

Supporting Information

Synthesis and anticancer activity of dimeric podophyllotoxin derivatives

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^c Key Laboratory of Medicinal Chemistry for Nature Resource, Ministry of Education, School of Chemical Science and Technology, Yunnan University, Kunming 650091, China

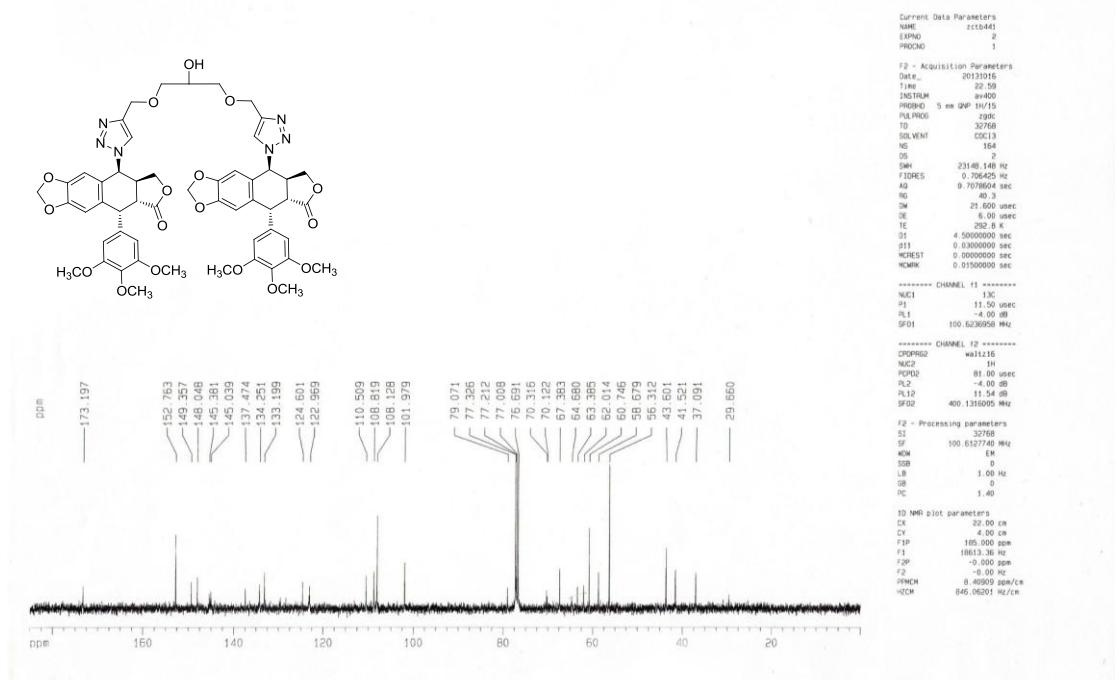
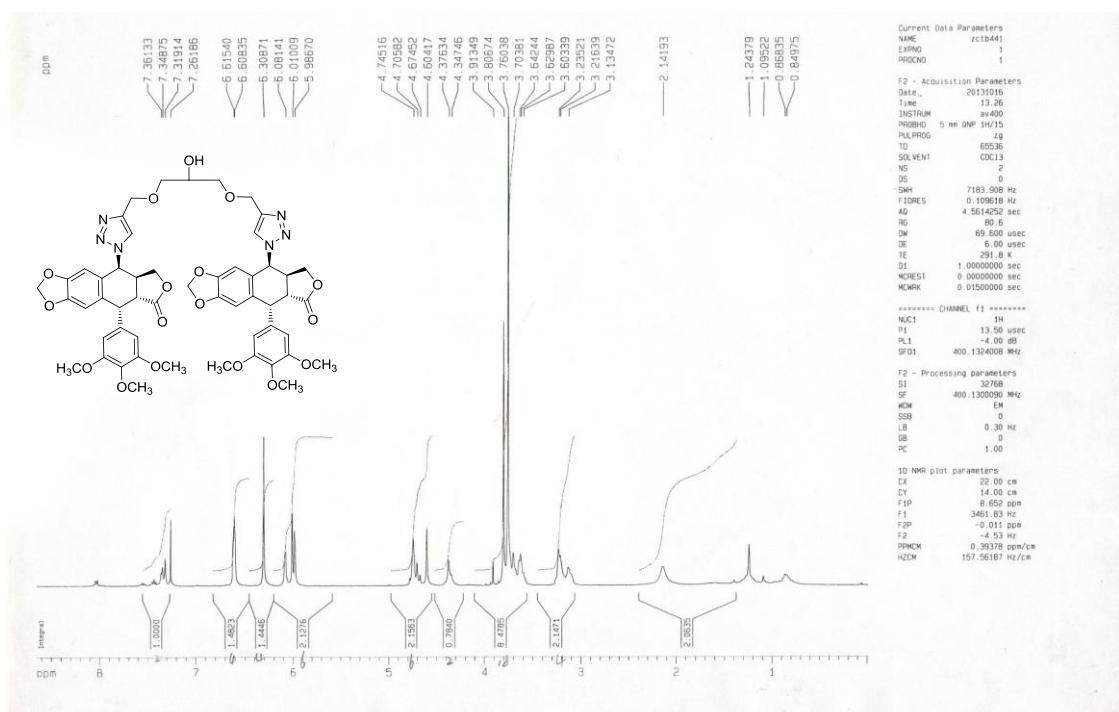
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¹ These authors contributed equally to this work

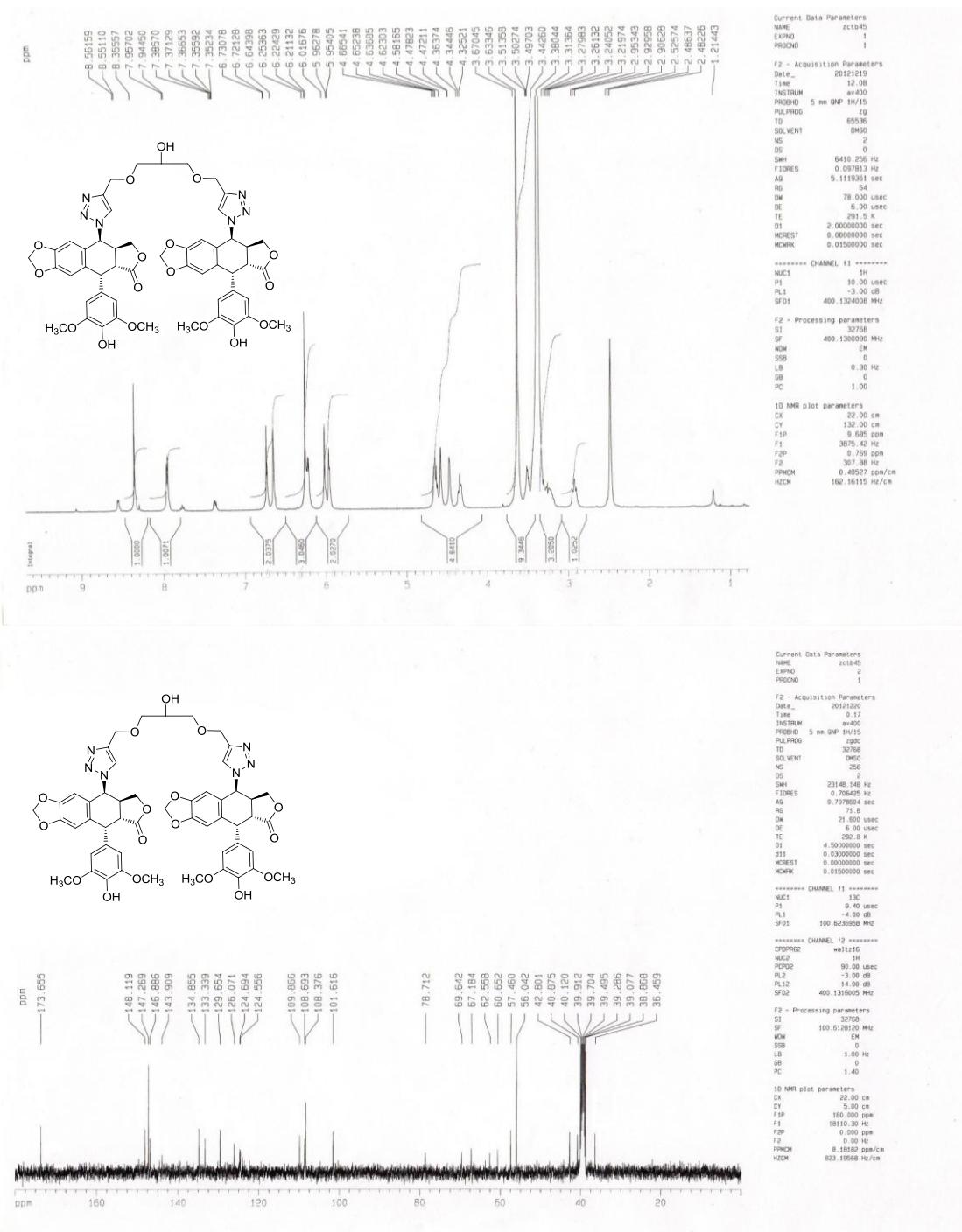
* Authors to whom correspondence should be addressed; E-Mails: zjiang@lakeheadu.ca (Z.-H.J.); hujiangmiao@mail.kib.ac.cn (J.-M.H.); Tel.: +1-807-766-7171 (Z.-H.J.); +86-871-6522-3264 (J.-M.H.); Fax: +1-807-346-7775 (Z.-H.J.); +86-871-6522-3261 (J.-M.H.).

