Supplementary Materials

Isolation and Structural Elucidation of Unreported Prenylhydroquinone Glycoside from *Sedum kamtschaticum* Leaves and Its Effect on Hyperphosphorylated Tau Production in Aβ$_{1–42}$-Treated SH-SY5Y Cells

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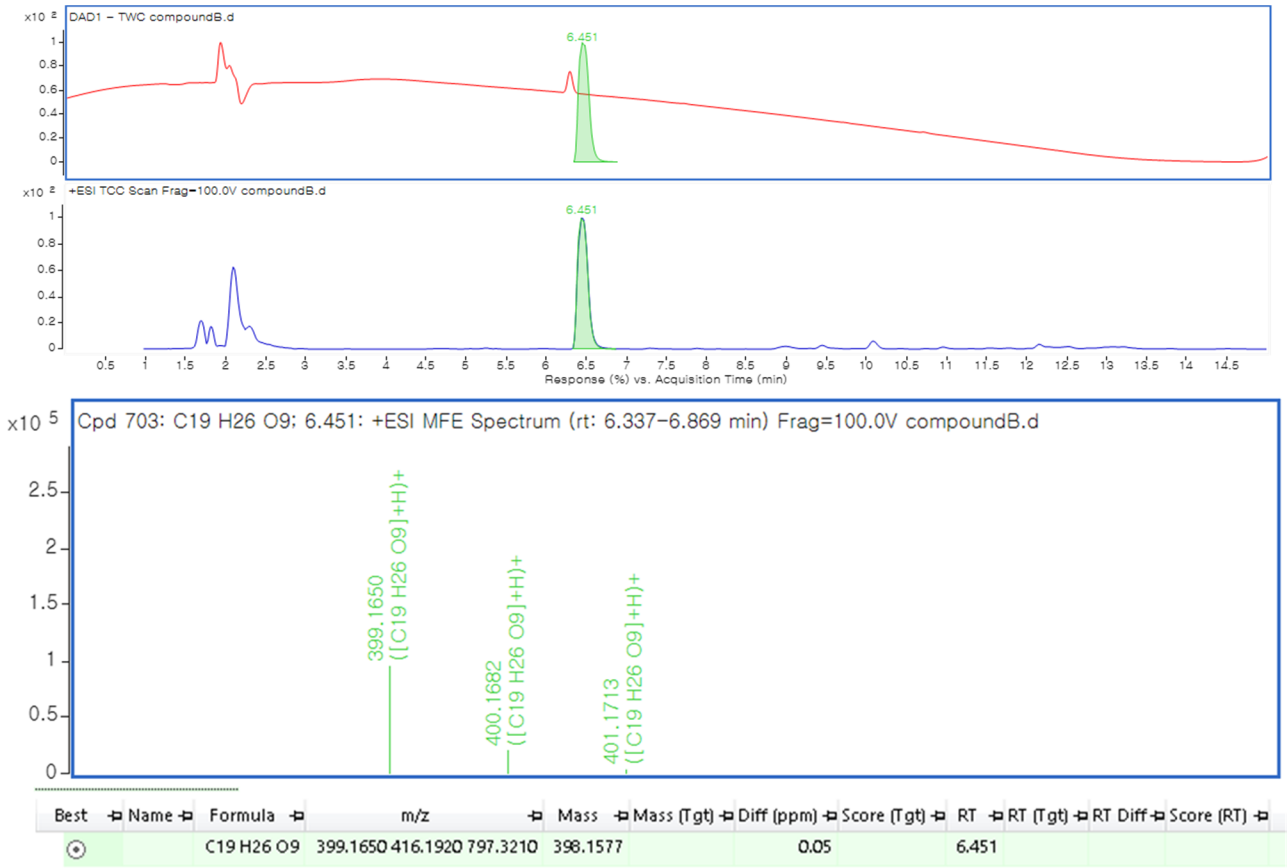
Supporting Information Contents:

Figure S1. The HR-ESIMS data of **1**



LC/MS equipment: Agilent 1290 Infinity II ultra-high performance liquid chromatograph coupled with a G6545B Q-TOF MS system with a dual ESI source (Agilent Technologies)
Column: Waters ACQUITY UPLC® BEH C18 column (150 × 2.1 mm, 1.7 μm; Waters, Milford, MA, USA); **Flow rate:** 0.3 mL/min
Elution gradient : Moblie phase A: H_2O with 0.1% formic acid / Moblie phase B: Acetonitrile; 10 % to 100 % mobile phase B from 0 to 10 min; 100 % mobile phase B from 10 to 12 min; 100 % to 10 % mobile phase B from 12 to 12.5 min; 10 % mobile phase B from 12.5 to 15 min.

