# Supplementary Materials: Biotransformation of Ergostane Triterpenoid Antcin K from *Antrodia cinnamomea* by Soil-Isolated *Psychrobacillus* sp. AK 1817

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**Table S1.** NMR spectroscopic data for compound (**1**)/(**2**) (in pyridine-d5; 700MHz).

| Position | $\delta_C$, | type | $\delta_H$ (*J* in Hz) | HMBC |
|---|---|---|---|---|
| 1 | 36.7, | $CH_2$ | 3.30, m ; 1.60, m; | H-2, H-19 |
| 2 | 34.4, | $CH_2$ | 3.06, m ; 2.52, m; | H-1 |
| 3 | 214.2, | C | | H-1, H-2, H-29 |
| 4 | 76.3, | C | | H-6, H-29 |
| 5 | 50.6, | CH | 1.79, dd (13.3, 2.4) | H-1, H-6, H-19, H-29 |
| 6 | 30.5, | $CH_2$ | 2.52, m ; 2.67, m | H-5 |
| 7 | 70.3, | CH | 4.66, t (8.4) | H-5, H-6 |
| 8 | 155.5, | C | | H-6, H-14 |
| 9 | 141.8, | C | | H-12, H-14, H-19 |
| 10 | 37.7, | C | | H-1, H-5, H-6 |
| 11 | 201.2, | C | | H-12 |
| 12 | 58.5 | $CH_2$ | 3.00, d (14.0); 2.48, d (14.0); | H-18 |
| 13 | 47.7 | C | | H-12, H-14, H-15, H-18 |
| 14 | 53.6 | CH | 2.79, dd (12.9, 7.0) | H-12, H-15, H-18 |
| 15 | 25.6 | $CH_2$ | 2.57, m ; 2.16, m | H-14 |
| 16 | 28.3 | $CH_2$ | 1.92, m ; 1.35, m | H-17 |
| 17 | 54.8 | CH | 1.41, m | H-16, H-21 |
| 18 | 12.5 | $CH_3$ | 0.87, s | H-12, H-14 |
| 19 | 20.7 | $CH_3$ | 1.91, s | H-1, H-5 |
| 20 | 36.2 | CH | 1.40, m | H-17, H-21 |
| 21 | 18.7 | $CH_3$ | 0.89,d (5.6) | |
| 22 | 34.5 | $CH_2$ | 1.78, m ; 1.29, m | H-21 |
| 23 | 31.7 | $CH_2$ | 2.42, m ; 2.23, m | H-25, H-28 |
| 24 | 150.2 | C | | H-25, H-27 |
| 25 | 47.2 | CH | 3.48, dd (14.1, 7.1) | H-27, H-28 |
| 26 | 177.4, | C | | H-25, H-27 |
| 27 | 17.3 | $CH_3$ | 1.51, d (7.1) | H-25 |
| 28 | 110.1 | $CH_2$ | 5.24, s ; 5.07, s | H-25 |
| 29 | 24.3 | $CH_3$ | 1.54, s | H-5 |

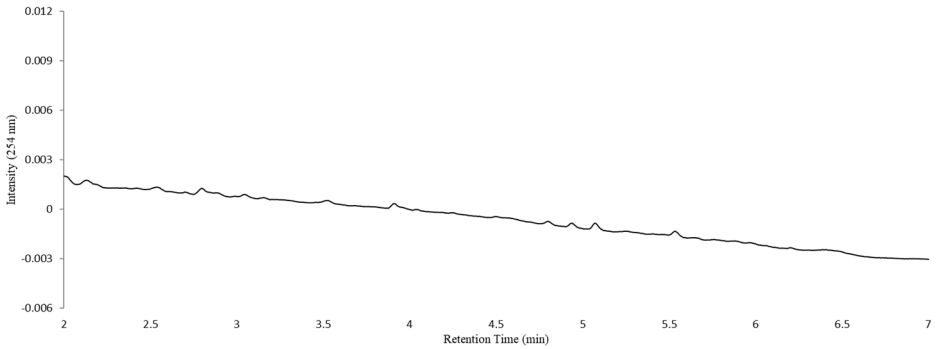


**Figure S1.** UPLC analysis of fermentation broth of the AK 1817 strain. The strain was cultivated in LB media without antcin K. The fermentation broth with cultivation of 72-h was analyzed by UPLC. The UPLC operation conditions were descripted in Materials and Methods.