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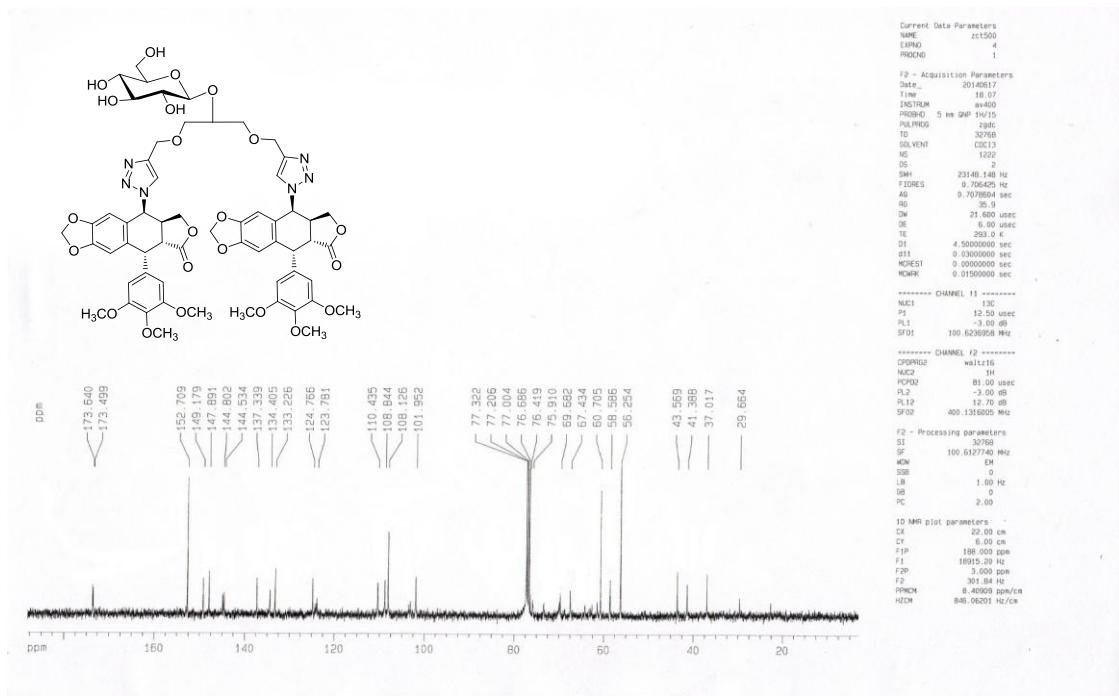
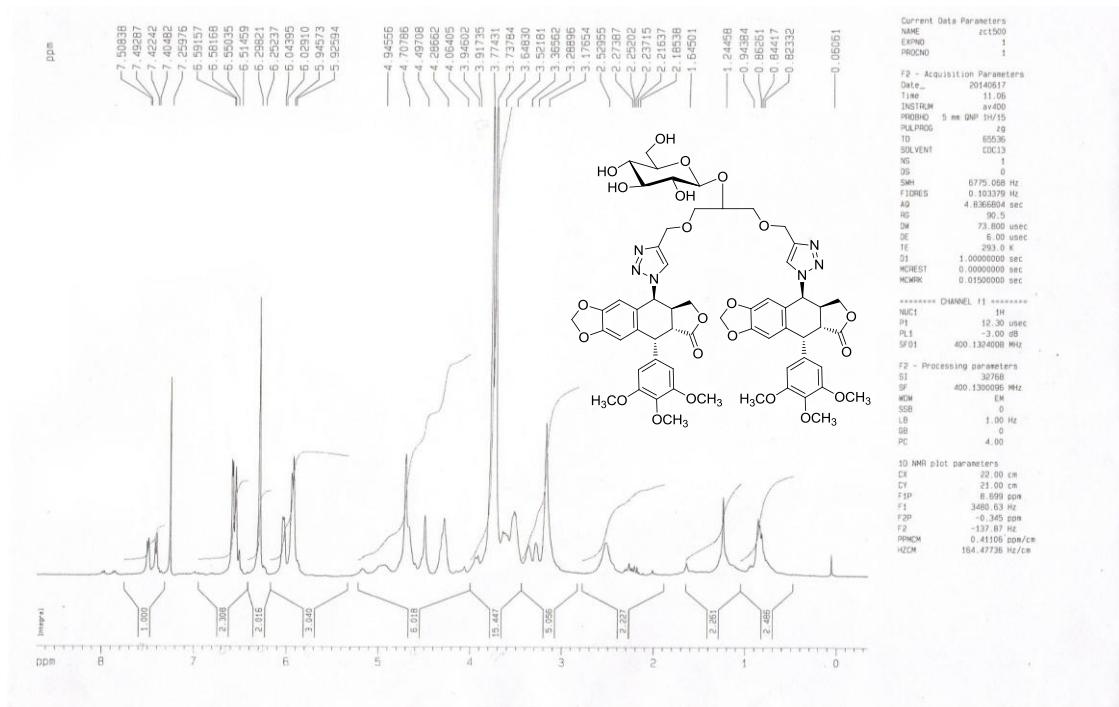
¹ H-NMR and ¹³ C-NMR spectra of compounds 25 – 40	S2-S17
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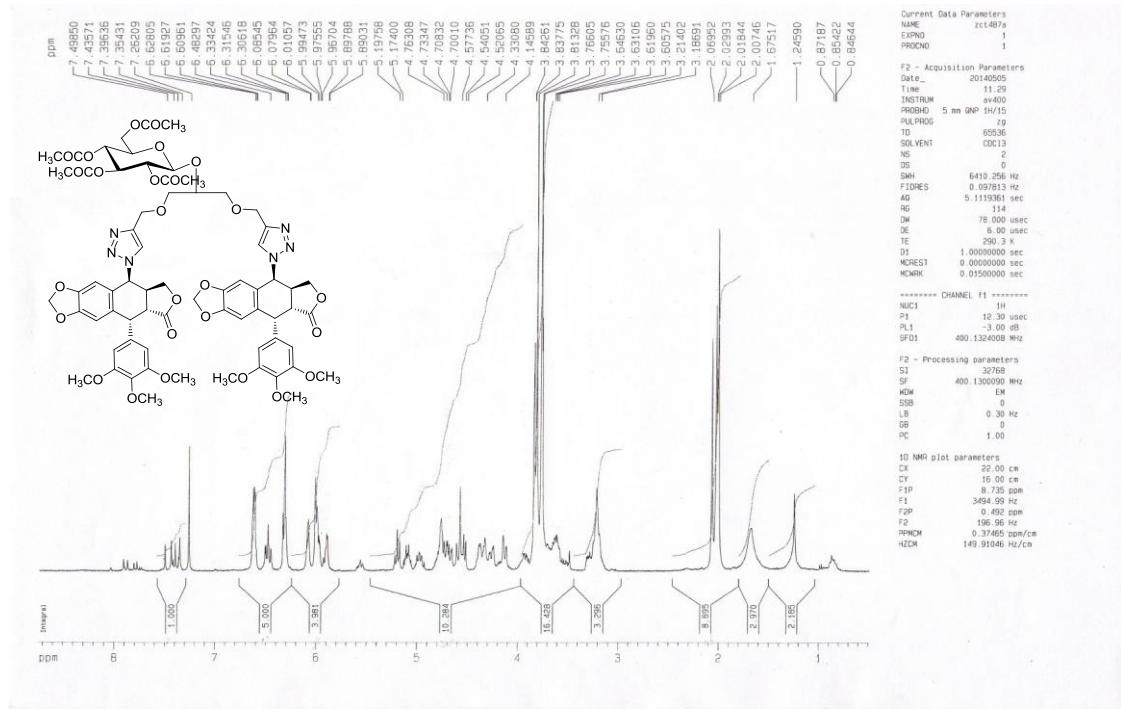
¹H-NMR and ¹³C-NMR of compound 25 (400 MHz, CDCl₃)



¹H-NMR and ¹³C-NMR of compound 26 (400 MHz, CDCl₃)



¹H-NMR and ¹³C-NMR of compound 27 (400 MHz, CDCl₃)