Figure S2. The UV spectrum of **1** (0.02 M in MeOH; the UV wavelength range of 210–400 nm was used)

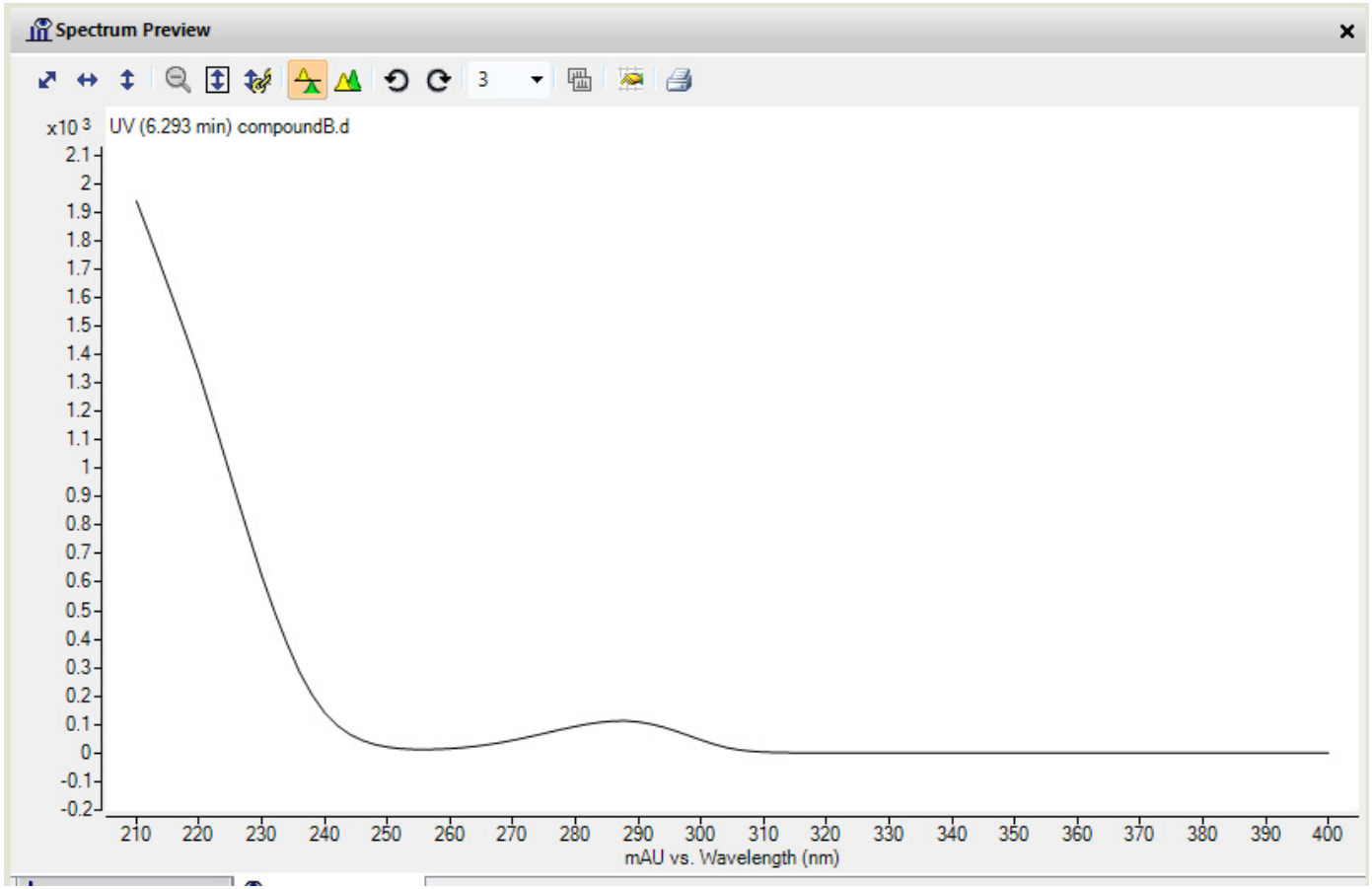


Figure S3. The IR spectrum of **1** (FTIR ranges from 500 to 4000 cm^{-1} by using single reflection ATR)

