

Supplementary Information

Table S1. Cytotoxicity of 1–12 against parental SW620 and P-gp over-expressing SW620 Ad300 cells ^a.

Compounds	IC ₅₀ (μM) ^b		FR ^c
ianthellidone A (1)	>30.0	>30.0	-
ianthellidone B (2)	>30.0	>30.0	-
ianthellidone C (3)	>30.0	>30.0	-
ianthellidone D (4)	>30.0	>30.0	-
ianthellidone E (5)	>30.0	>30.0	-
ianthellidone G (7)	>30.0	>30.0	-
ianthellidone H (8)	>30.0	>30.0	-
ianthellidone F (6)	>30.0	>30.0	-
lamellarin O2 (10)	>30.0	>30.0	-
lamellarin O1 (9)	>30.0	>30.0	-
lamellarin Q (12)	>30.0	>30.0	-
lamellarin O (11)	22.0 ± 1.8	22.3 ± 2.3	1.00

^a: Cell survival was determined by MTT assay as described in Section 3.5.; ^b: Data are means ± SEM of at least three independent experiments performed in duplicate; ^c: fold-resistance (FR) was determined by dividing the IC₅₀ value of compound in P-gp over-expressing cancer cells by the IC₅₀ value in sensitive cancer cells. “-”: not calculated.

Table S2. Cell flow cytometry analysis of intracellular calcein fluorescence in the presence of 1–12 (20 μM).

Compounds	FAR
lamellarin O (11)	5.12
ianthellidone A (1)	0.63
ianthellidone B (2)	0.52
ianthellidone C (3)	0.61
ianthellidone D (4)	0.60
ianthellidone E (5)	0.59
ianthellidone G (7)	0.67
ianthellidone H (8)	0.60
ianthellidone F (6)	0.61
lamellarin O2 (10)	0.60
lamellarin O1 (9)	0.61
lamellarin Q (12)	0.54
verapamil	27.6

FAR (fluorescence arbitrary ratio) = calcein fluorescence intensity (geometric mean) in the presence of compound at 20 μM divided by calcein fluorescence intensity (geometric mean) in the presence of PBS, expressed as a ratio. Positive control is verapamil at 20 μM which FAR = 27.6. Experiment detail is in Section 3.4.

Figure S1. Effect of lamellarin O (**11**) and verapamil (2.5 μM) on the sensitivity of P-gp over-expressing SW620 Ad300 cancer cells to doxorubicin. MTT (96 h) cytotoxicity assay was performed with a series of concentrations of doxorubicin on P-gp over-expressing SW620 Ad300 in the presence or absence of verapamil (2.5 μM) or **11** (5, 10 or 15 μM) (Section 3.5). The various concentrations of doxorubicin were indicated in the figure, the data points were the means \pm SEM of duplicate determination. The above figure showed a representative result for verapamil and **11**. A summary of results was available in Table 1.

