

Supplementary Material

Three Novel Triterpene Glycosides from the Sea Cucumber Stichopus chloronotus with **Potent Cytotoxic Activities**

Osama Y. Althunibat¹, Ridzwan Bin Hashim², Muhammad Taher³, Jamaludin Mohd. Daud⁴

¹Department of Medical Analysis, Princess Aisha Bint Al-Hussein Faculty of Nursing and Health Sciences, Al-Hussein Bin Talal University, Ma'an, 71111, Jordan.

²Faculty of Allied Health Sciences, International Islamic University Malaysia, Kuantan, Pahang 25200, Malaysia ³Faculty of Pharmacy, International Islamic University Malaysia, Jalan Sultan Ahmad Shah, Kuantan, Pahang 25200, Malaysia ⁴Faculty of Science, International Islamic University Malaysia, Jalan Istana Bandar Indera Mahkota, 25200, Kuantan, Pahang, Malaysia

*Corresponding Author: thnibatjust2001@yahoo.com

List of Supplementary Materials

Figure 51: IR spectra of compound A Figure 52: +ESI-TOF-MS spectra of compound A. a) High resolution of the high molecular weight region; b) Low molecular weight region Figure S3: Proton NMR Spectrum OF Compound A

Figure S4: First expanding of proton NMR spectrum of compound A Figure S5: Second expanding of proton NMR spectrum of compound A

Figure S6: Third expanding of proton NMR spectrum of compound A Figure S7: DEPT NMR spectrum of compound A Figure S8: Expanded DEPT NMR spectrum of compound A

Figure S1: Expanded DEP1 NMR spectrum of compound Figure S0: HMQC spectrum of compound A Figure S10: HMBC spectrum of compound A Figure S11: Expanded HMBC spectrum of compound A Figure S12: COSY spectrum of compound A

Figure S12: COSY spectrum of compound A Figure S13: IR Spectra of compound B Figure 14: +ESLTOF-MS spectra of compound B, a) High resolution (HR) of the high molecular weight region; b) Low molecular weight region Figure S15: Proton NMR spectrum of compound B Figure S16: First expanding of proton NMR spectrum of compound B Figure S17: Second expanding of proton NMR spectrum of compound B Figure S19: DEPT NMR spectrum of compound B Figure S19: First expanding of DEPT NMR spectrum of compound B Figure S21: Second expanding of DEPT NMR spectrum of compound B Figure S22: HMQC spectrum of compound B Figure S23: HMBC spectrum of compound B Figure S24: Expanded HMBC NMR spectrum of compound B Figure S24: Expanded HMBC NMR spectrum of compound B Figure S25: INBC spectrum of compound B Figure S26: COSY spectrum of compound B Figure S27: IR Spectra of compound B

Figure S27: IR Spectra of compound C Figure S28: +ESI-TOF-MS spectra of compound C. a) High resolution (HR) of the high molecular weight region; b) Low molecular weight region Figure S28: +ESI-TOF-MS spectra of compound C. a) High resolution (H Figure S29: proton NMR spectrum of compound C Figure S30: First expanding of proton NMR spectrum of compound C Figure S32: Third expanding of proton NMR spectrum of compound C Figure S32: Third expanding of proton NMR spectrum of compound C Figure S33: Fourth expanding of proton NMR spectrum of compound C Figure S34: DEPT NMR spectrum of compound C Figure S35: First expanding of DEPT NMR spectrum of compound C Figure S35: First expanding of DEPT NMR spectrum of compound C Figure S36: HMQC spectrum of compound C Figure S37: HMBC spectrum of compound C Figure S38: Expanded HMBC spectrum of compound C Figure S39: COSY spectrum of compound C



Figure S1: IR spectra of compound A



Figure S2: +ESI-TOF-MS spectra of compound A. a) High resolution of the high molecular weight region; b) Low molecular weight region



Figure S3: Proton NMR Spectrum OF Compound A





Figure S5: Second expanding of proton NMR spectrum of compound A



Figure S6: Third expanding of proton NMR spectrum of compound A



Figure S7: DEPT NMR spectrum of compound A









Figure S10: HMBC spectrum of compound A



Figure S11: Expanded HMBC spectrum of compound A



Figure S12: COSY spectrum of compound A



Figure S13: IR Spectra of compound B



Figure 14: +ESI-TOF-MS spectra of compound B. a) High resolution (HR) of the high molecular weight region; b) Low molecular weight region



Figure S15: Proton NMR spectrum of compound B



Figure S16: First expanding of proton NMR spectrum of compound B



Figure S17: Second expanding of proton NMR spectrum of compound B



Figure S18: Third expanding of proton NMR spectrum of compound B







Figure S21: Second expanding of DEPT NMR spectrum of compound B

Figure S27: IR Spectra of compound C

Figure S29: Proton NMR spectrum of compound C

Figure S30: First expanding of PROTON NMR spectrum of compound C

Figure S31: Second expanding of PROTON NMR spectrum of compound C

Figure S32: Third expanding of proton NMR spectrum of compound C

Figure S33: Fourth expanding of PROTON NMR spectrum of compound C

Figure S36: HMQC spectrum of compound C