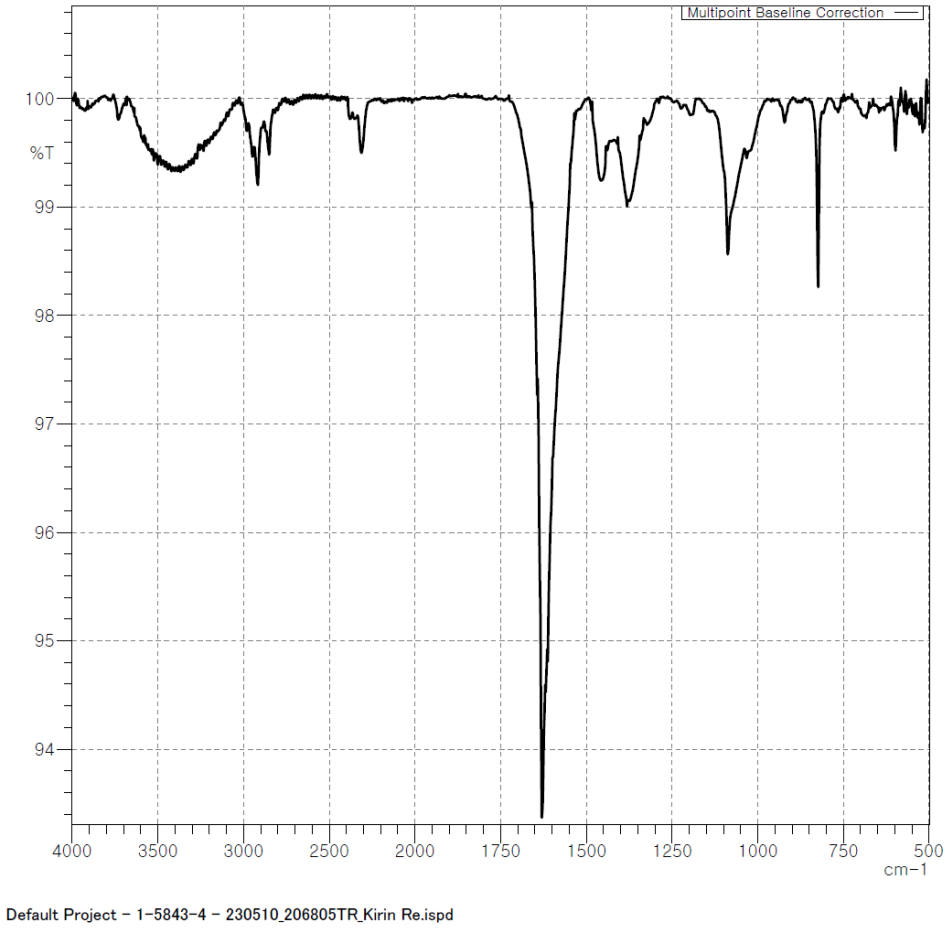


Figure S4. The ^{1}H NMR spectrum of **1** (D_2O, 600 MHz)

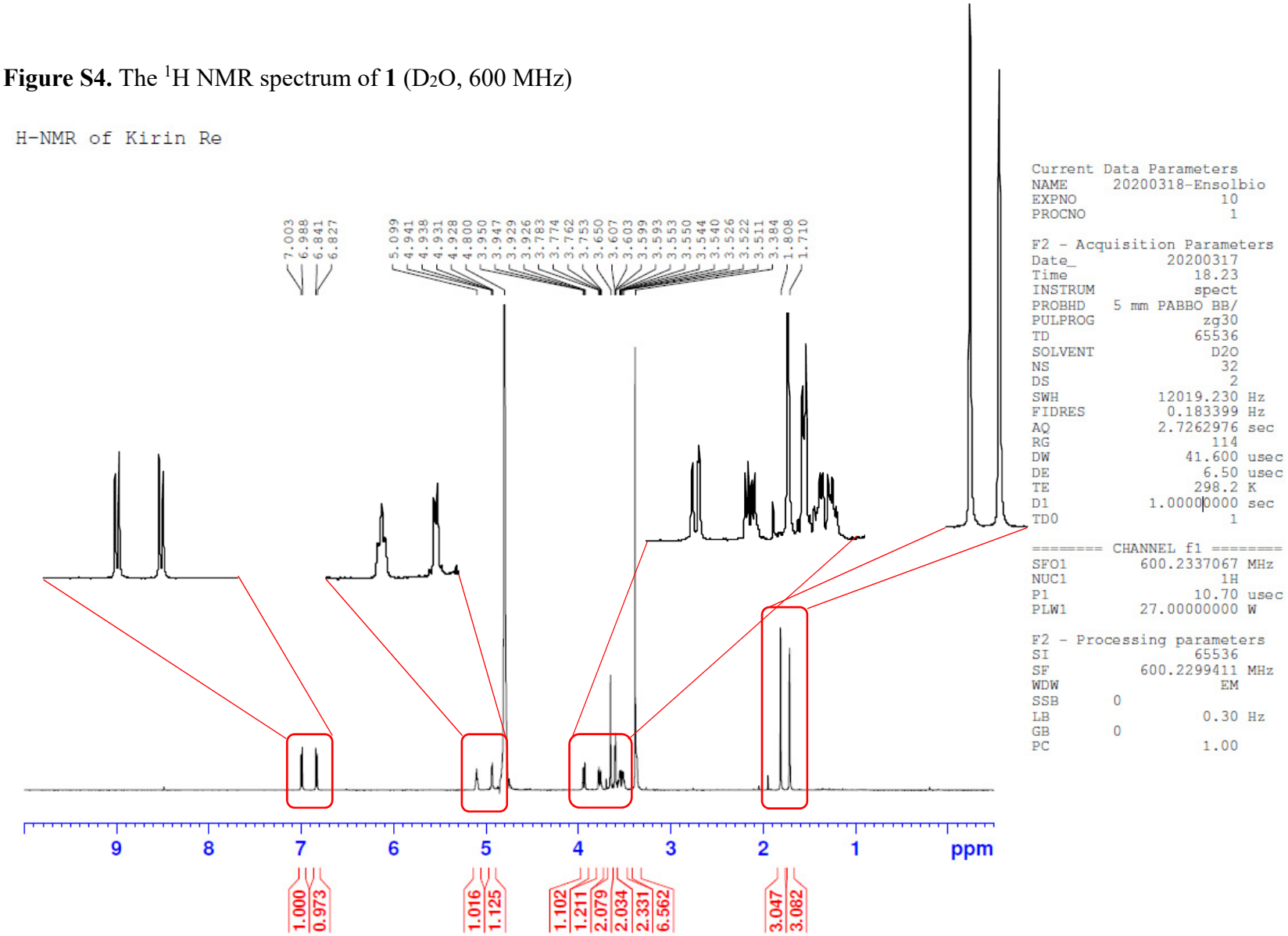


Figure S5. The ^{13}C NMR spectrum of **1** (D_2O, 150 MHz)