**TGAGGGAGGTGCTATACATGCAGTCGAGCGAATGATGAAGAAGCTTGCTTCTTC**
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**GGGTGATCGGCCACACTGGGACTGAGACACGGCCCAGACTCCTACGGGAGGCA**
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**GTGAAGAAGGTTTTCGGATCGTAAAACTCTGTTGTGAGGGAAGAACAAGTACGA**
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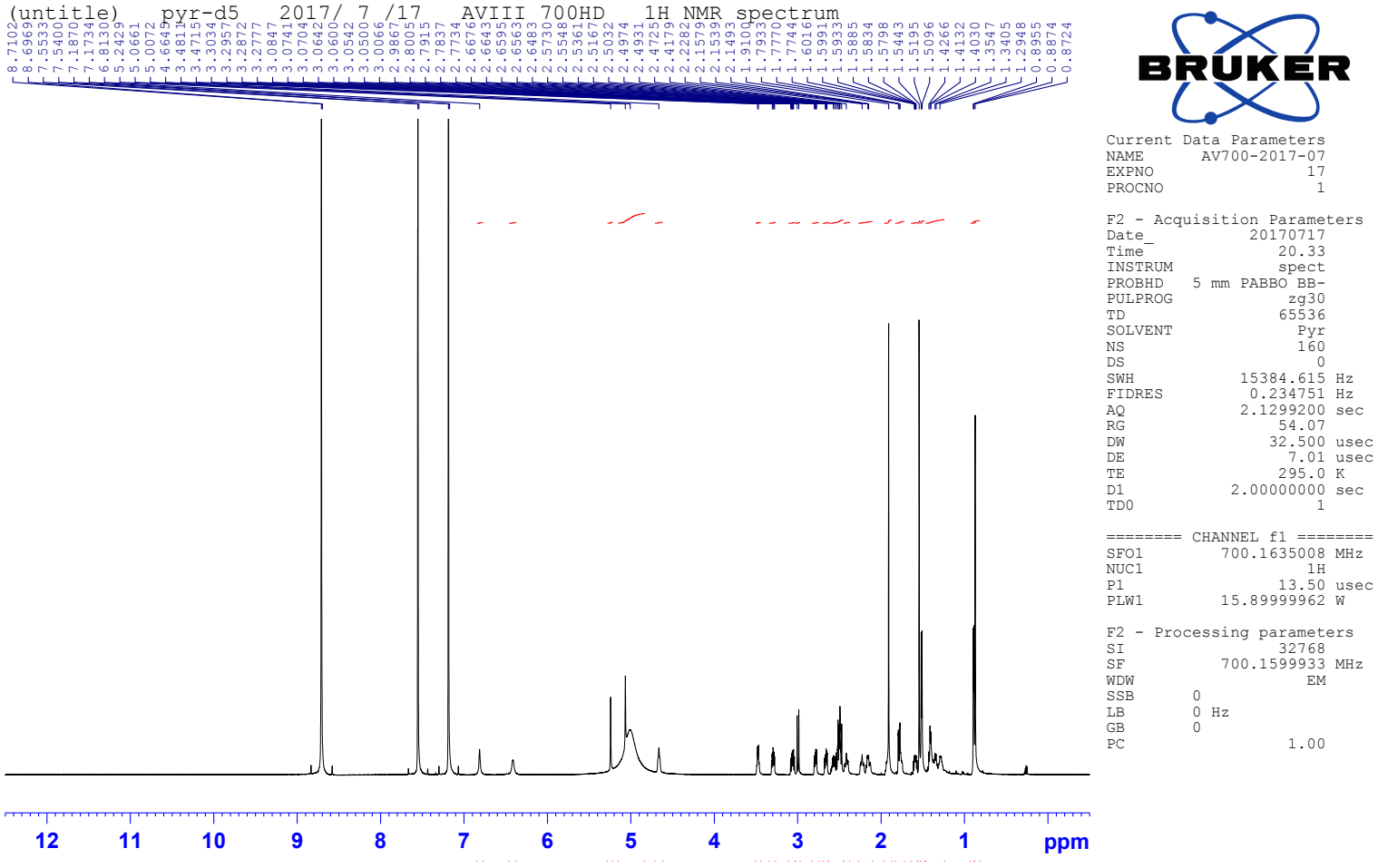
**GCCAGCAGCCGCGGTAATACGTAGGTGGCAAGCGTTGTCCGGAATTATTGGGCG**
**TAAAGCGCGCGCAGGCGGTCCTTTAAGTCTGATGTGAAAGCCCACGGCTCAACC**
**GTGGAGGGTCATTGGAAACTGGGGGACTTGAGTGCAGAAGAGGAAAGCGGAAT**
**TCCAAGTGTAGCGGTGAAATGCGTAGAGATTTGGAGGAACACCAGTGGCGAAG**
**GCGGCTTTCTGGTCTGTAACTGACGCTGAGGCGCGAAAGCGTGGGGAGCAAACA**
**GGATTAGATACCCTGGTAGTCCACGCCGTAAACGATGAGTGCTAAGTGTTAGGG**
**GGTTTCCGCCCCTTAGTGCTGCAGCTAACGCATTAAGCACTCCGCCTGGGGgAGT**
**ACGGTCGCAAGACTGAAACTCAAAGGAATTGACGGGGCCCGCACAAGCGGTGG**
**AGCATGTGGTTTAATTCGAAGCAACGCGAAGAACCTTACCAGGTCTTGACATCCC**
**GCTGACCGGCCTAGAGATAGGCTTTTCCCTTCGGGGACAGCGGTGACAGGTGGT**
**GCATGGTTGTCGTCAGCTCGTGTCGTGAGATGTTGGGTTAAGTCCCGCAACGAG**
**CGCAACCCTTGATCTTAGTTGCCAGCATTCAGTTGGGCACTCTAAGGTGACTGCC**
**GGTGATAAACCGGAGGAAGGTGGGGATGACGTCAAATCATCATGCCCCTTATGA**
**CCTGGGCTACACACGTGCTACAATGGACGGTACAGAGGGTCGCAACCCCGCGAG**
**GGTGAGCTAATCCCATAAAACCGTTCTCAGTTCGGATTGTAGGCTGCAACTCGCC**
**TACATGAAGCCGGAATCGCTAGTAATCGTGATCAGCATGCCACGTATTAACCA**

