Supporting Information

Figure S1.1 ESI-MS spectrum of compound 1

Figure S1.2 $^1$H NMR spectrum of compound 1 (600 MHz, DMSO-d6)

Figure S1.3 $^{13}$C NMR spectrum of compound 1 (150 MHz, DMSO-d6)

Figure S2.1 ESI-MS spectrum of compound 2

Figure S2.2 $^1$H NMR spectrum of compound 2 (600 MHz, DMSO-d6)

Figure S2.3 $^{13}$C NMR spectrum of compound 2 (150 MHz, DMSO-d6)

Figure S3.1 ESI-MS spectrum of compound 3

Figure S3.2 $^1$H NMR spectrum of compound 3 (600 MHz, DMSO-d6)

Figure S3.3 $^{13}$C NMR spectrum of compound 3 (150 MHz, DMSO-d6)

Figure S4.1 ESI-MS spectrum of compound 4

Figure S4.2 $^1$H NMR spectrum of compound 4 (600 MHz, DMSO-d6)

Figure S4.3 $^{13}$C NMR spectrum of compound 4 (150 MHz, DMSO-d6)

Figure S5.1 ESI-MS spectrum of compound 5

Figure S5.2 $^1$H NMR spectrum of compound 5 (600 MHz, DMSO-d6)

Figure S5.3 $^{13}$C NMR spectrum of compound 5 (150 MHz, DMSO-d6)

Figure S6.1 ESI-MS spectrum of compound 6

Figure S6.2 $^1$H NMR spectrum of compound 6 (600 MHz, DMSO-d6)

Figure S6.3 $^{13}$C NMR spectrum of compound 6 (150 MHz, DMSO-d6)

Figure S7.1 ESI-MS spectrum of compound 7

Figure S7.2 $^1$H NMR spectrum of compound 7 (600 MHz, DMSO-d6)

Figure S7.3 $^{13}$C NMR spectrum of compound 7 (150 MHz, DMSO-d6)

Figure S8.1 ESI-MS spectrum of compound 8

Figure S8.2 $^1$H NMR spectrum of compound 8 (600 MHz, DMSO-d6)

Figure S8.3 $^{13}$C NMR spectrum of compound 8 (150 MHz, DMSO-d6)

Figure S9.1 ESI-MS spectrum of compound 9

Figure S9.2 $^1$H NMR spectrum of compound 9 (600 MHz, DMSO-d6)

Figure S9.3 $^{13}$C NMR spectrum of compound 9 (150 MHz, DMSO-d6)

Figure S10.1 ESI-MS spectrum of compound 10

Figure S10.2 $^1$H NMR spectrum of compound 10 (600 MHz, DMSO-d6)
Figure S10.3 $^{13}$C NMR spectrum of compound 10 (150 MHz, DMSO-d6)

Figure S11.1 ESI-MS spectrum of compound 11

Figure S11.2 $^1$H NMR spectrum of compound 11 (600 MHz, DMSO-d6)

Figure S11.3 $^{13}$C NMR spectrum of compound 11 (150 MHz, DMSO-d6)

Figure S12.1 ESI-MS spectrum of compound 12

Figure S12.2 $^1$H NMR spectrum of compound 12 (600 MHz, DMSO-d6)

Figure S12.3 $^{13}$C NMR spectrum of compound 12 (150 MHz, DMSO-d6)

Figure S13.1 ESI-MS spectrum of compound 13

Figure S13.2 $^1$H NMR spectrum of compound 13 (600 MHz, DMSO-d6)

Figure S13.3 $^{13}$C NMR spectrum of compound 13 (150 MHz, DMSO-d6)

Figure S14.1 ESI-MS spectrum of compound 14

Figure S14.2 HR-ESI-MS spectrum of compound 14

Figure S14.3 $^1$H NMR spectrum of compound 14 (600 MHz, DMSO-d6)

Figure S14.4 $^{13}$C NMR spectrum of compound 14 (150 MHz, DMSO-d6)
Figure S1.1 ESI-MS spectrum of compound 1

Figure S1.2 $^1$H NMR spectrum of compound 1 (600 MHz, DMSO-d6)

(δ1.88 was signal of the impurity acetic acid)
Figure S1.3 $^{13}$C NMR spectrum of compound 1 (150 MHz, DMSO-d6)

(δ22.43, 172.80 were signals of the impurity acetic acid)

Figure S2.1 ESI-MS spectrum of compound 2
Figure S2.2 $^1$H NMR spectrum of compound 2 (600 MHz, DMSO-d6)

(δ3.49, 1.12 were signals of ethanol solvent)