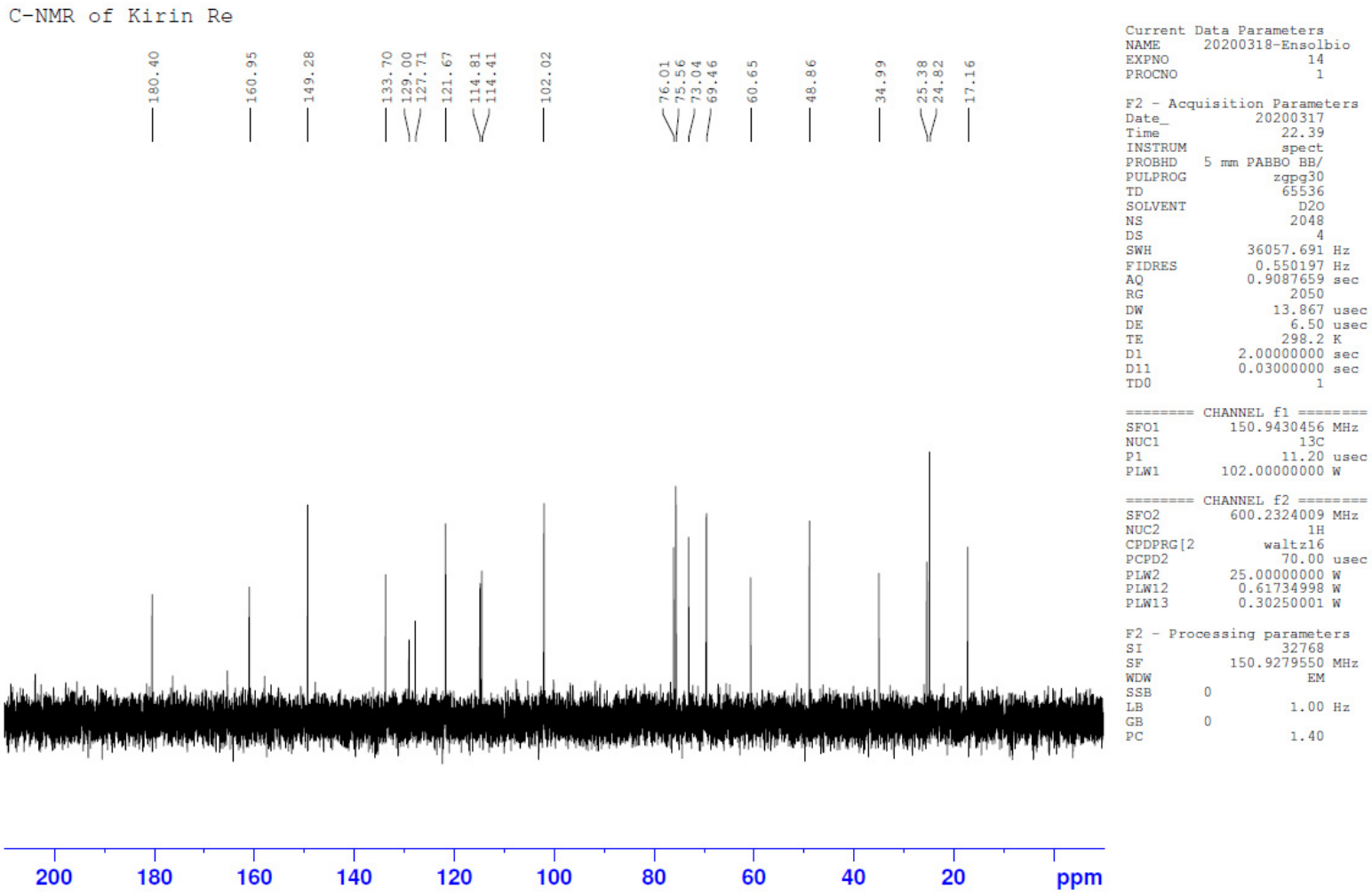
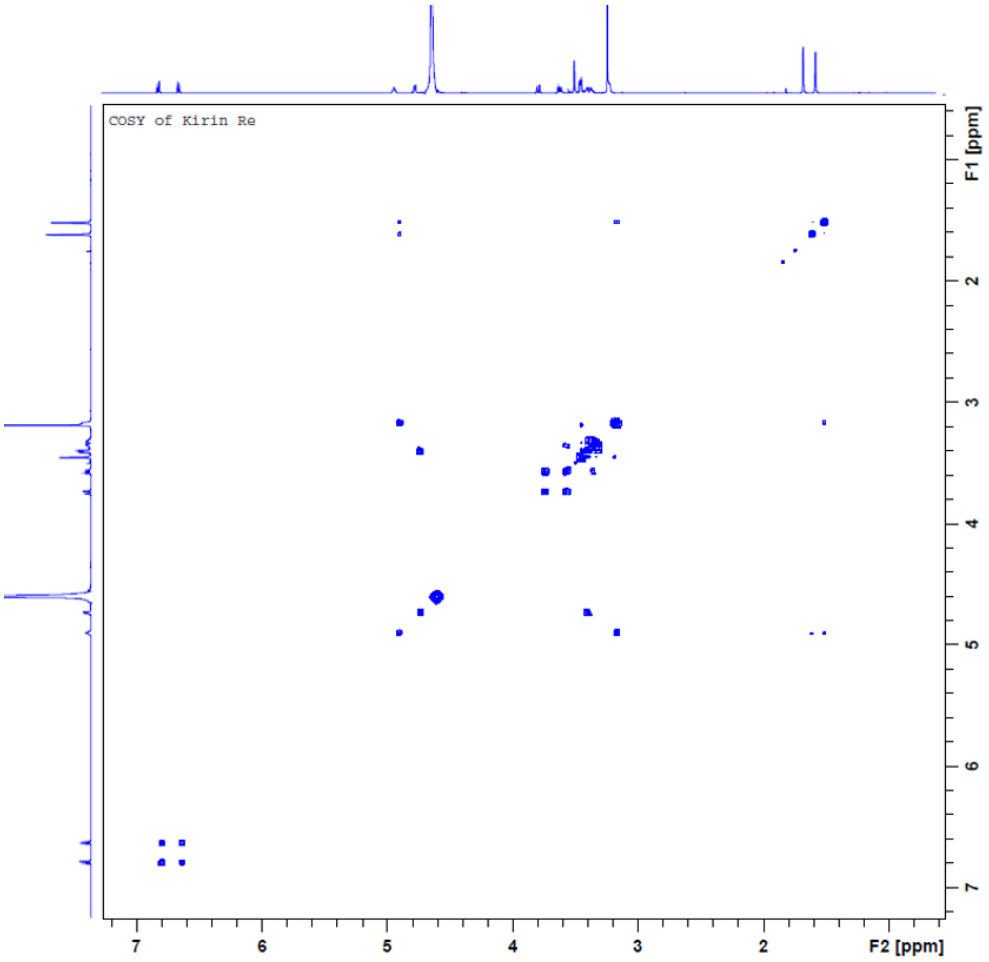