Current Data Parameters
NAME: zct487a
EXPNO: 4
PROCNO: 1
F2 - Acquisition parameters
Date: 20140809
Time: 11.29
INSTRUM: av400
PROBHD: 5 mm QNP 1H/1H
PULPROG: zg30
TD: 32768
SOLVENT: CDCl3
NS: 4
D1: 10000
SW1: 2348.148 Hz
T1M: 1.000 sec
TE: 1.000 sec
D1: 1.000 sec
DIT: 1.000 sec
GSI: 1.000 sec
TDZ: 128
ACQTIME: 0.000000 sec
DW: 64.000000 us
DW90: 12.000000 us
SF01: 400.1324008 MHz

F2 - Processing parameters
NUC1: 1H
NUC2: 13C
PDP0: 1024
PDP1: 2048
PL1: 12.00 us
PL2: 1.00 us
SF01: 100.628958 MHz

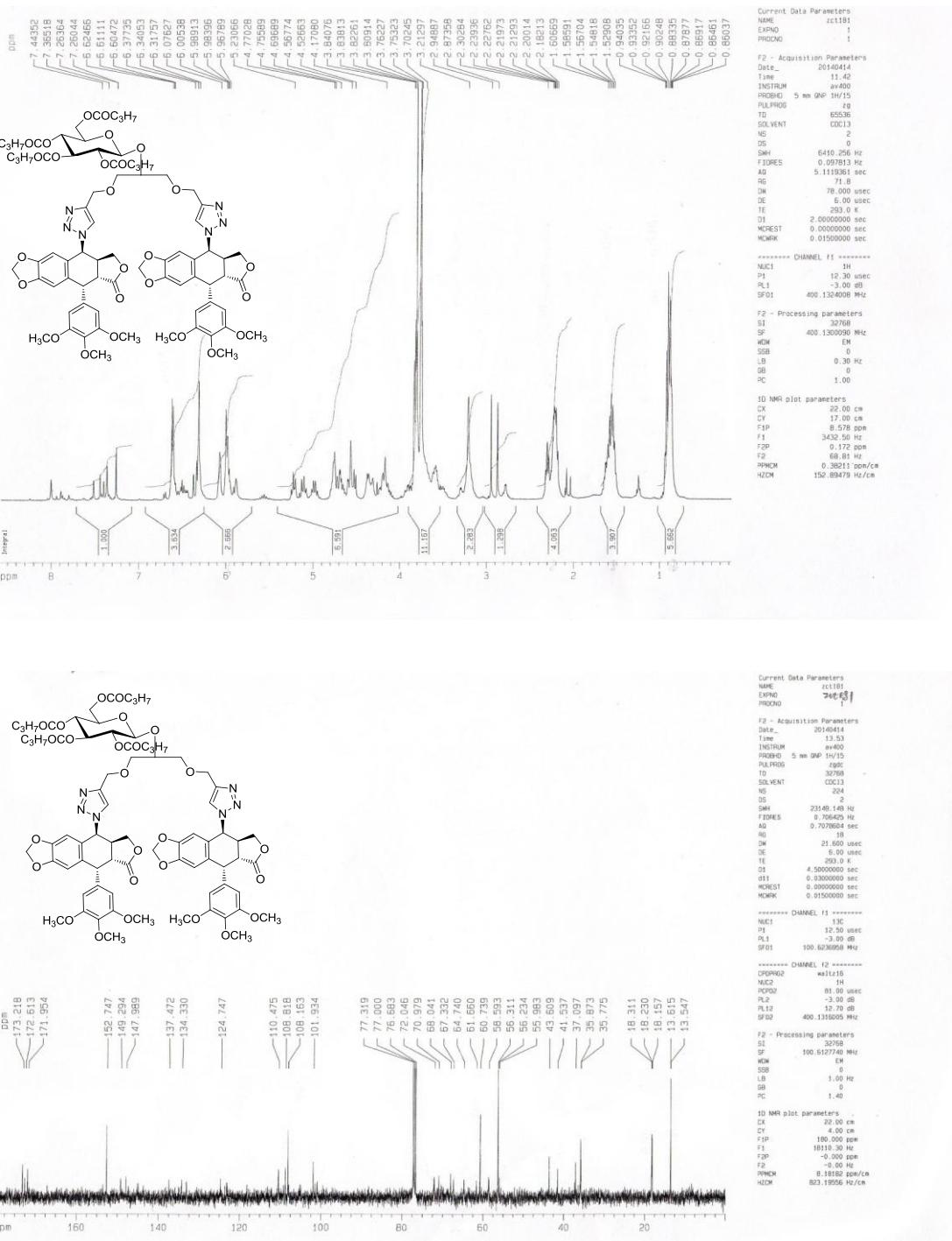
1D NMR plot parameters
CX: 22.00 cm
CY: 16.00 cm
F1P: 8.35 ppm
F1: 549.00 ppm
F2P: 0.492 ppm
F2: 196.96 ppm
PPMCH: 0.37465 ppm/cm
HZCM: 149.91046 Hz/cm

Current Data Parameters
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PROCNO: 1
F2 - Acquisition parameters
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Time: 8.39
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PROBHD: 5 mm QNP 1H/1H
PULPROG: zg30
TD: 32768
SOLVENT: CDCl3
NS: 4
D1: 10000
SW1: 2348.148 Hz
T1M: 1.000 sec
TE: 1.000 sec
D1: 1.000 sec
DIT: 1.000 sec
GSI: 1.000 sec
TDZ: 128
ACQTIME: 0.000000 sec
DW: 64.000000 us
DW90: 12.000000 us
SF01: 100.628958 MHz

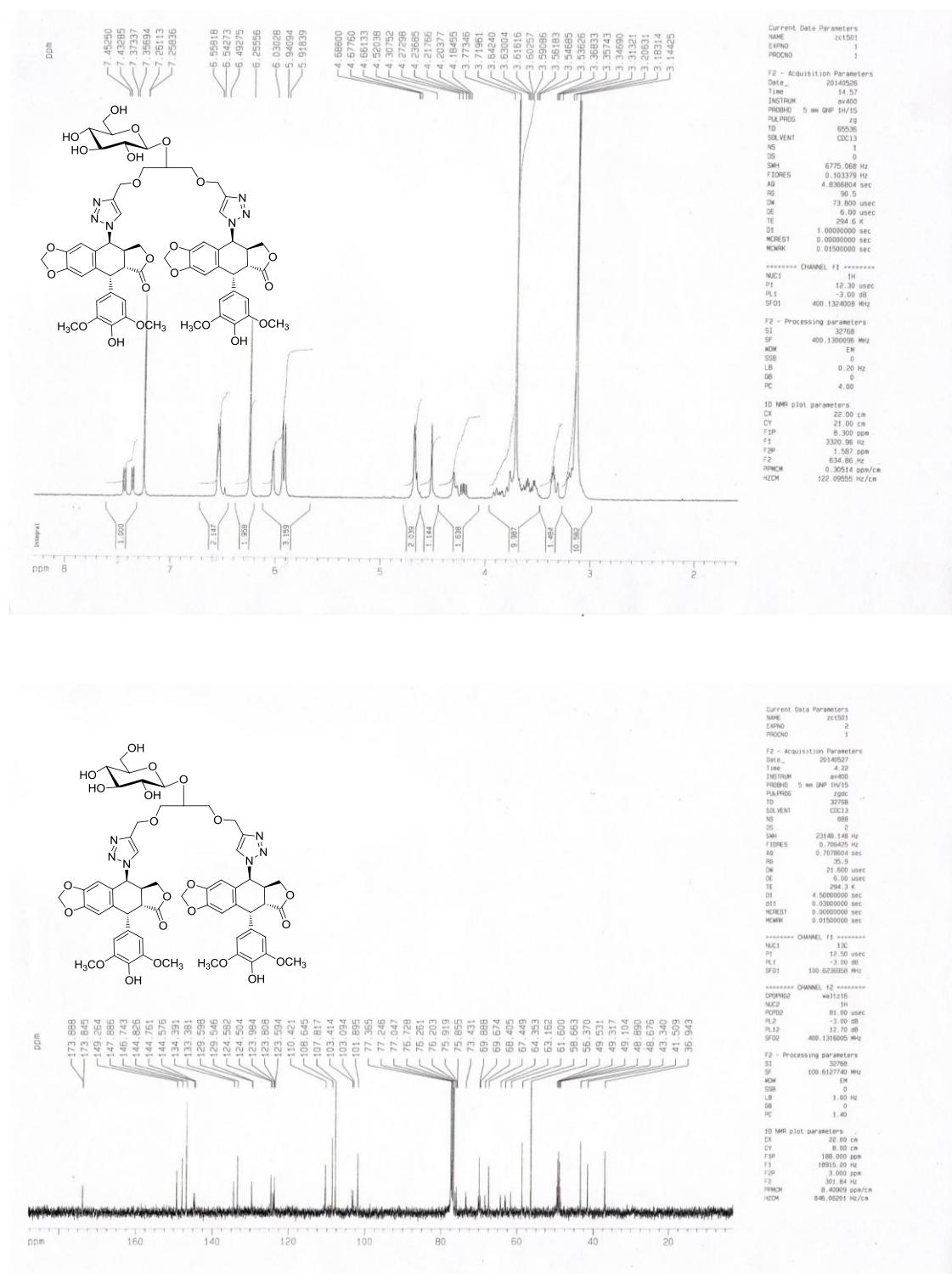
F2 - Processing parameters
NUC1: 13C
NUC2: 1H
PDP0: 8192
PDP1: 16384
PL1: 12.70 us
PL2: 1.00 us
SF01: 100.628958 MHz

