

Isolation and Structure Elucidation of Natural Pentacyclic Triterpenoids and Phytochemical Investigation of Different Fractions of *Ziziphus spina-christi* (L.) Stem Bark Using LCHRMS Analysis

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Supplementary material

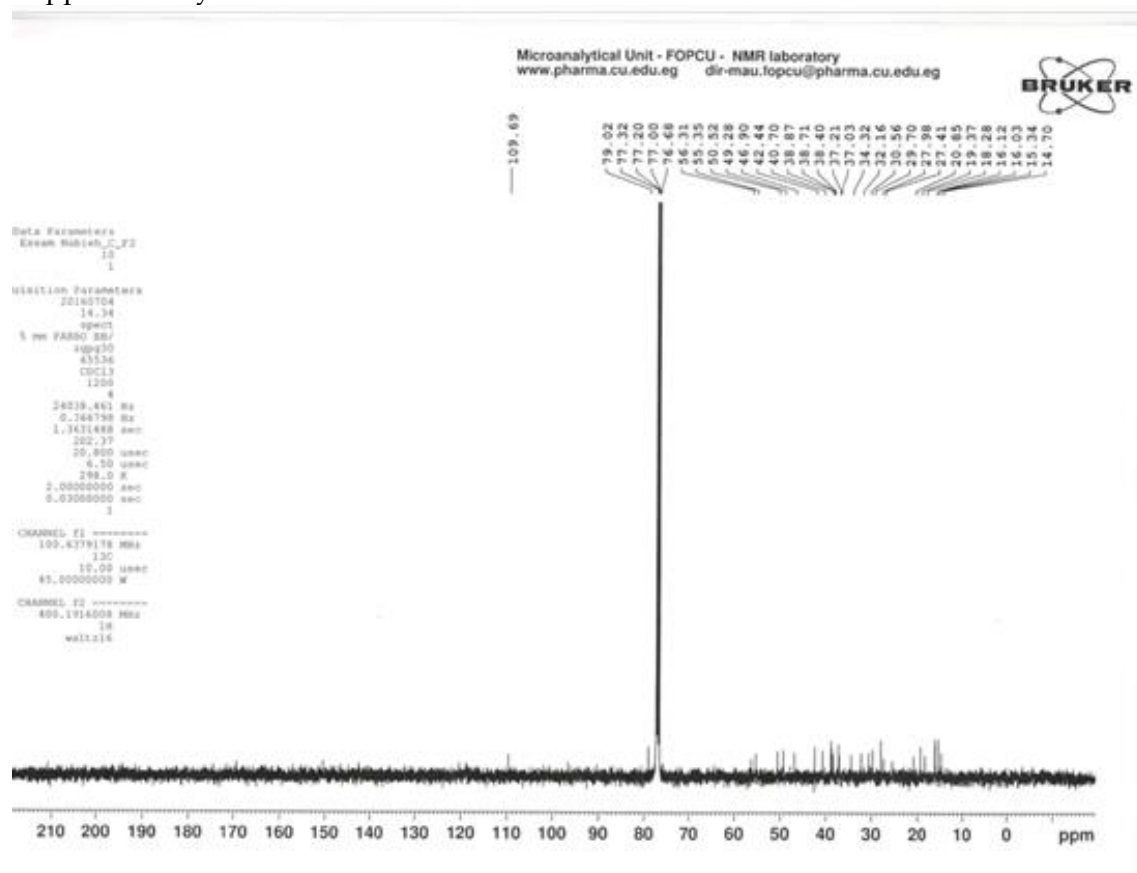


Figure S1. ^{13}C -NMR Spectra of betulinic acid

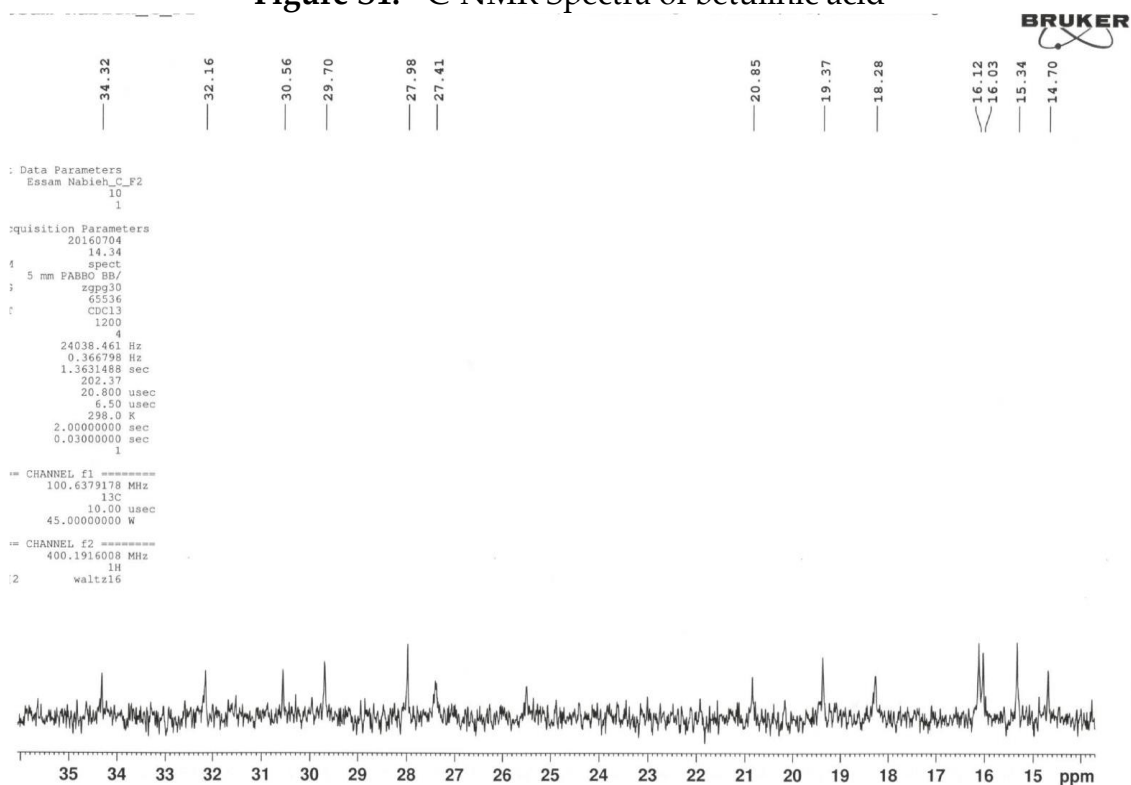


Figure S2. ^{13}C -NMR Spectra of betulinic acid (enlarged)

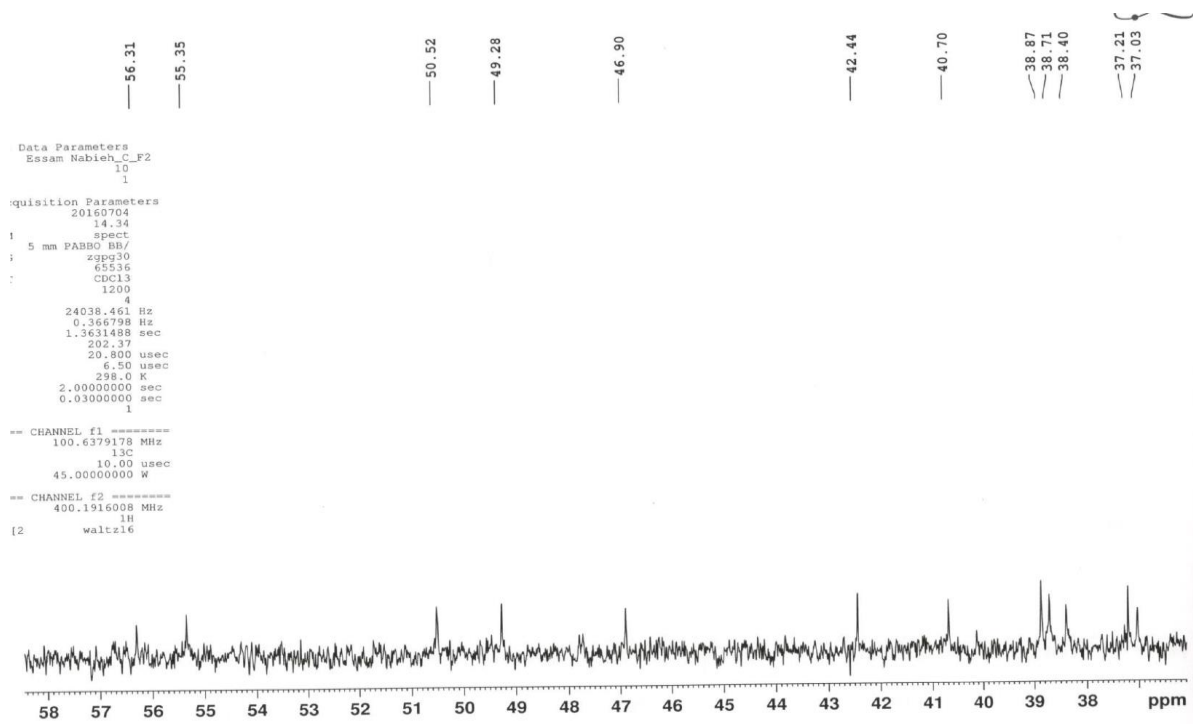


Figure S3. ^{13}C -NMR Spectra of betulinic acid (enlarged)