Figure S6. The ^{1}H-^{1}H COSY spectrum of **1** (D_2O)



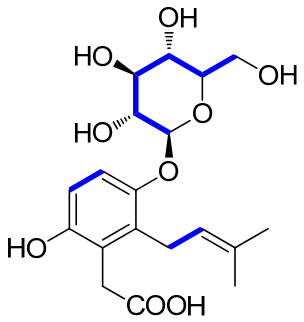
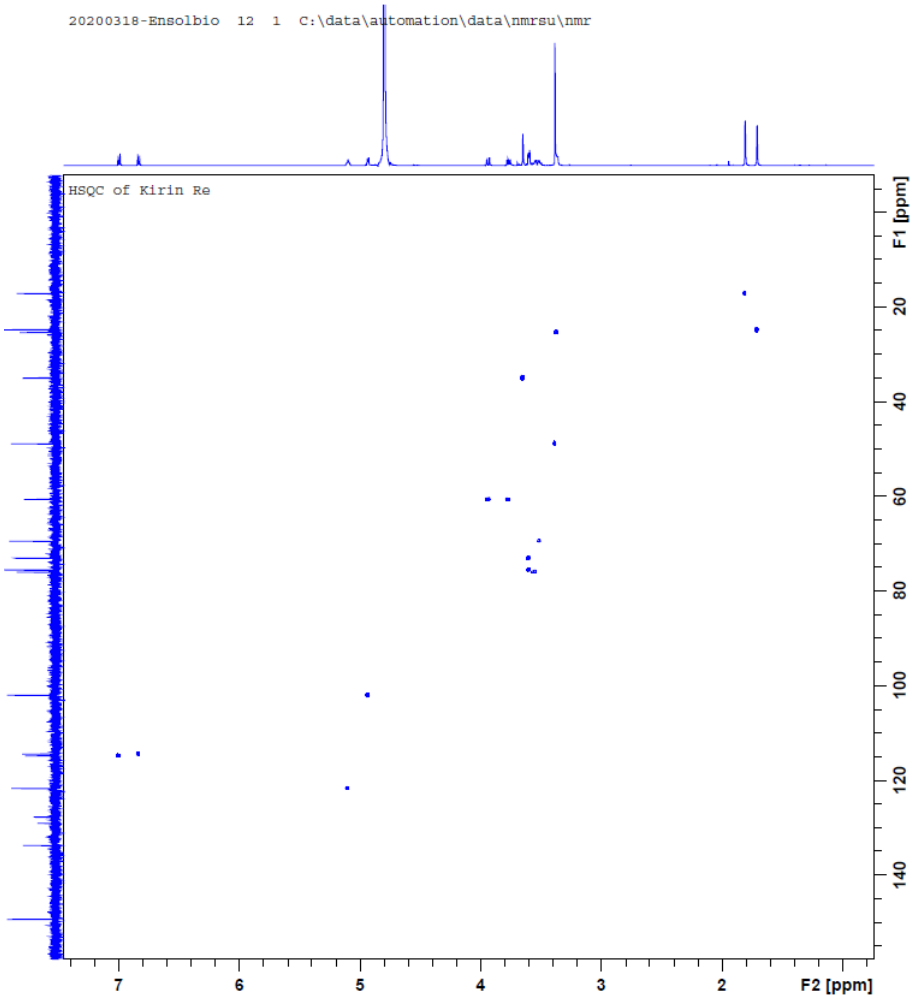
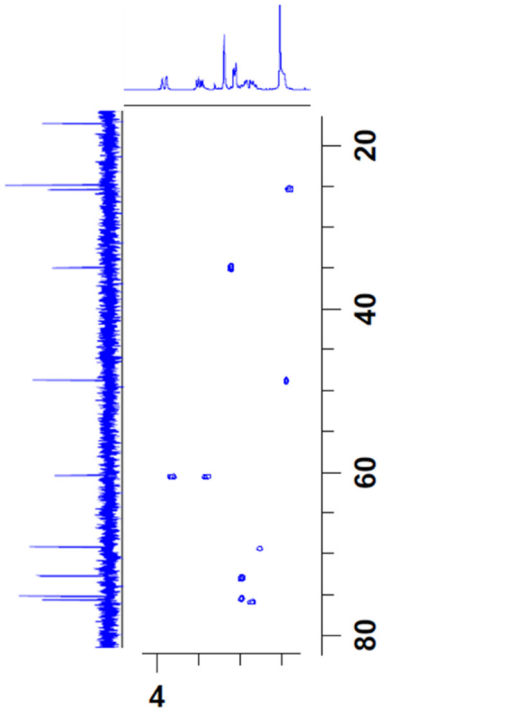