**Figure S2.** The partial 16S rRNA gene sequence of theAK 1817 strain. The partial 16S rRNA gene was amplified and sequenced by PCR with the bacteria specific 27F (5′-AGAGTTTGATCCTGGCTCAG-3′) and 1391R (5′-GACGGGCRGTGWGTRCA-3′) primer set. The PCR operation conditions were descripted in Materials and Methods.

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PROCNO                1

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TD                65536
SOLVENT             Pyr
NS                  160
DS                    0
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FIDRES         0.234751 Hz
AQ            2.1299200 sec
RG                54.07
DW               32.500 usec
DE                7.01 usec
TE               295.0 K
D1           2.00000000 sec
TD0                   1

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NUC1                   1H
P1                 13.50 usec
PLW1        15.89999962 W

F2 - Processing parameters
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WDW                   EM
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LB        0 Hz
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**Figure S3.** The $^{1}$H-NMR (700 MHz, Pyridine-d5) spectrum of compound (**2**).

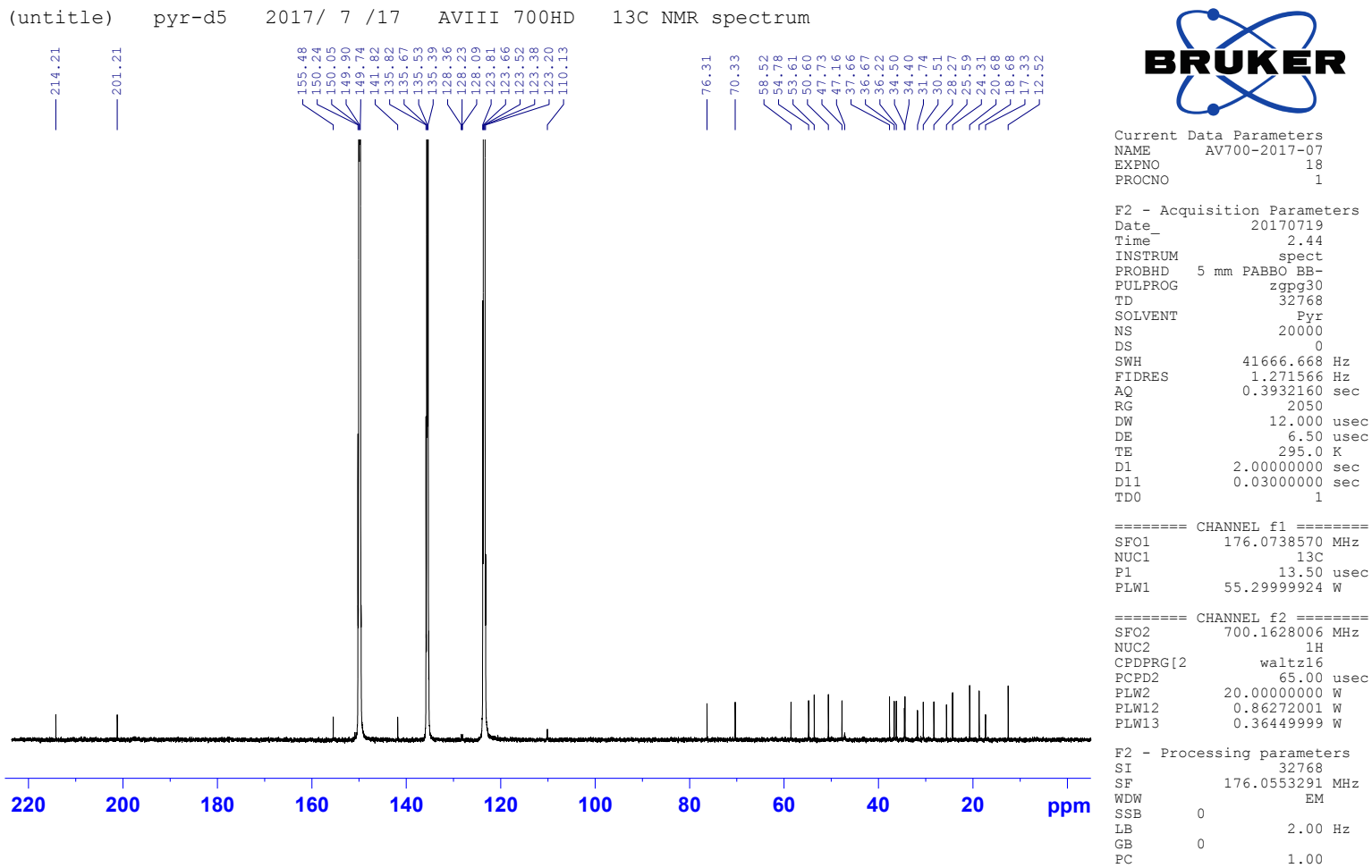


**Figure S4.** The $^{13}$C-NMR (700 MHz, Pyridine-d5) spectrum of compound (**2**).

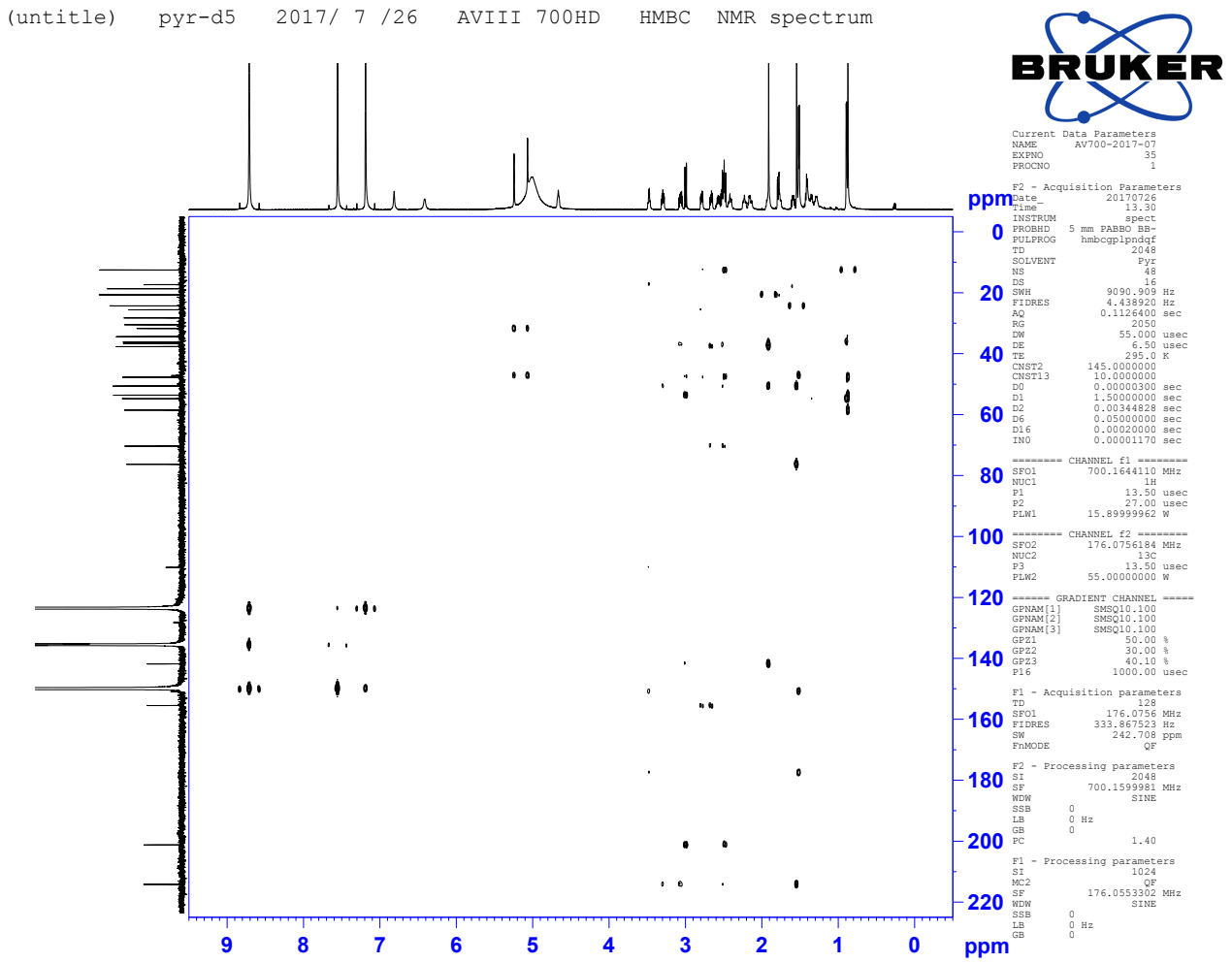


**Figure S5.** The HMBC (700 MHz, Pyridine-d5) spectrum of compound (**2**).

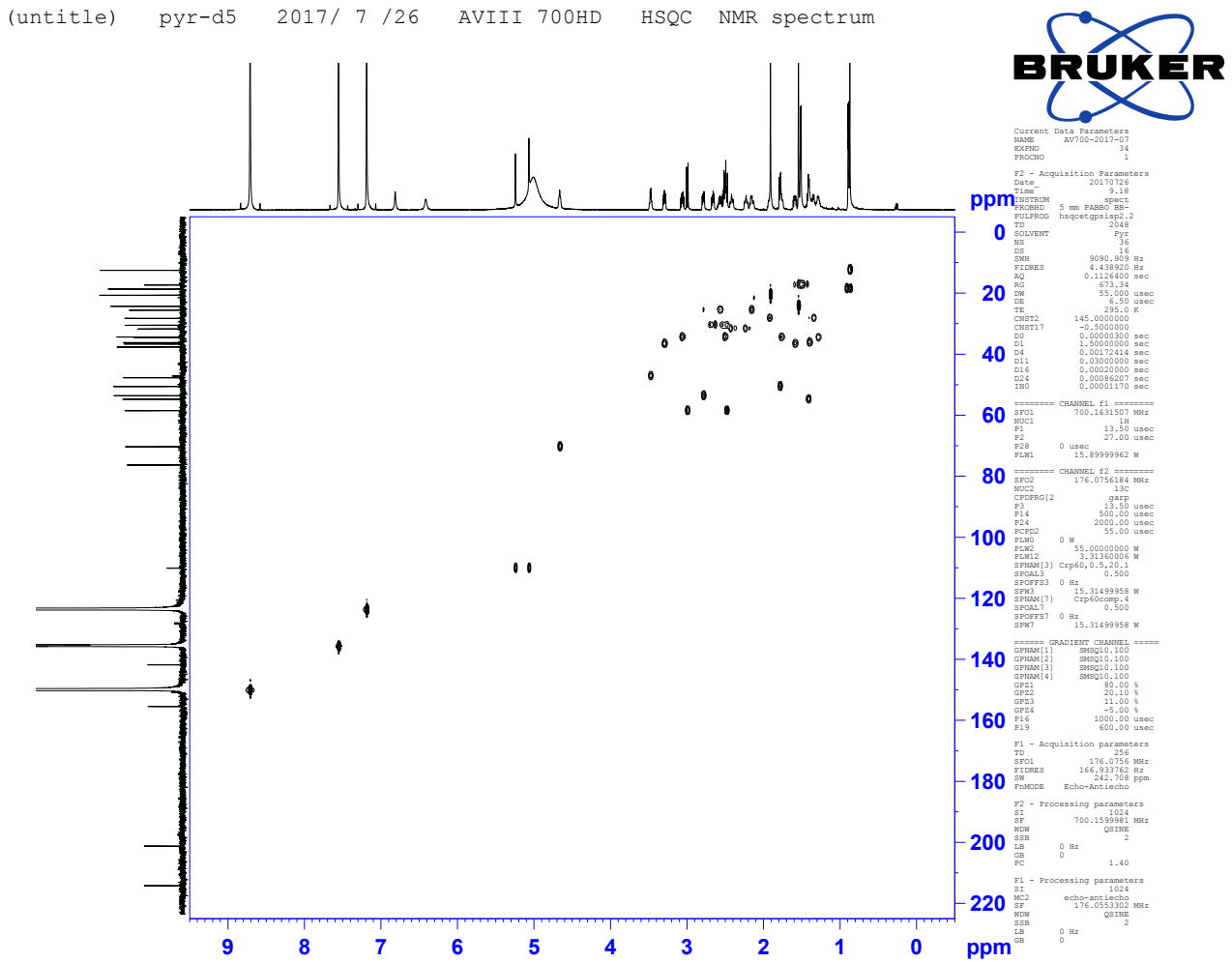