1D NMR plot parameters
CX: 22.00 cm
CY: 8.00 cm
F1P: 185.000 ppm
F1: 163.000 Hz
F2P: -0.000 ppm
F2: -0.000 Hz
PPMCH: 8.408909 ppm/cm
HZCM: 840.89091 Hz/cm

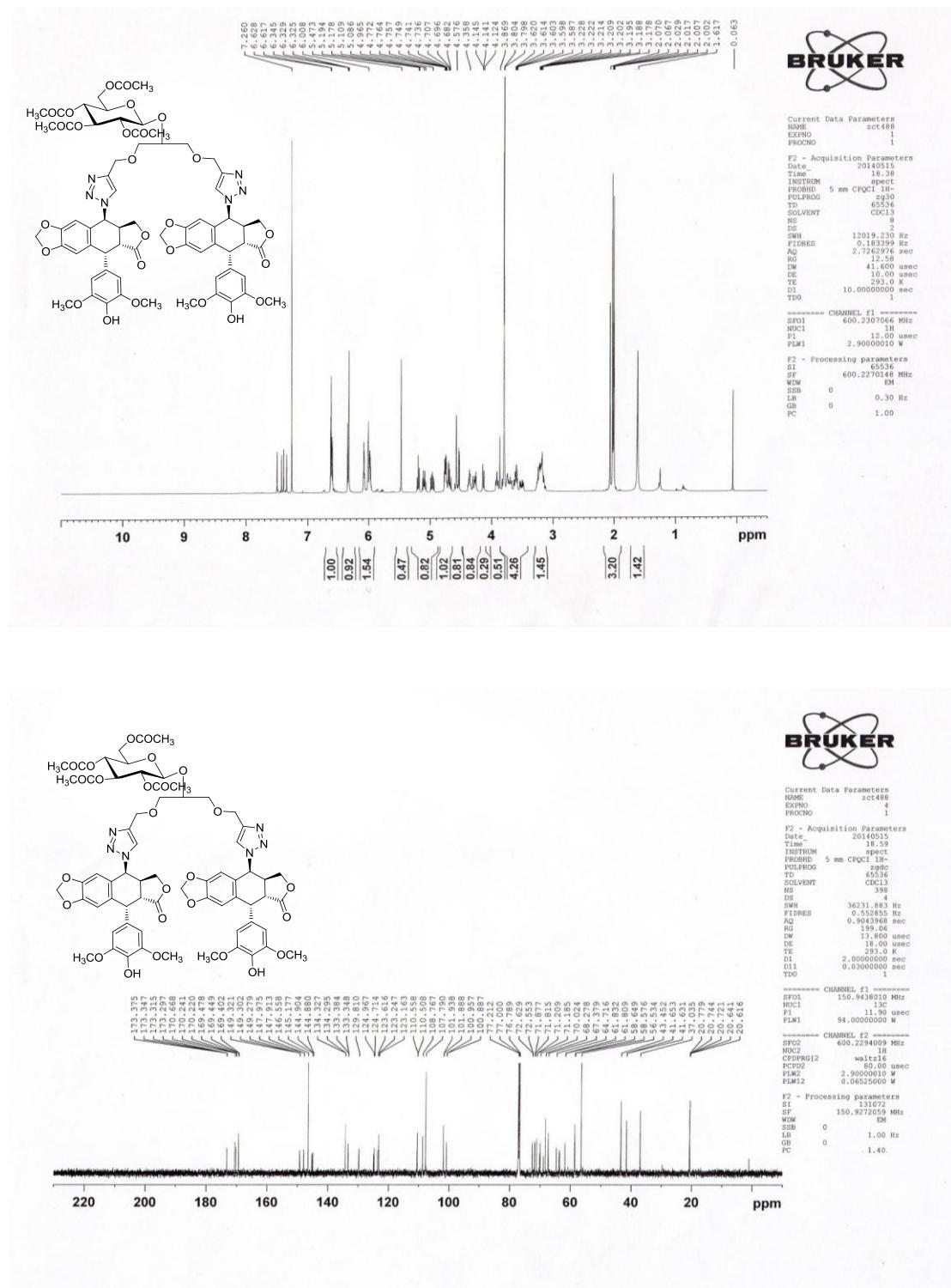
¹H-NMR and ¹³C-NMR of compound 28 (400 MHz, CDCl₃)



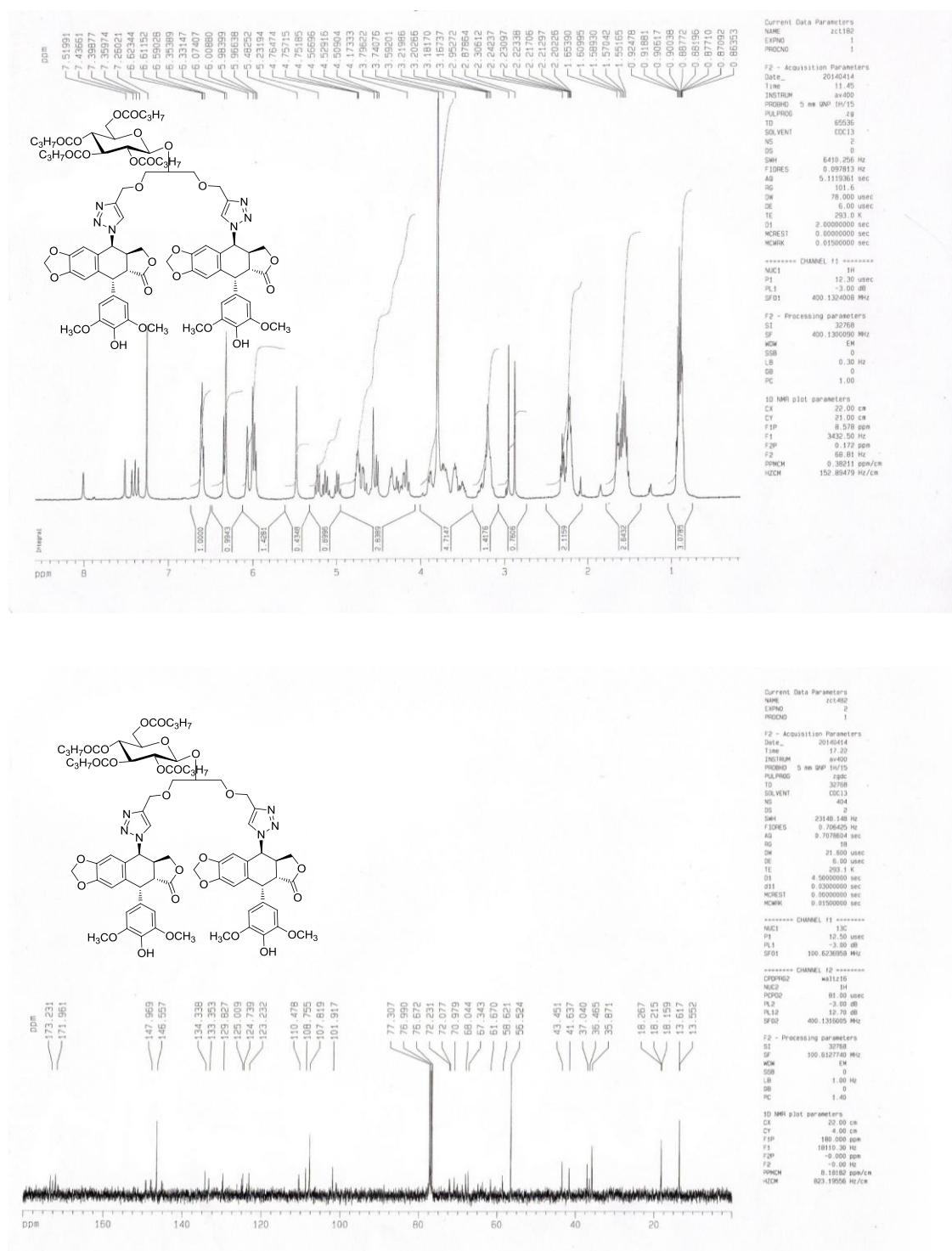
¹H-NMR and ¹³C-NMR of compound 29 (400 MHz, CDCl₃)