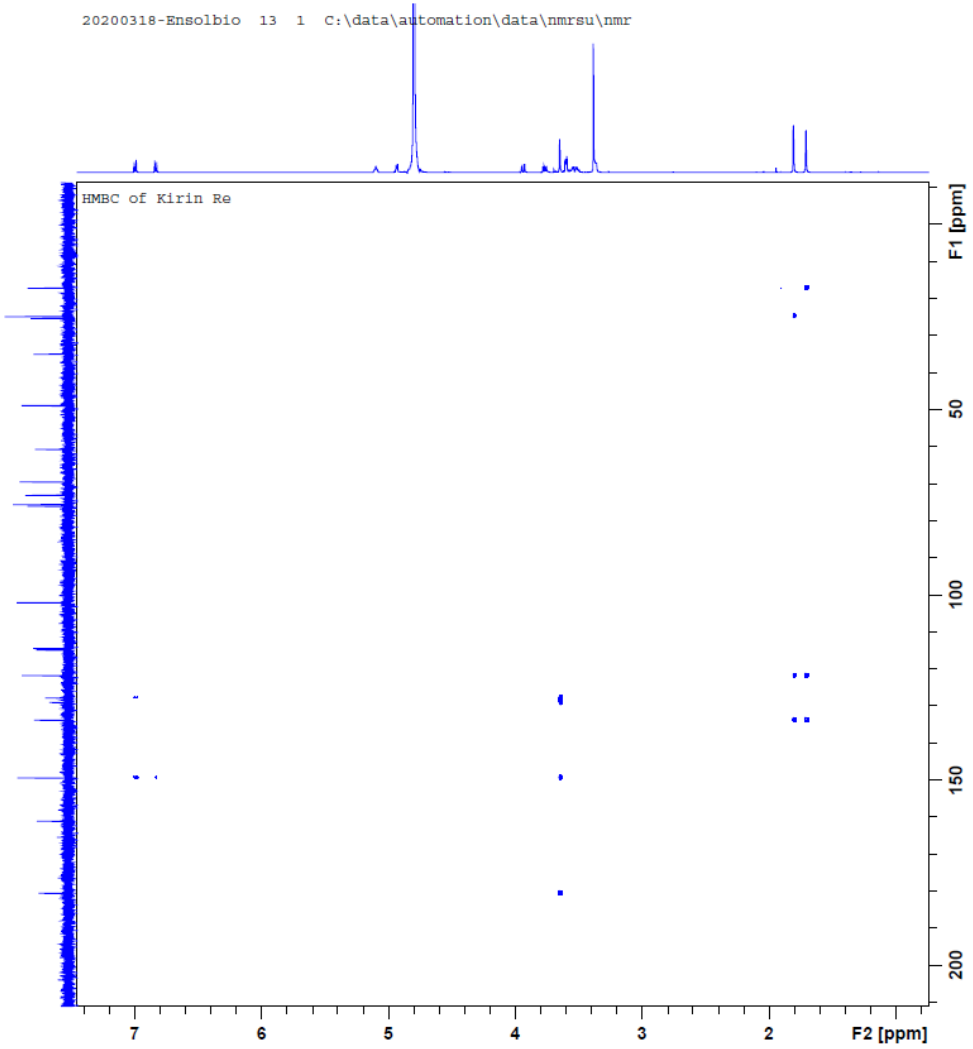
Figure S7. The HSQC spectrum of **1** (D_2O)