**Figure S6**. The HSQC (700 MHz, Pyridine-d5) spectrum of compound (**2**).

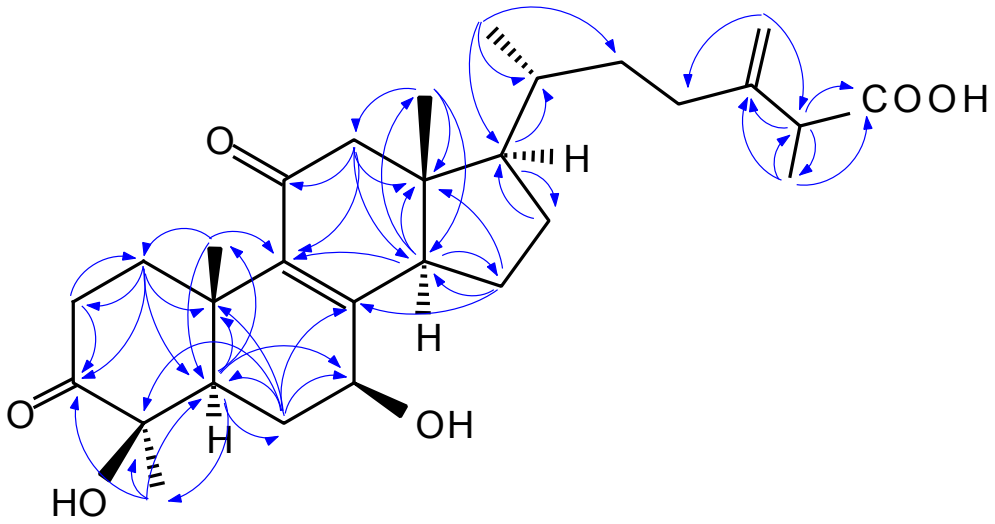


**Figure S7.** The key HMBC correlations of compound (**1**)/(**2**).

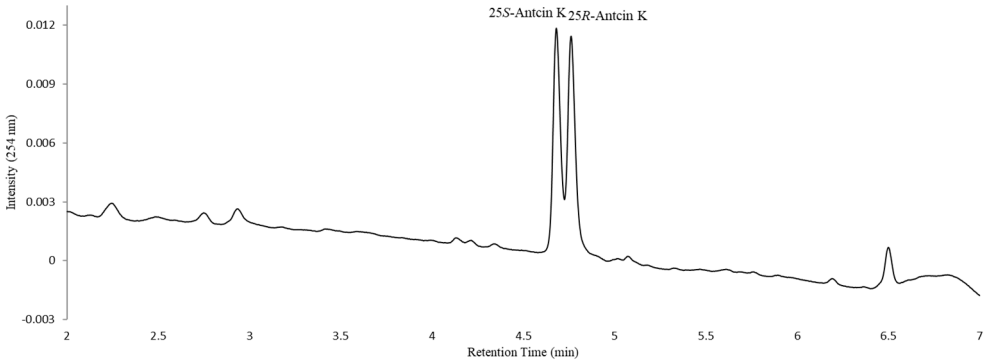


**Figure S8.** Biotransformation of antcin K by *B. megaterium* ATCC 14581 strain. The strain was cultivated in LB media containing both 25*S*- and 25*R*-antcin K. The fermentation broth with cultivation of 72-h was analyzed by UPLC. The UPLC operation conditions were descripted in Materials and Methods.