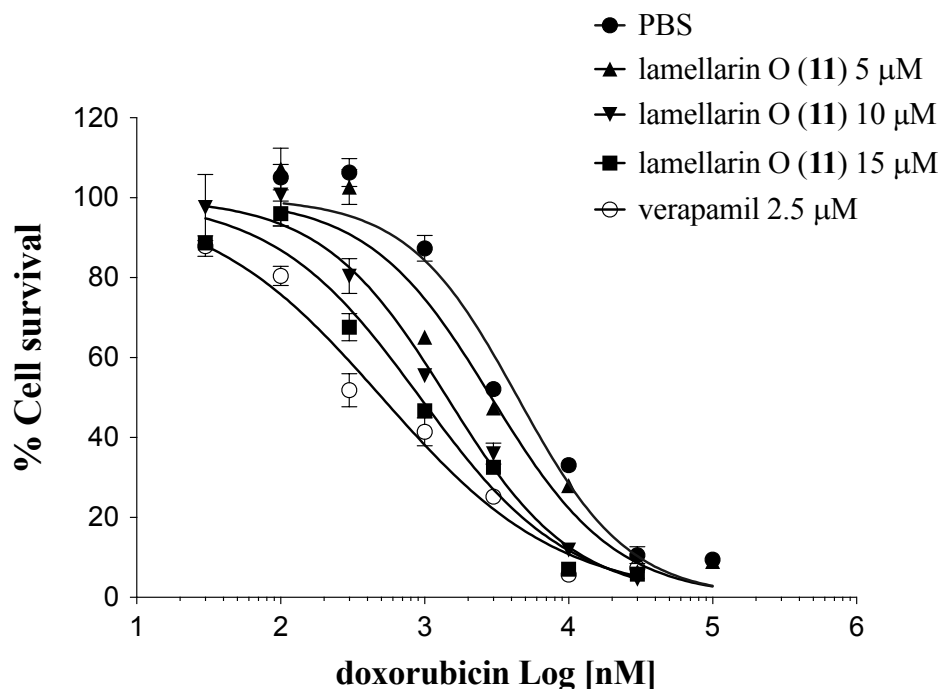


Table S3. Effect of **13–16** (20 μM) on BCRP mediated efflux of mitoxantrone in BCRP over-expressing NCI-H460/MX20 cells.

	FAR ^a	% FTC ^b
13	1.00	<1.00
14	1.03	<1.00
15	0.97	<1.00
16	1.20	5.45
PBS	1.00	0.00
FTC	3.17	100.00

^a and ^b see details in Table 2.