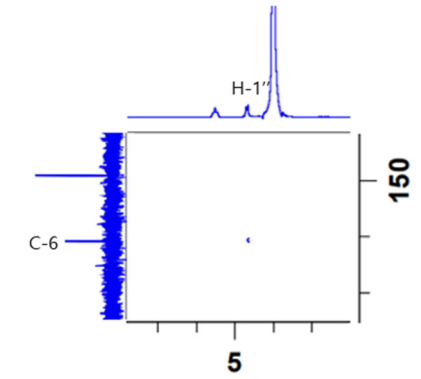




Expanded HSQC at the region of 3.0 – 4.0 ppm

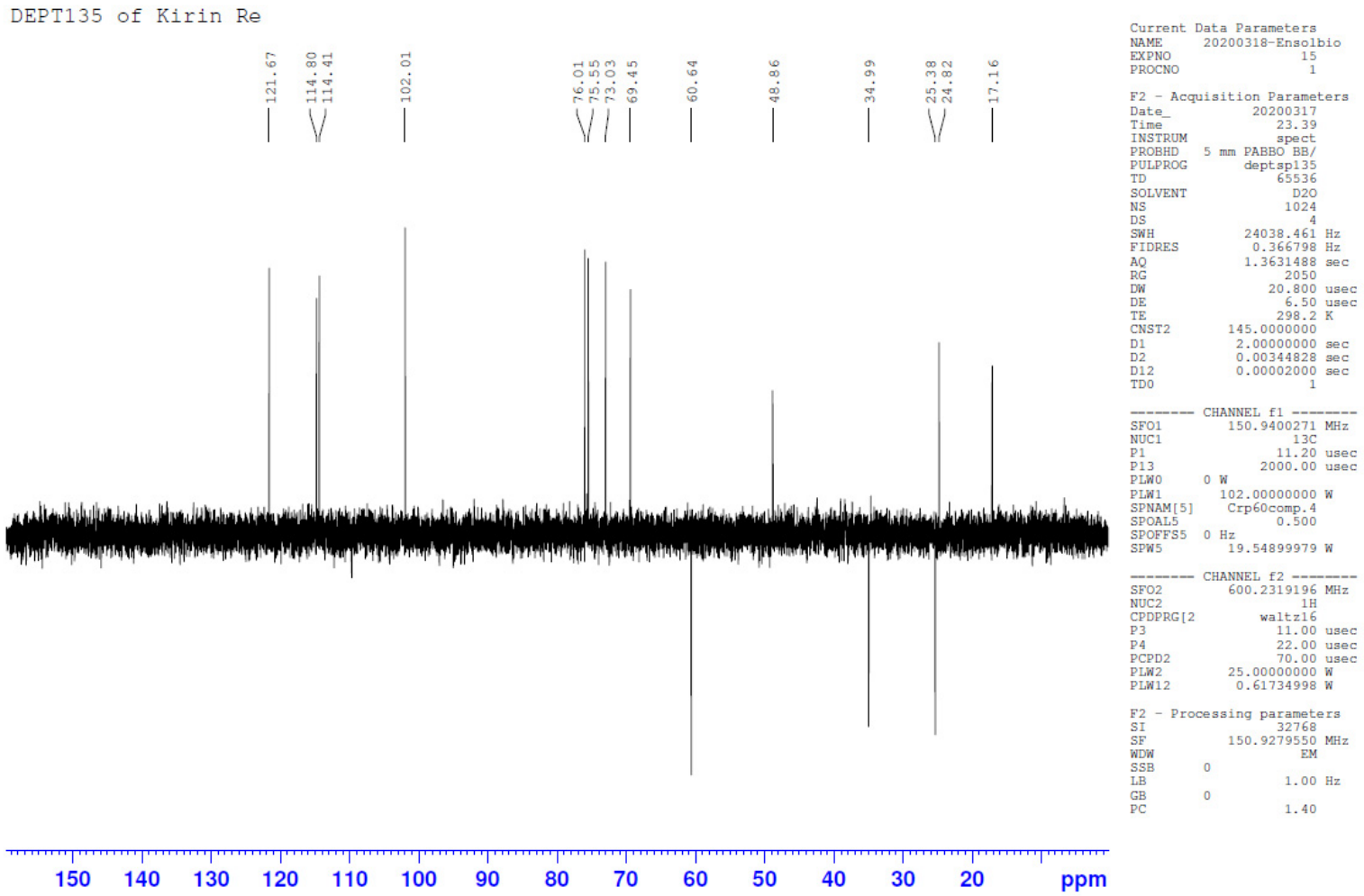
Figure S8. The HMBC spectrum of **1** (D_2O)





Expanded HMBC at the region of 4.5 – 5.5 ppm

Figure S9. The DEPT135 spectrum of **1** (D_2O)

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PROCNO                   1

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PULPROG          deptsp135
TD                   65536
SOLVENT                D2O
NS                    1024
DS                       4
SWH              24038.461 Hz
FIDRES           0.366798 Hz
AQ               1.3631488 sec
RG                    2050
DW                  20.800 usec
DE                   6.50 usec
TE                  298.2 K
CNST2          145.0000000
D1              2.00000000 sec
D2              0.00344828 sec
D12             0.00002000 sec
TD0                      1

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NUC1                    13C
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P13                2000.00 usec
PLW0       0 W
PLW1        102.00000000 W
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SPOFFS5    0 Hz
SPW5           19.54899979 W

