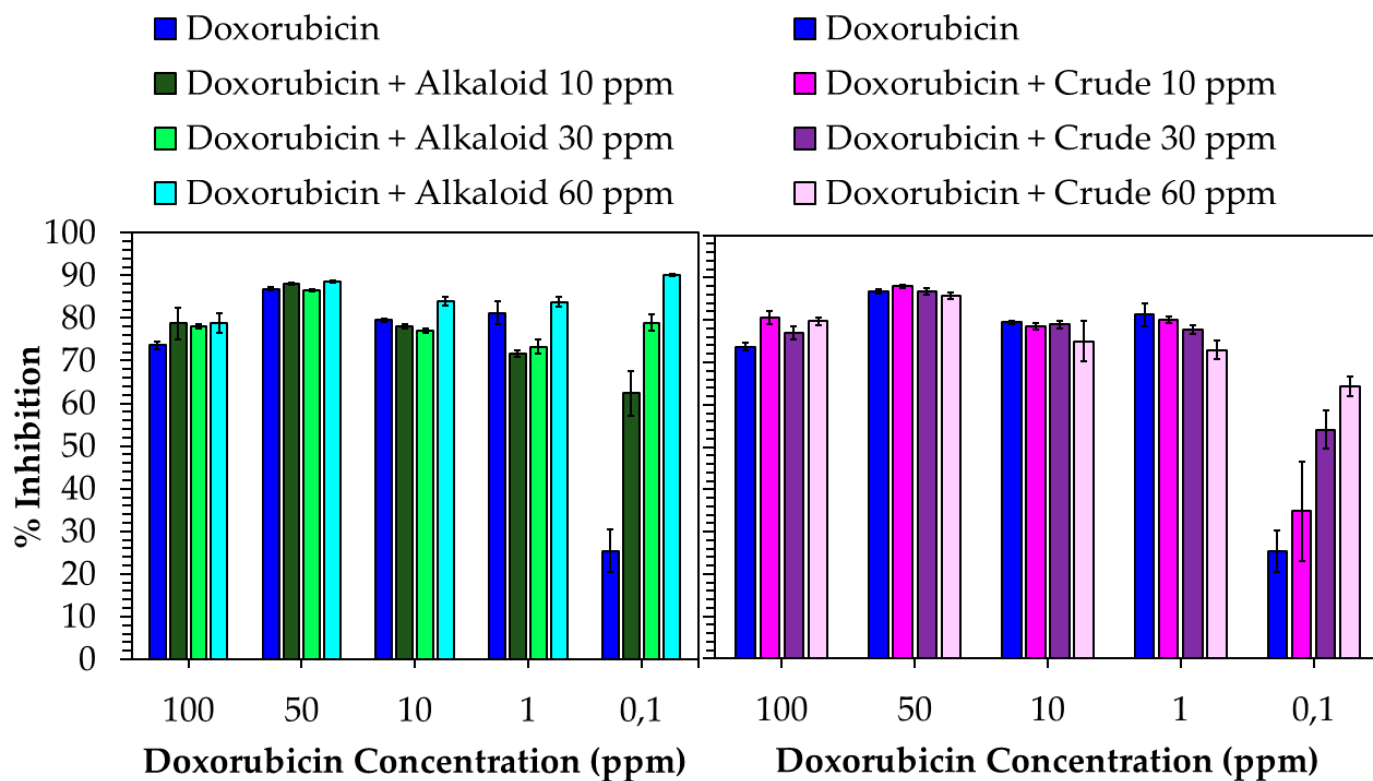
**Figure S2.** UV absorbance of MG peak in the alkaloid extract solution compared with MG peak of the standard solution.



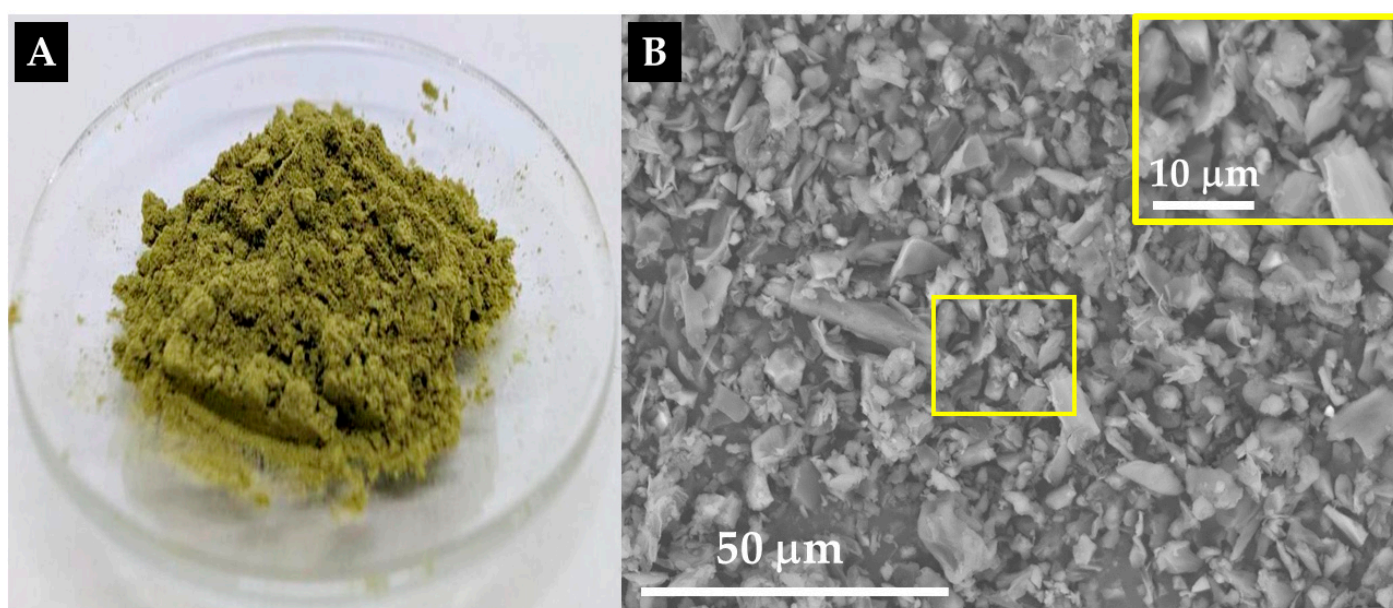
**Figure S3.** Typical HPLC chromatogram of the crude (A) and MG-rich alkaloid extract. 7-OHMG, MG, PAY, SPG, SPC, A, B, C refer to 7-hydroxymitragynine, mitragynine, paynantheine, speciogynine, speciociliatine, kratom leaves powder, crude extract and alkaloid extract, respectively.



**Figure S4.** Physical changes of color appearances for each steps during serial extraction of kratom leaves powder using methanolic and acid/base treatments



**Figure S5.** Cytotoxic activity of combination of doxorubicin and the Kratom extracts at several concentration against A549 human lung cancer cell lines.



**Figure S6.** Physical appearances (A) and scanning electron microscopic image (B) of the kratom leaves powder.