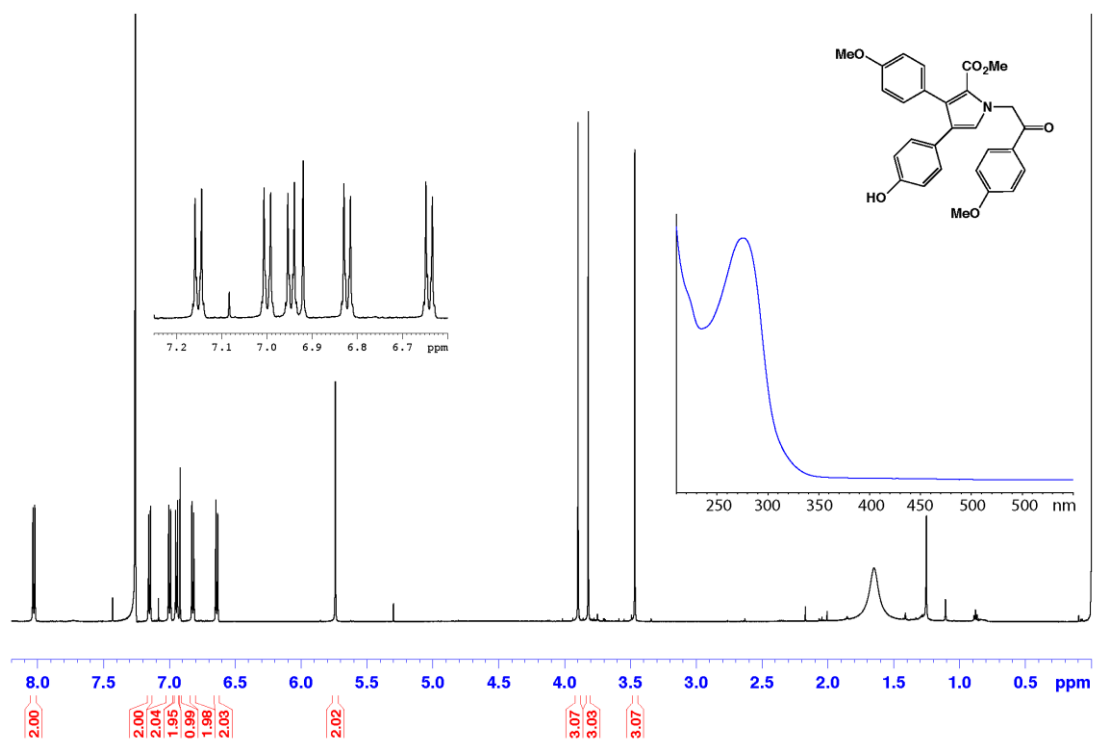
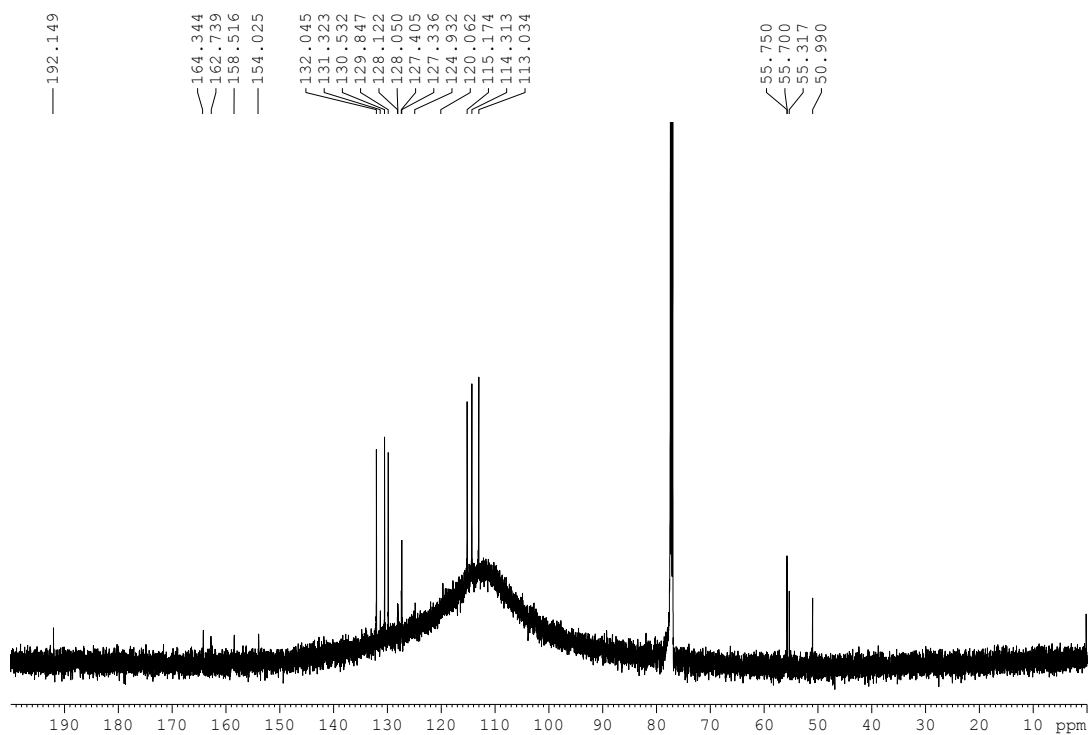
Figure S2. ^1H NMR (600 MHz, CDCl_3) and UV-vis (MeOH) spectra of **18**.**Figure S3.** ^{13}C NMR (150 MHz, CDCl_3) spectrum of **18**.