======== CHANNEL f2 ========
SFO2           600.2319196 MHz
NUC2                    1H
CPDPRG[2           waltz16
P3                   11.00 usec
P4                   22.00 usec
PCPD2                70.00 usec
PLW2           25.00000000 W
PLW12           0.61734998 W

F2 - Processing parameters
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WDW                     EM
SSB        0
LB                    1.00 Hz
GB         0
PC                    1.40
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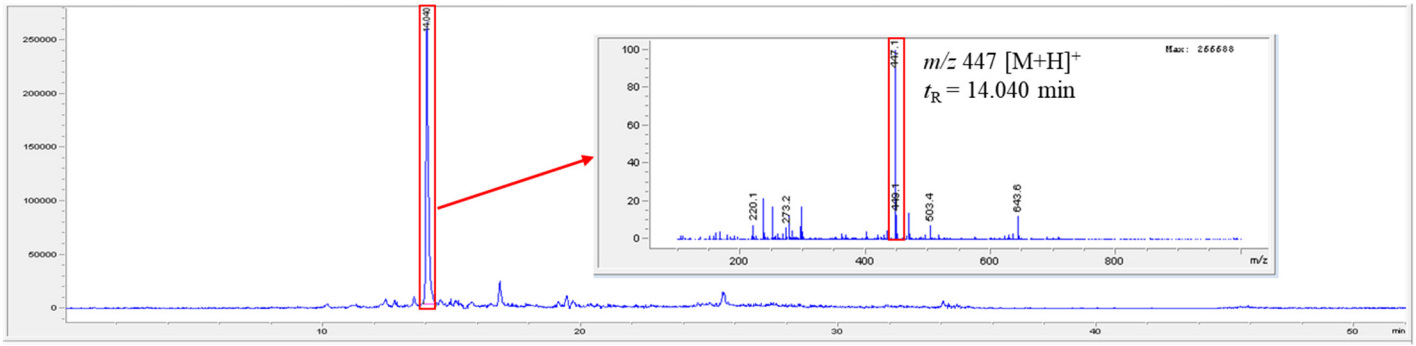
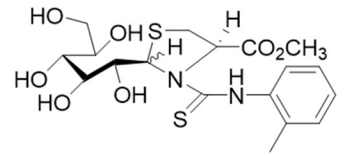
Figure S10. LC/MS analysis for absolute configuration determination of the sugar moiety of compound **1**

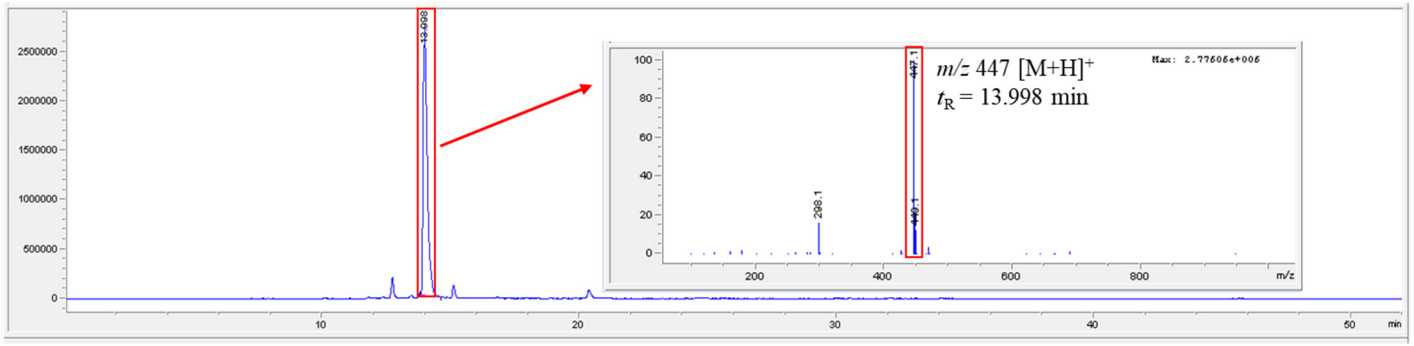
(A) EIC (Exact Ion Chromatogram) data (positive-ion mode) for thiocarbamoyl-thiazolidine derivative of sugar from compound **1**





Chemical Formula: $C_{18}H_{26}N_2O_7S_2$
Exact Mass: 446.12

(B) EIC data (positive-ion mode) for thiocarbamoyl-thiazolidine derivative of β-D-glucose (standard sample)



LC/MS equipment: Agilent 1200 Series HPLC system equipped with a diode array detector and 6130 Series ESI mass spectrometer
Column: analytical Kinetex C18 100 Å column (100 × 2.1 mm, 5 μm; Phenomenex, Torrance, CA, USA).
Flow rate: 0.3 mL/min
Elution gradient : Moblie phase A: H_2O with 0.1% formic acid / Moblie phase B: Methanol; 0 % to 80 % mobile phase B from 0 to 30 min; 80 % to 100% mobile phase B from 30 to 31 min; l00 % mobile phase B from 31 to 41 min; 100 % to 0 % mobile phase B from 41 to 42 min; 0 % mobile phase B from 42 to 52 min.