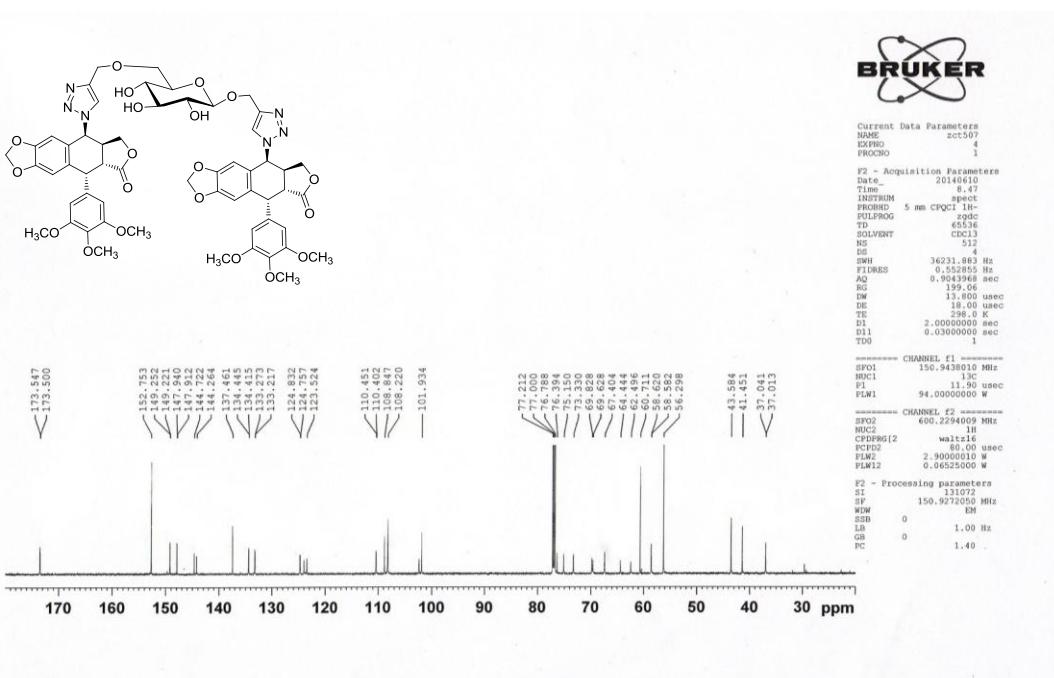
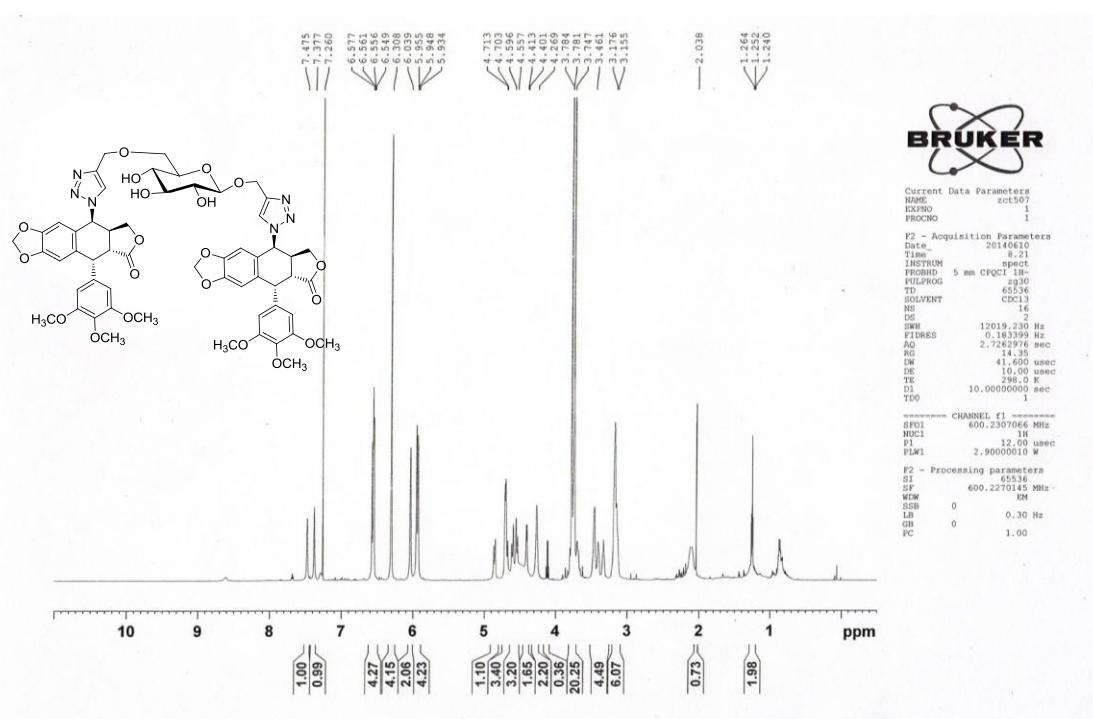
¹H-NMR and ¹³C-NMR of compound 30 (400 MHz, CDCl₃)



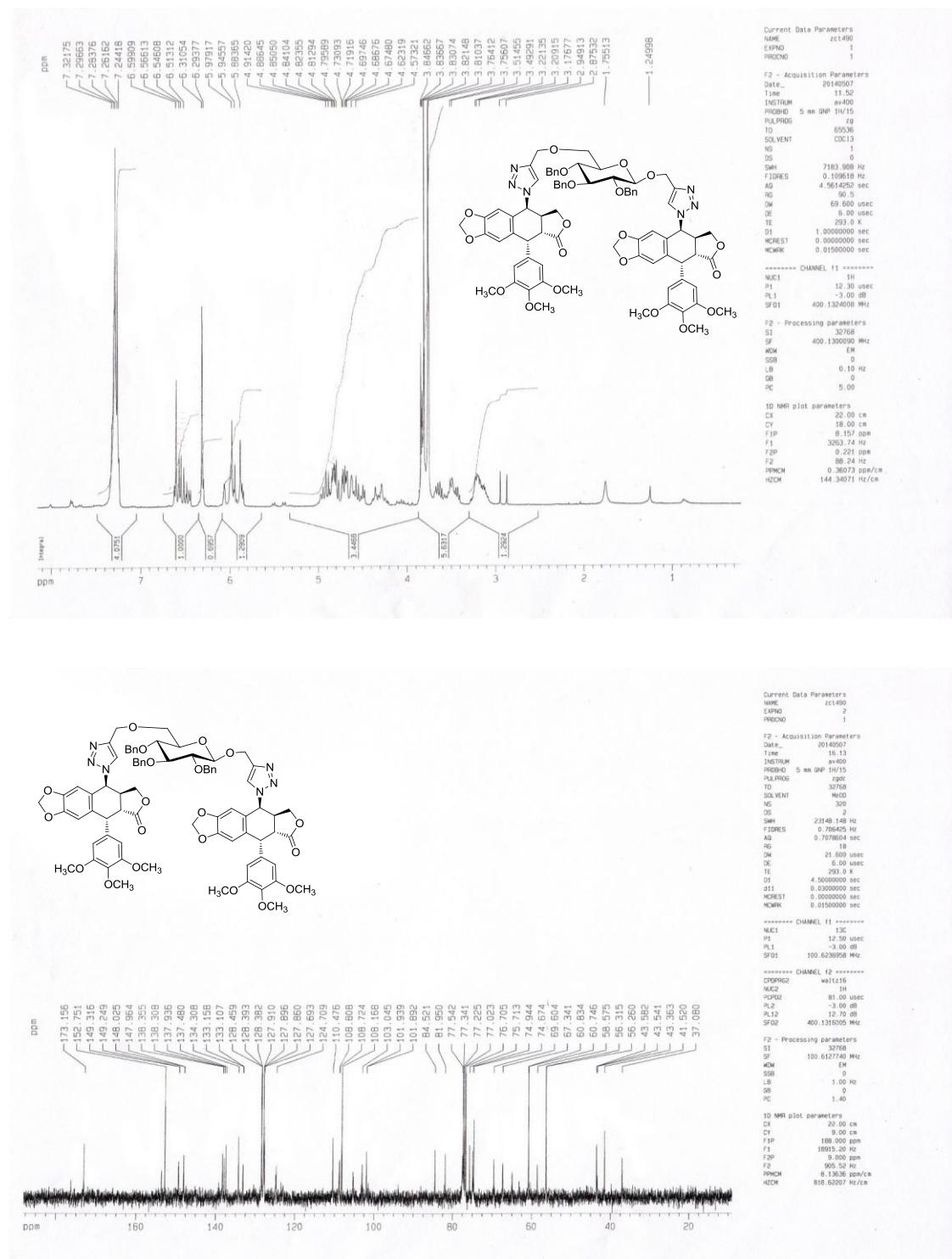
¹H-NMR and ¹³C-NMR of compound 31 (600 MHz, CDCl₃)



