

## Electronic supplementary information

### 7 $\alpha$ -FLUOROXYCODONE

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**Table S1.** Crystal data and structure refinement parameters for **6**

Empirical formula	C <sub>18</sub> H <sub>20</sub> FNO <sub>4</sub>
Formula weight	333.362
Temperature/K	120.00
Crystal system	orthorhombic
Space group	P2 <sub>1</sub> 2 <sub>1</sub> 2 <sub>1</sub>
Unit Cell Dimensions	a = 7.5574(5)Å b = 13.1888(8)Å c = 15.1064(9)Å α = 90° β = 90° γ = 90°
Volume/Å <sup>3</sup>	1505.70(16)
Z	4
ρ <sub>calc</sub> /cm <sup>3</sup>	1.471
μ/mm <sup>-1</sup>	0.112
F(000)	704.5
Crystal size/mm <sup>3</sup>	0.24 × 0.15 × 0.12
Radiation	Mo Kα (λ = 0.71073)
2θ range for data collection/°	4.1 to 52
Index ranges	-10 ≤ h ≤ 10, -17 ≤ k ≤ 17, -20 ≤ l ≤ 20
Reflections collected	17459
Independent reflections	2971 [R <sub>int</sub> = 0.0439, R <sub>sigma</sub> = 0.0478]
Data/restraints/parameters	2971/0/220
Goodness-of-fit on F <sup>2</sup>	1.026
Final R indexes [I >= 2σ (I)]	R <sub>1</sub> = 0.0365, wR <sub>2</sub> = 0.0927
Final R indexes [all data]	R <sub>1</sub> = 0.0445, wR <sub>2</sub> = 0.0953
Largest diff. peak/hole / e Å <sup>-3</sup>	0.45/-0.50
Flack parameter	-0.5(4)