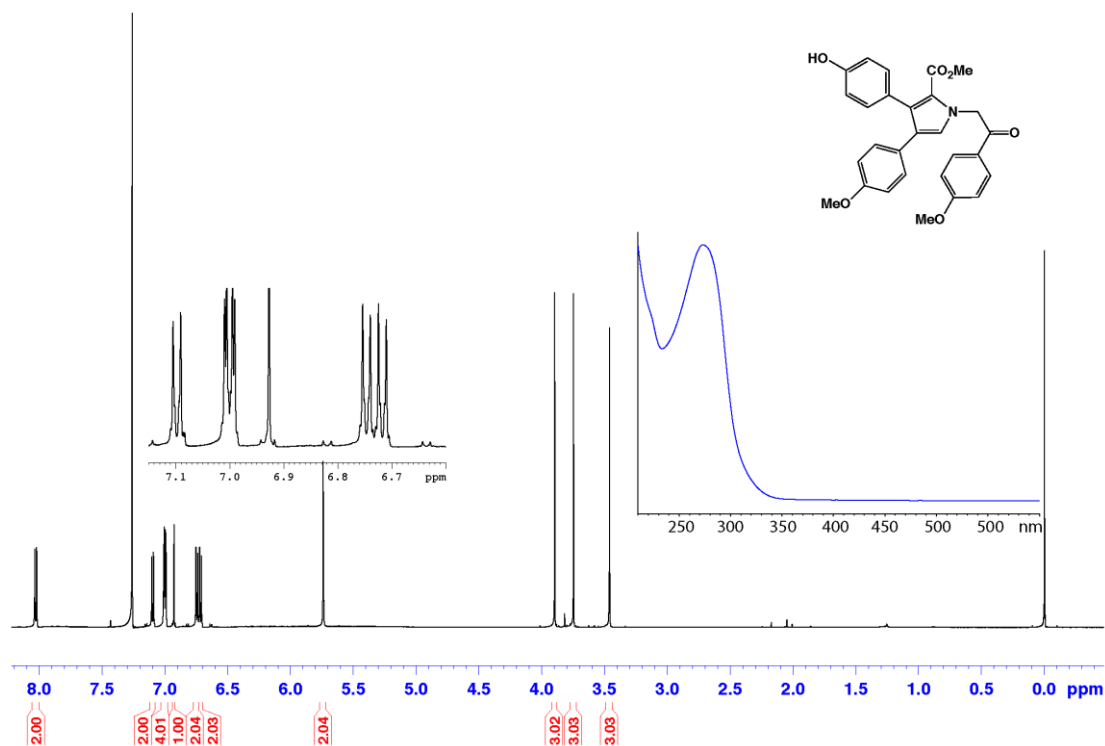
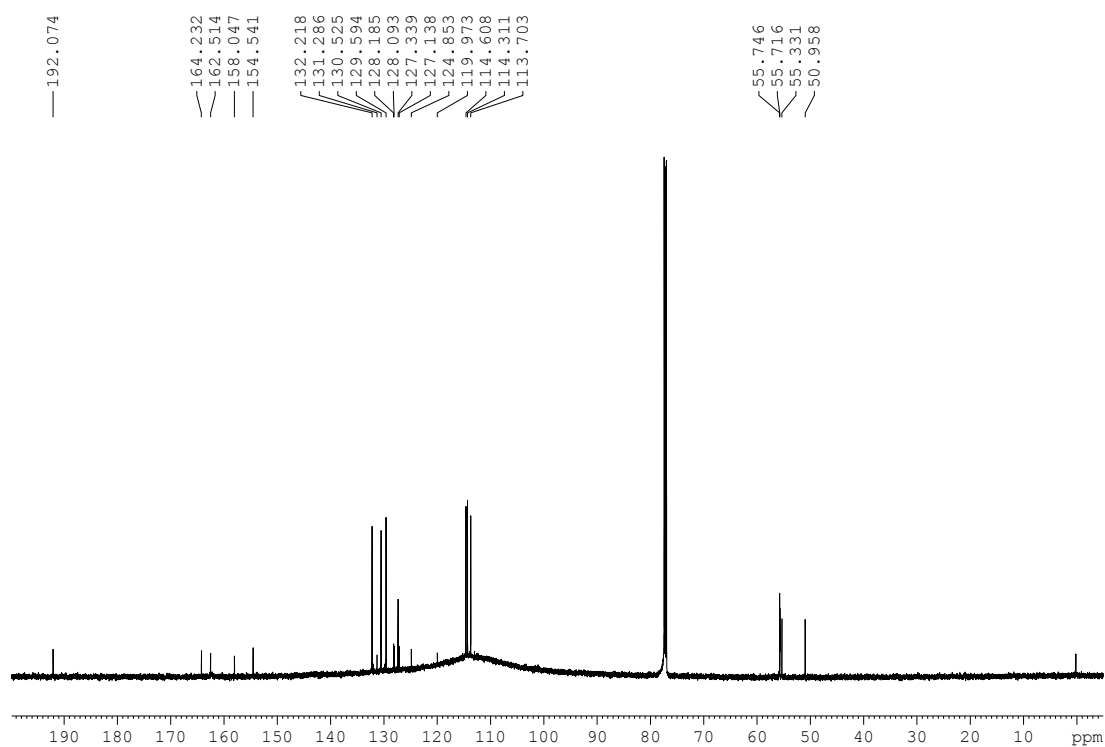
Figure S4. ^1H NMR (600 MHz, CDCl_3) and UV-vis (MeOH) spectra of 17.**Figure S5.** ^{13}C NMR (150 MHz, CDCl_3) spectrum of 17.