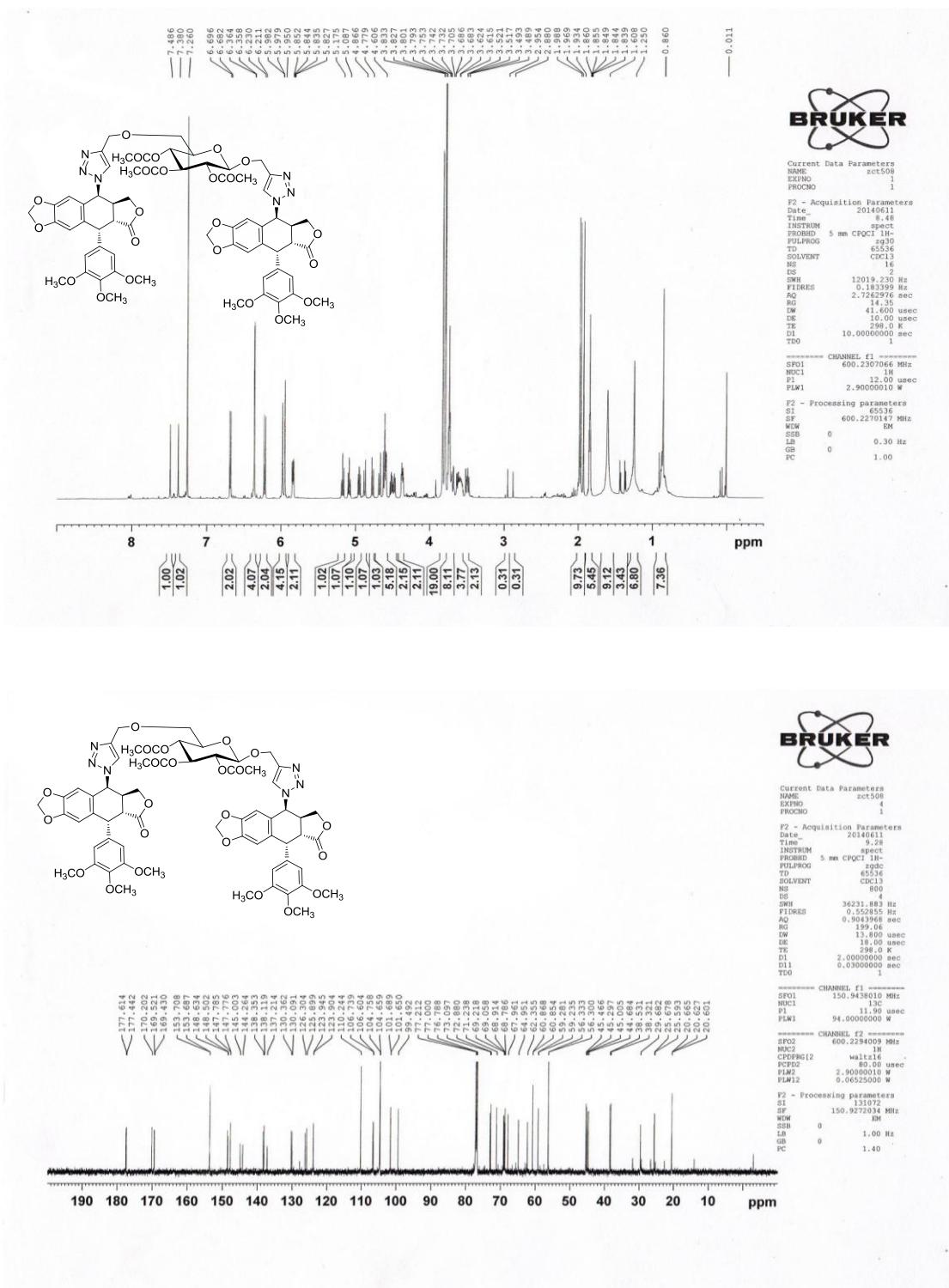
¹H-NMR and ¹³C-NMR of compound 32 (400 MHz, CDCl₃)

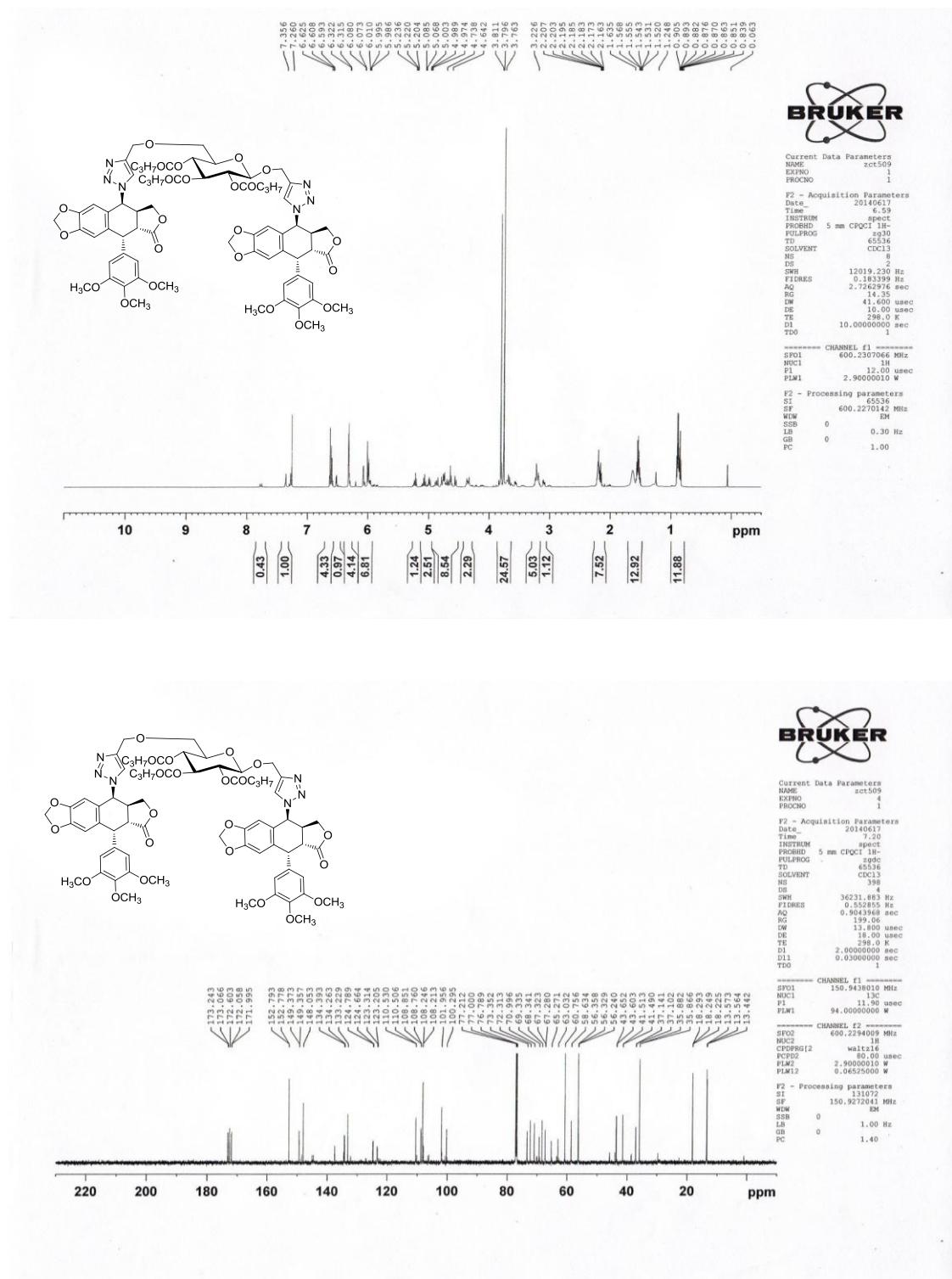


¹H-NMR and ¹³C-NMR of compound 33 (600 MHz, CDCl₃)