Figure S2.3 $^{13}$C NMR spectrum of compound 2 (150 MHz, DMSO-d6)

(δ56.49, 19.02 were signals of ethanol solvent)
Figure S3.1 ESI-MS spectrum of compound 3

Figure S3.2 $^1$H NMR spectrum of compound 3 (600 MHz, DMSO-d6)

(δ3.50, 1.12 were signals of ethanol solvent)
**Figure S3.3** $^{13}$C NMR spectrum of compound 3 (150 MHz, DMSO-d6)

(556.49, 19.03 were signals of ethanol solvent)

**Figure S4.1** ESI-MS spectrum of compound 4
**Figure S4.2** $^1$H NMR spectrum of compound 4 (600 MHz, DMSO-d6)

**Figure S4.3** $^{13}$C NMR spectrum of compound 4 (150 MHz, DMSO-d6)
**Figure S5.1** ESI-MS spectrum of compound 5

**Figure S5.2** $^1$H NMR spectrum of compound 5 (600 MHz, DMSO-d6)

(δ3.50, 1.11 were signals of ethanol solvent)
Figure S5.3 $^{13}$C NMR spectrum of compound 5 (150 MHz, DMSO-d6)

(556.49, 19.03 were signals of ethanol solvent)

Figure S6.1 ESI-MS spectrum of compound 6
Figure S6.2 $^1$H NMR spectrum of compound 6 (600 MHz, DMSO-d6)

(δ3.51, 1.12 were signals of ethanol solvent)

Figure S6.3 $^{13}$C NMR spectrum of compound 6 (150 MHz, DMSO-d6)

(δ556.49, 19.03 were signals of ethanol solvent)
Figure S7.1 ESI-MS spectrum of compound 7

Figure S7.2 $^1$H NMR spectrum of compound 7 (600 MHz, DMSO-d$_6$)

(δ 3.45, 1.05 were signals of ethanol solvent)
Figure S7.3 $^{13}$C NMR spectrum of compound 8 (150 MHz, DMSO-d$_6$)

(56.49, 19.02 were signals of ethanol solvent)

Figure S8.1 ESI-MS spectrum of compound 8
**Figure S8.2** $^1$H NMR spectrum of compound 8 (600 MHz, DMSO-d6)

(δ3.50, 1.11 were signals of ethanol solvent)

**Figure S8.3** $^{13}$C NMR spectrum of compound 8 (150 MHz, DMSO-d6)

(δ56.49, 19.02 were signals of ethanol solvent)
Figure S9.1 ESI-MS spectrum of compound 9

Figure S9.2 $^1$H NMR spectrum of compound 9 (600 MHz, DMSO-d6)
Figure S9.3 $^{13}$C NMR spectrum of compound 9 (150 MHz, DMSO-d6)

Figure S10.1 ESI-MS spectrum of compound 10
Figure S10.2 $^1$H NMR spectrum of compound 10 (600 MHz, DMSO-d6)

(δ3.49, 1.10 were signals of ethanol solvent)

Figure S10.3 $^{13}$C NMR spectrum of compound 10 (150 MHz, DMSO-d6)

(δ56.51, 19.03 were signals of ethanol solvent)
Figure S11.1 ESI-MS spectrum of compound 11

Figure S11.2 ¹H NMR spectrum of compound 11 (600 MHz, DMSO-d6)
Figure S11.3 $^{13}$C NMR spectrum of compound 11 (150 MHz, DMSO-d6)

Figure S12.1 ESI-MS spectrum of compound 12
Figure S12.2 $^1$H NMR spectrum of compound 12 (600 MHz, DMSO-d6)

(δ3.45, 1.06 were signals of ethanol solvent)

Figure S12.3 $^{13}$C NMR spectrum of compound 12 (150 MHz, DMSO-d6)

(δ556.50, 19.03 were signals of ethanol solvent)
Figure S13.1 ESI-MS spectrum of compound 13

Figure S13.2 ¹H NMR spectrum of compound 13 (600 MHz, DMSO-d6)

(δ3.50, 1.12 were signals of ethanol solvent)
Figure S13.3 \( ^{13} \text{C} \) NMR spectrum of compound 13 (150 MHz, DMSO-d6)

(556.49, 19.03 were signals of ethanol solvent)

Figure S14.1 ESI-MS spectrum of compound 14
Figure S14.2 HR-ESI-MS spectrum of compound 14

Figure S14.3 $^1$H NMR spectrum of compound 14 (600 MHz, DMSO-d6)
Figure S14.4 $^{13}$C NMR spectrum of compound 14 (150 MHz, DMSO-$d_6$)