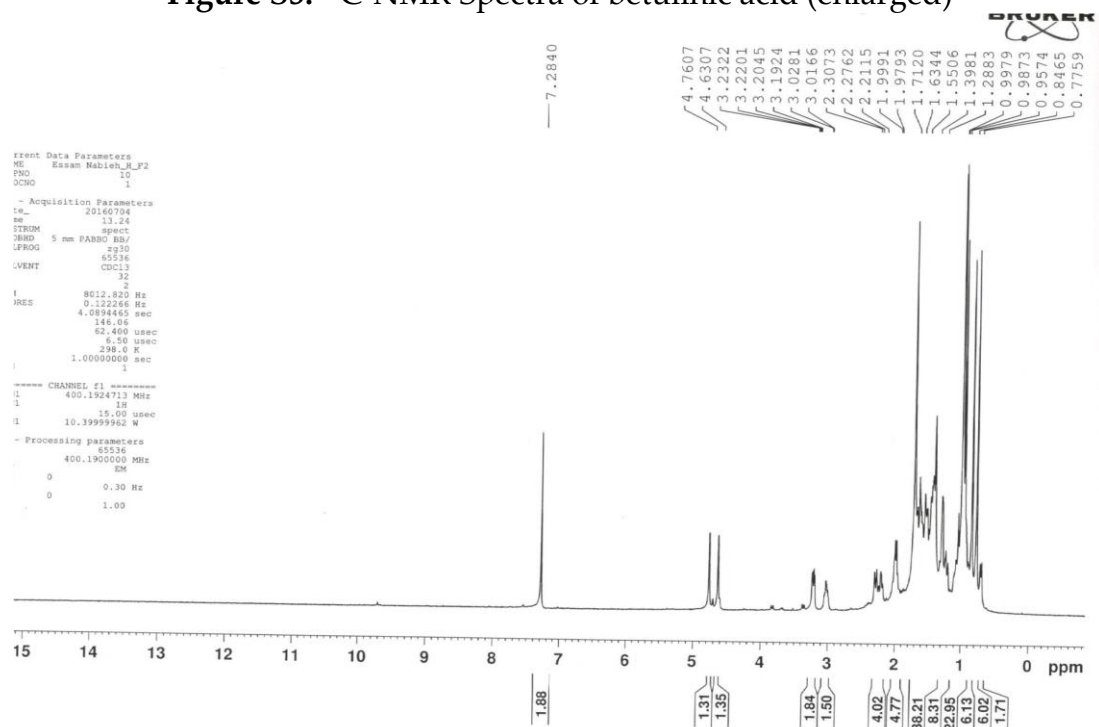


Figure S4. ^1H -NMR Spectra of betulinic acid

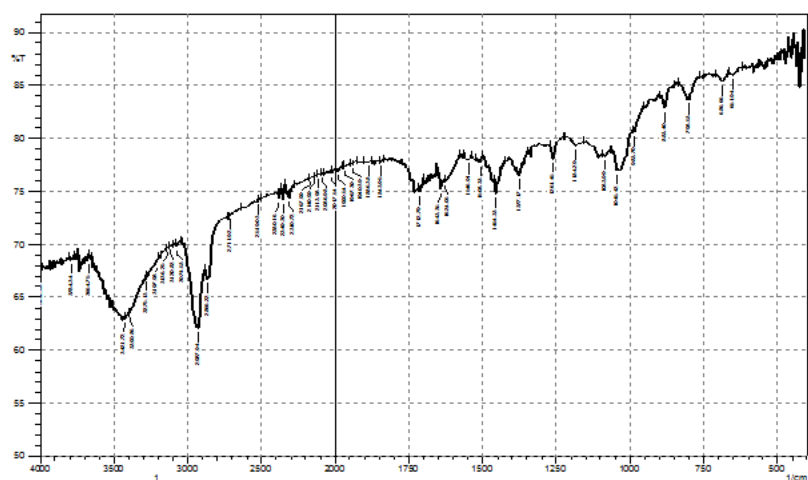


Figure S6. IR Spectrum of betuline

Table S1. Docking validation results

Protein	Control for RMSD	RMSD
<i>Aspergillus Fumigatus</i>	Voriconazole	1.2
<i>C. Albicans</i>	(1-Methyl-1H-Imidazol-2-yl)-(3-Methyl-4-{3-[(Pyridin-3-yl-methyl)-Amino]-Propoxy}-Benzofuran-2-yl)-Methanone	0.7
<i>E.coli</i>	[7,8-Dihydro-Pterin-6-yl Methanyl]-Phosphonophosphate	0.9
<i>Pseudomonas aeruginosa</i>	Thymidine-5'-Diphosphate	0.8
<i>S. aureus</i>	6-Hydroxymethylpterin-Diphosphate	0.6
<i>Streptococcus pneumoniae</i>	Pterin-6-yl-Methyl-Monophosphate	0.7