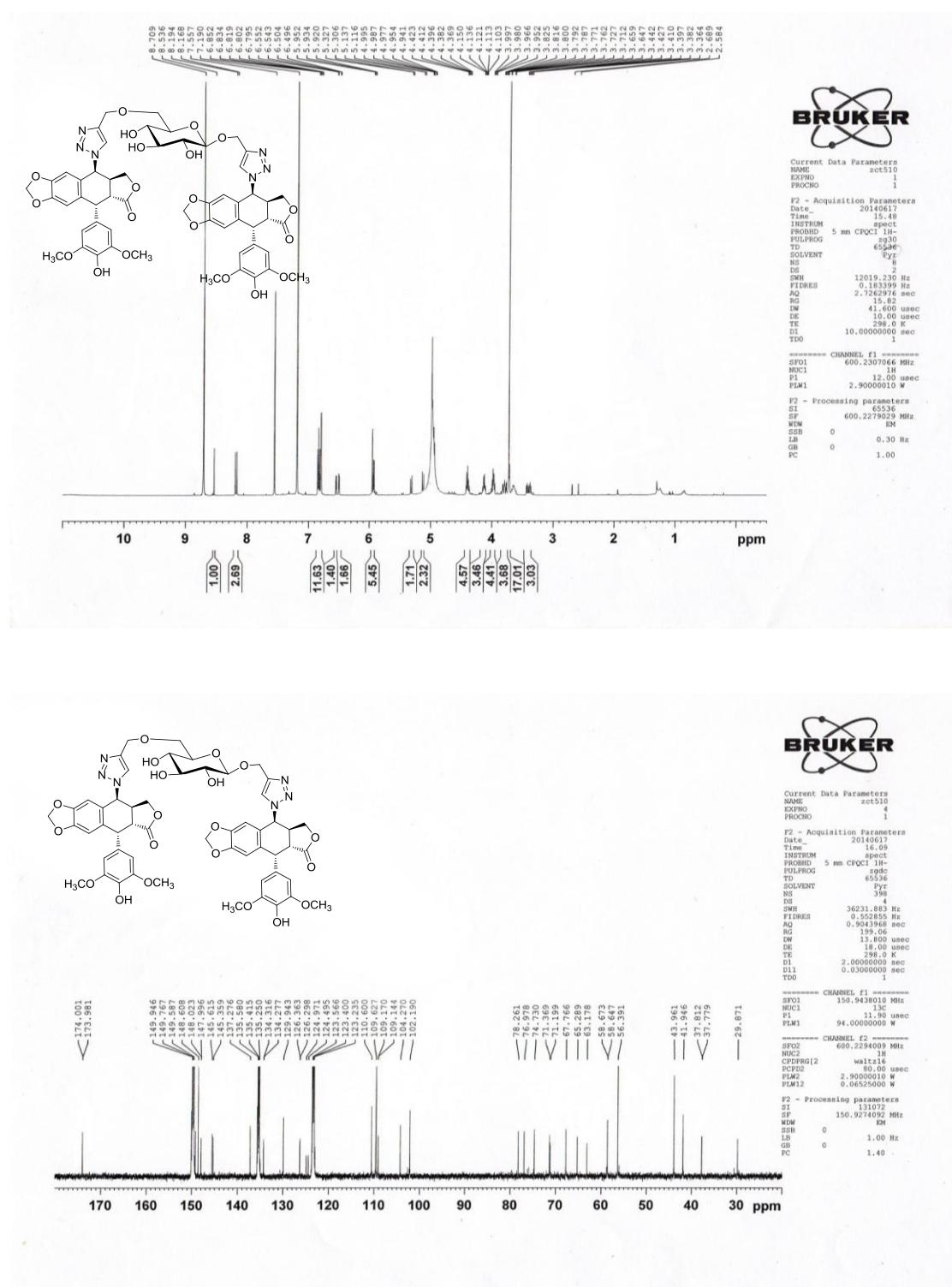


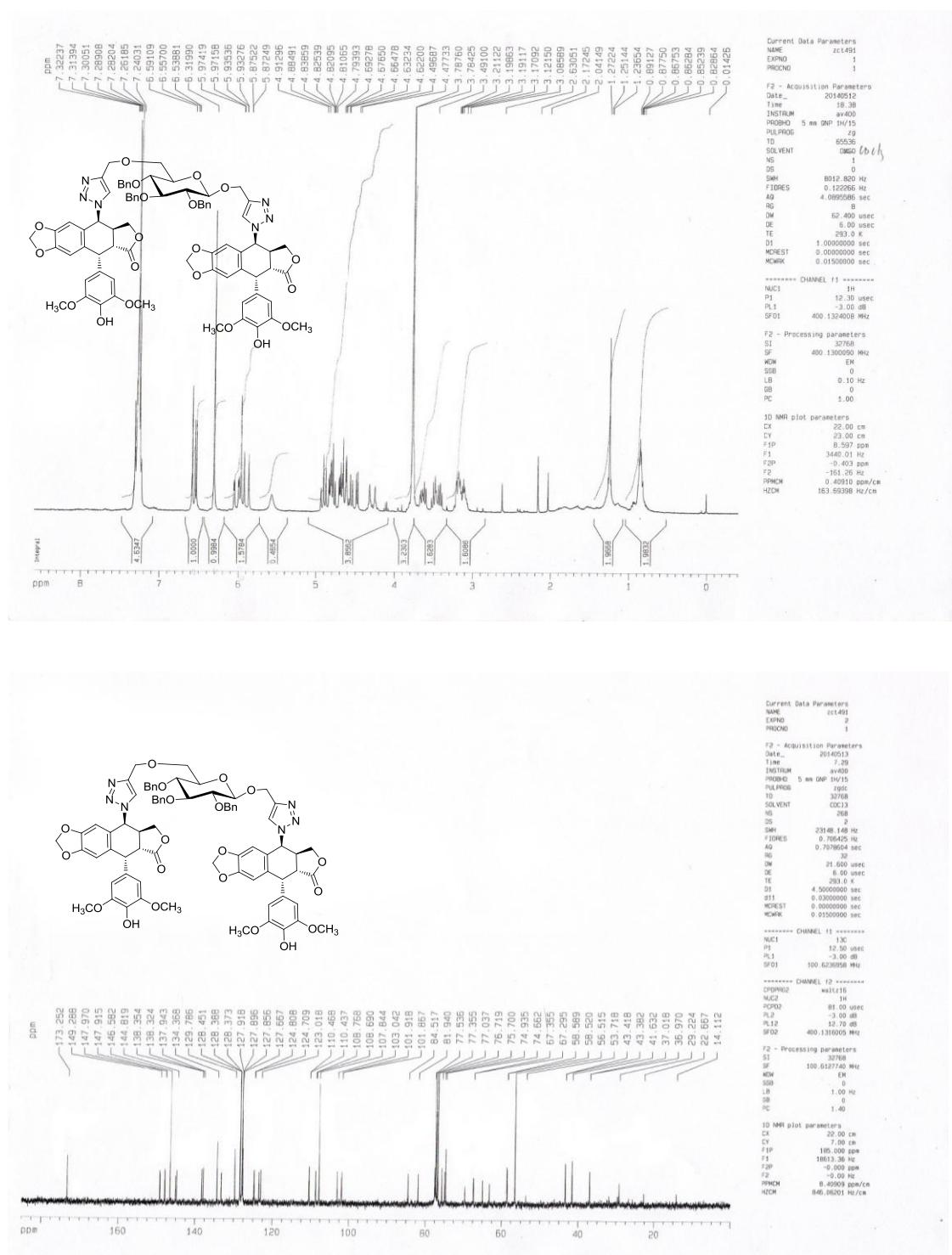
¹H-NMR and ¹³C-NMR of compound 34 (400 MHz, CDCl₃)