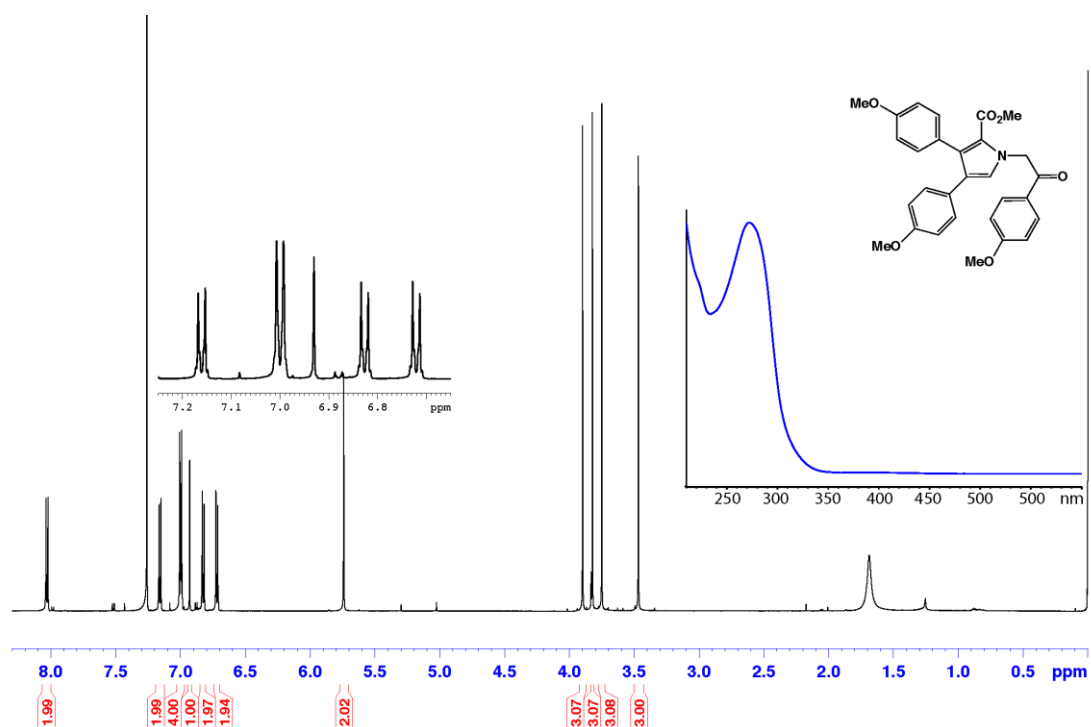
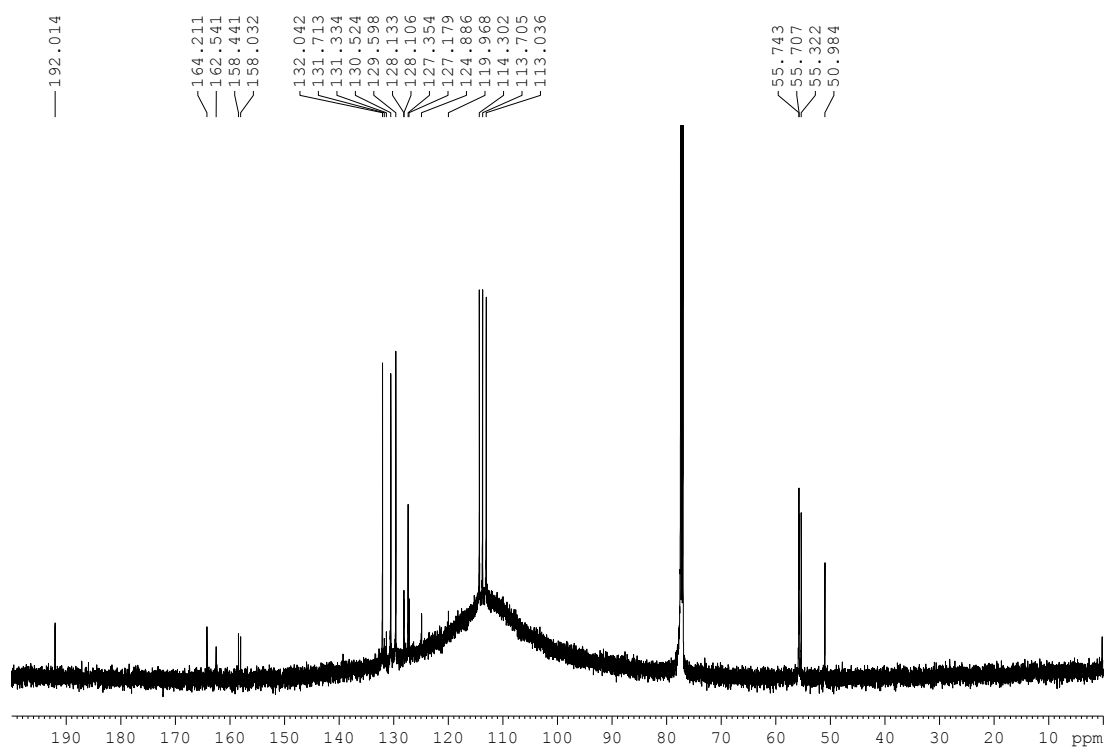
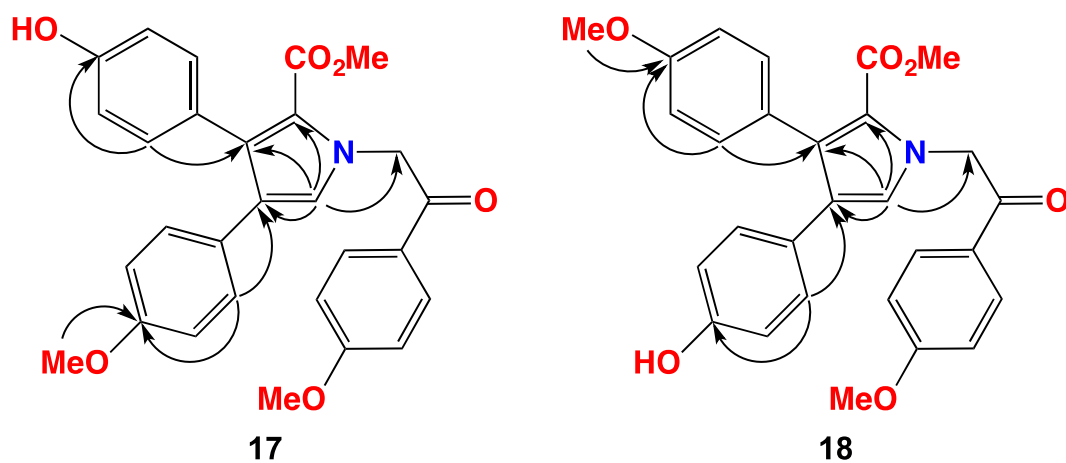
Figure S6. ^1H NMR (600 MHz, CDCl_3) and UV-vis (MeOH) spectra of **19**.**Figure S7.** ^{13}C NMR (150 MHz, CDCl_3) spectrum of **19**.

Figure S8. Selected HMBC (150 MHz, CDCl₃) correlations.

© 2014 by the authors; licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/3.0/>).