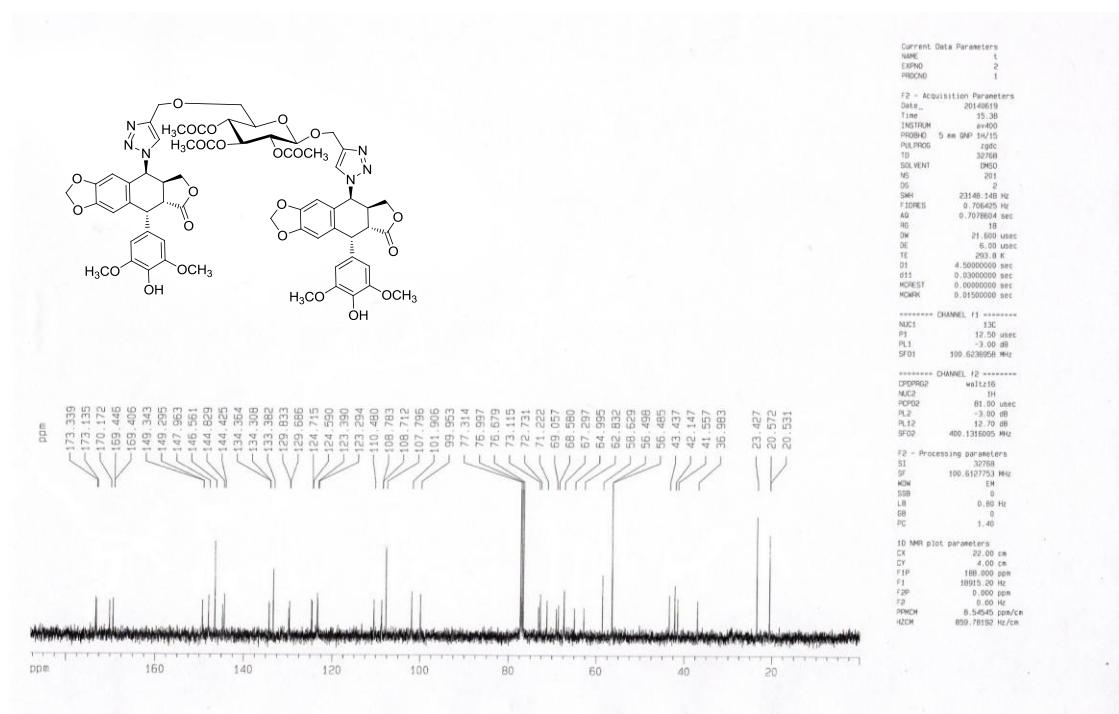
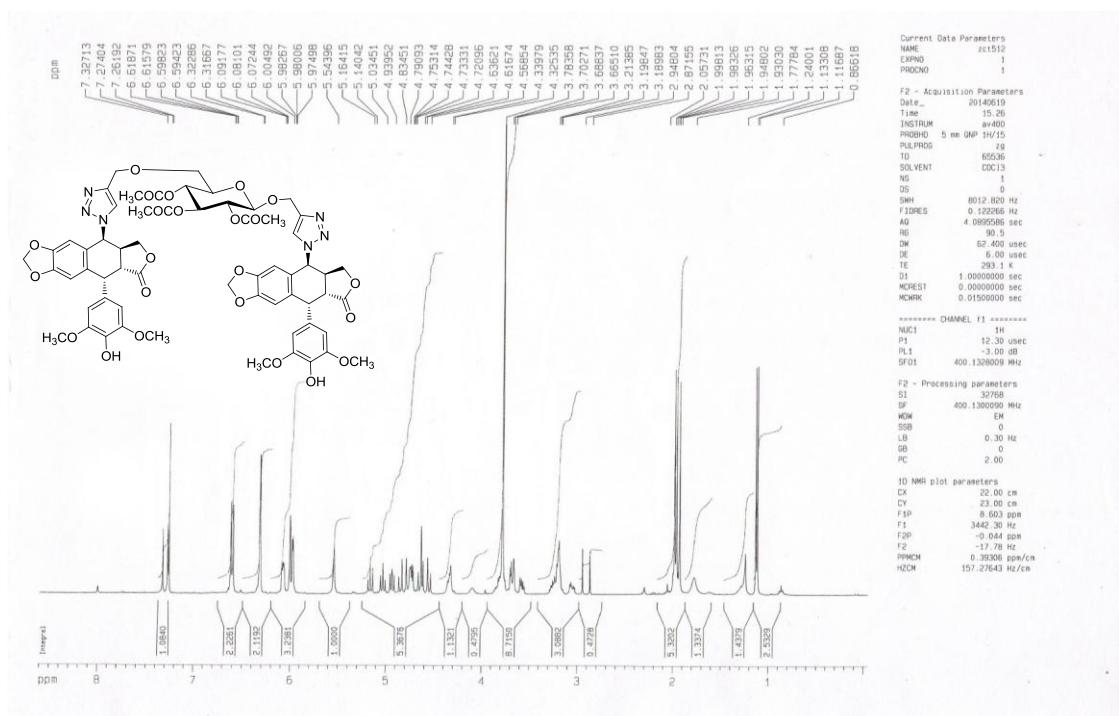


¹H-NMR and ¹³C-NMR of compound 36 (600 MHz, CDCl₃)

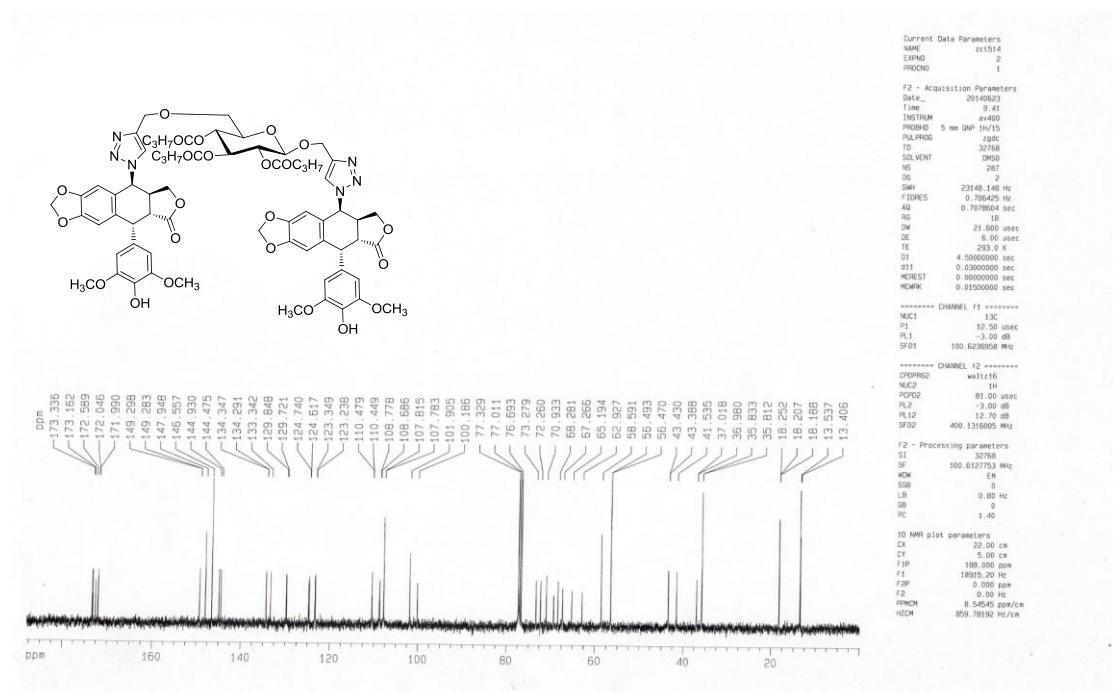
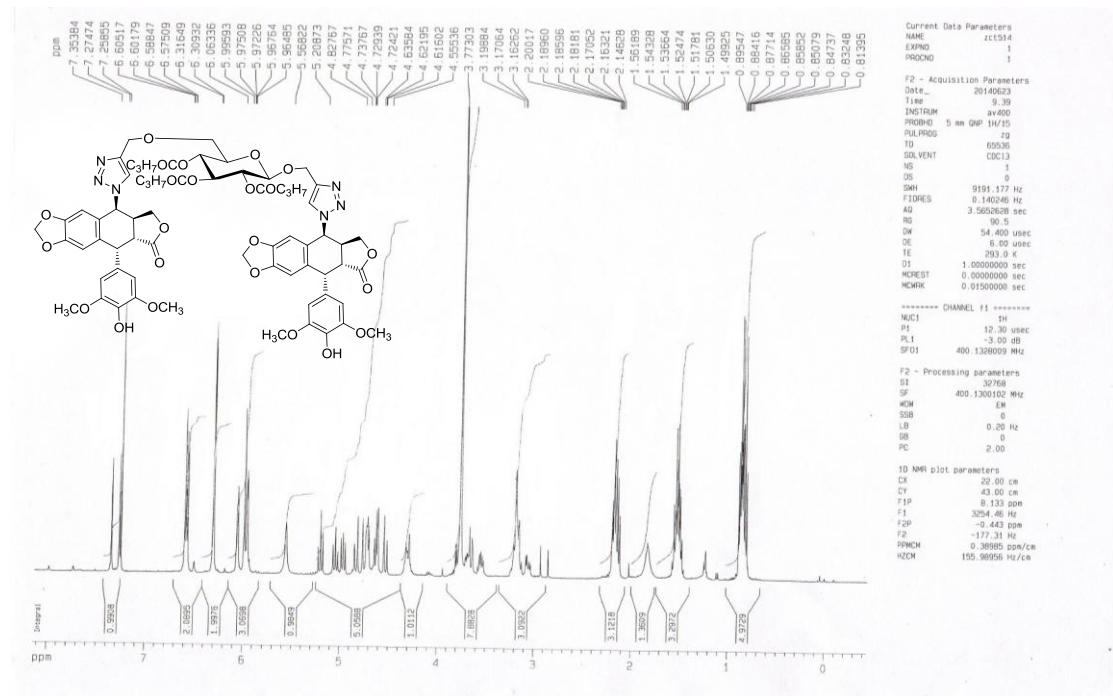




¹H-NMR and ¹³C-NMR of compound 38 (400 MHz, CDCl₃)



¹H-NMR and ¹³C-NMR of compound 39 (400 MHz, CDCl₃)



¹H-NMR and ¹³C-NMR of compound 40 (400 MHz, CDCl₃)