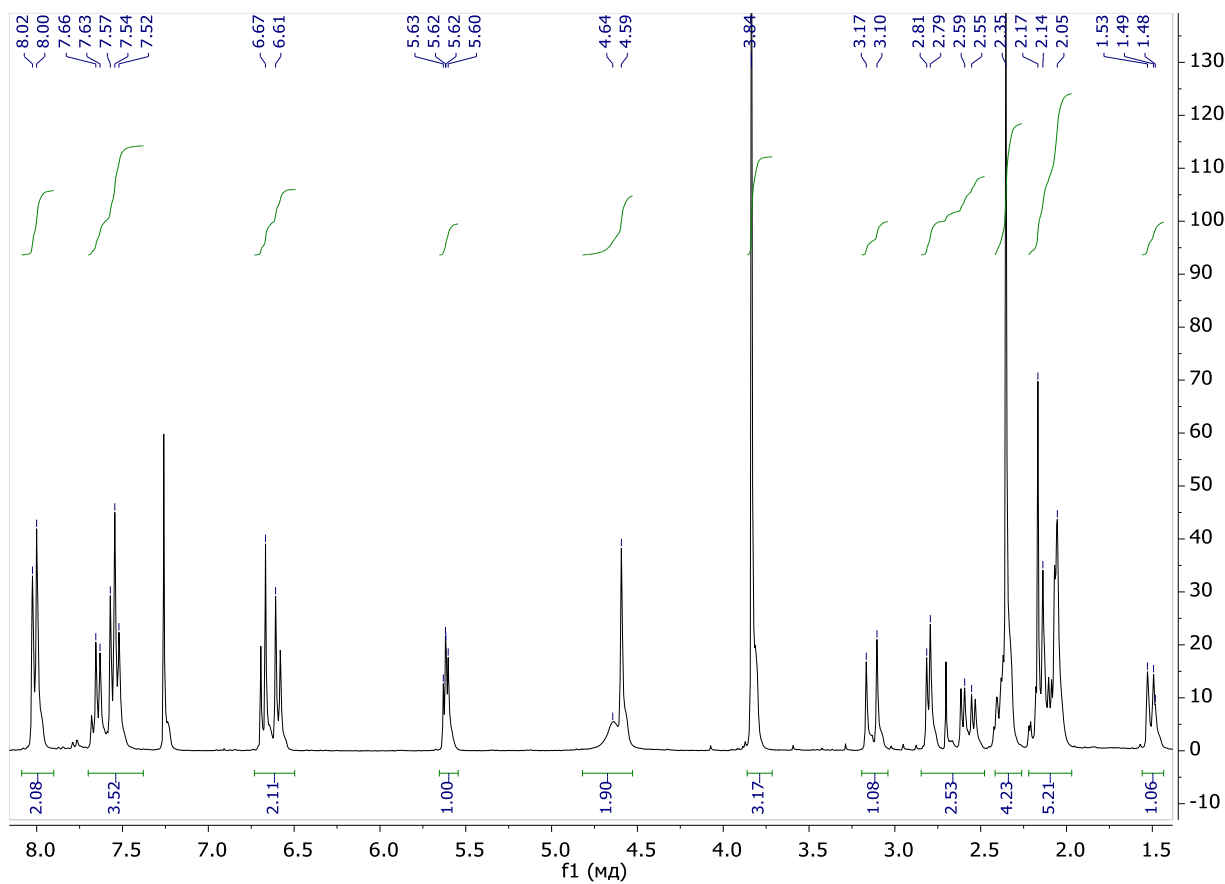


Figure S1.  $^1\text{H}$  NMR spectrum (300 MHz,  $\text{CDCl}_3$ ) of **5**

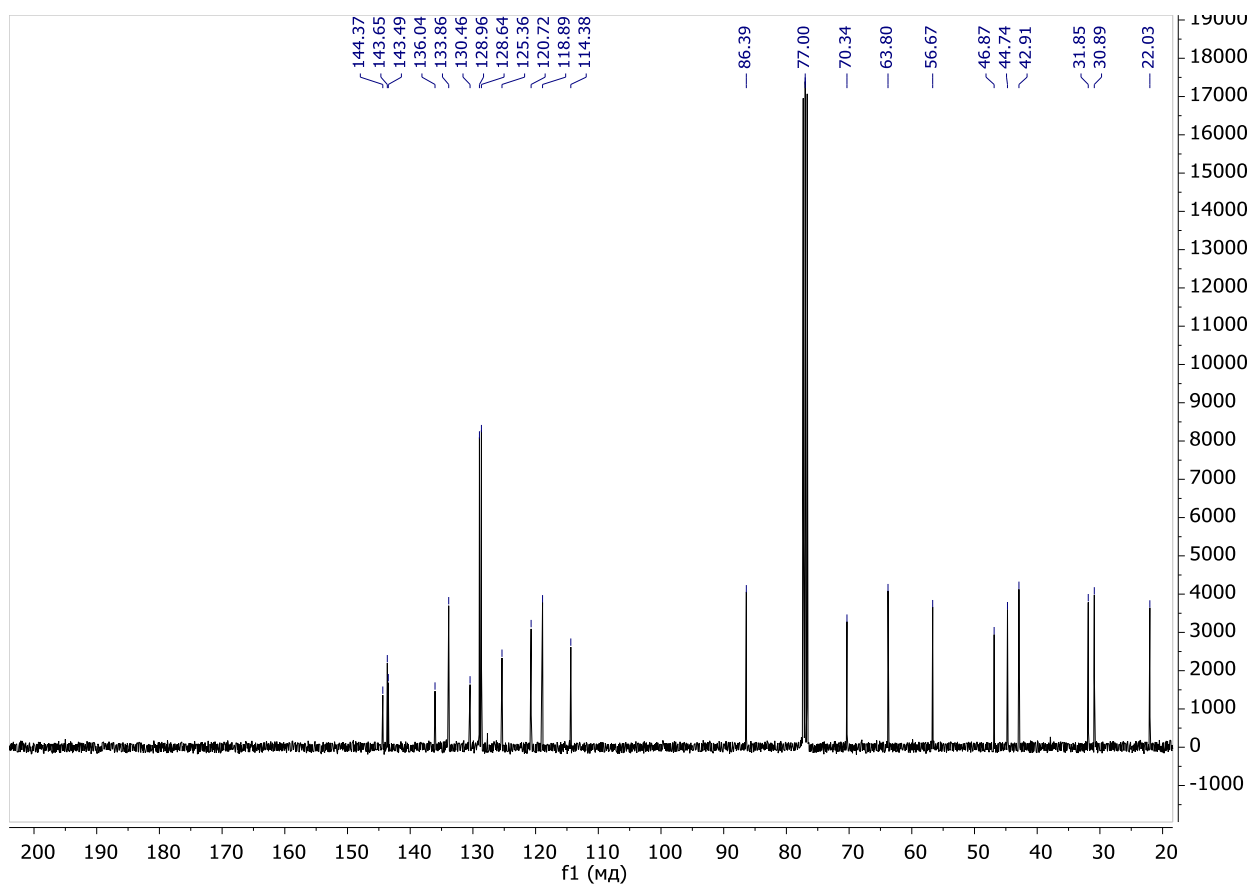
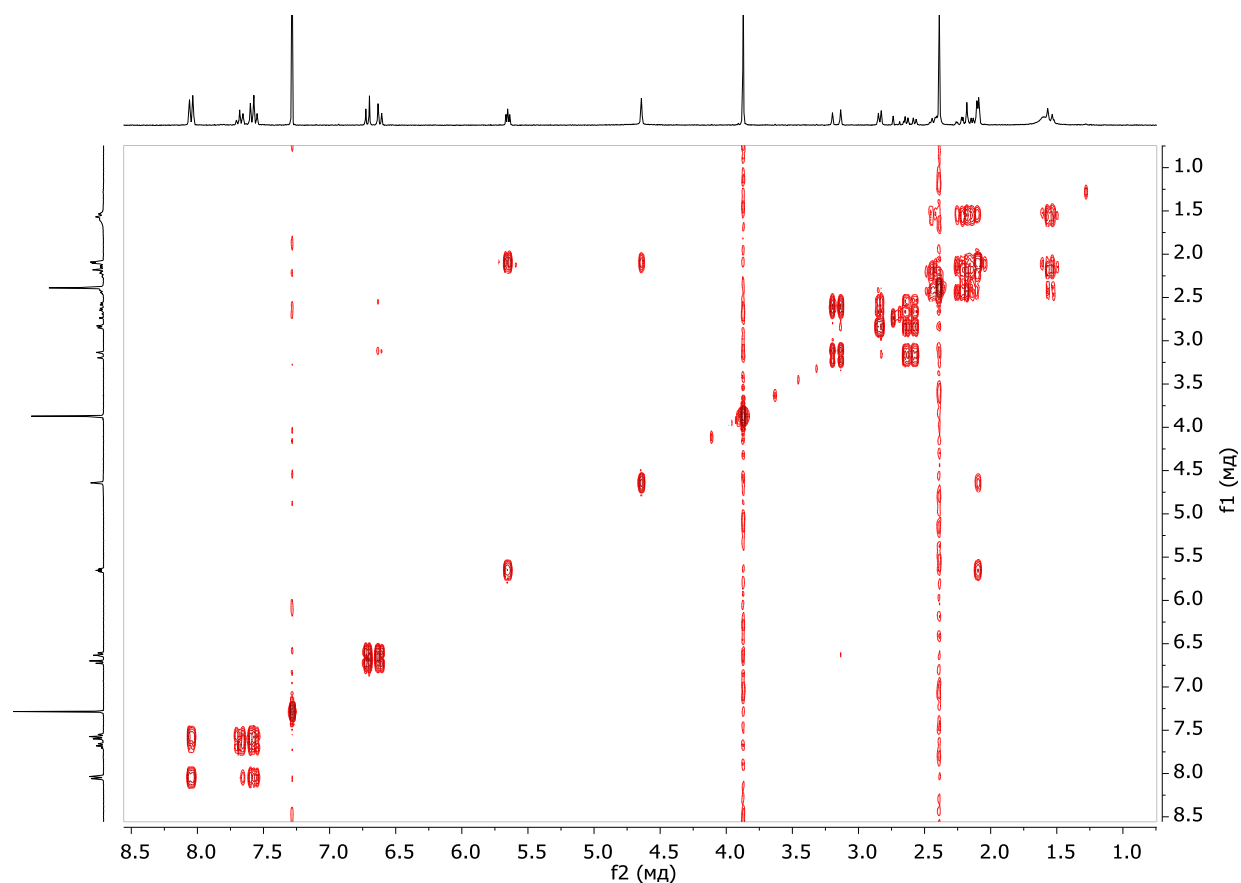
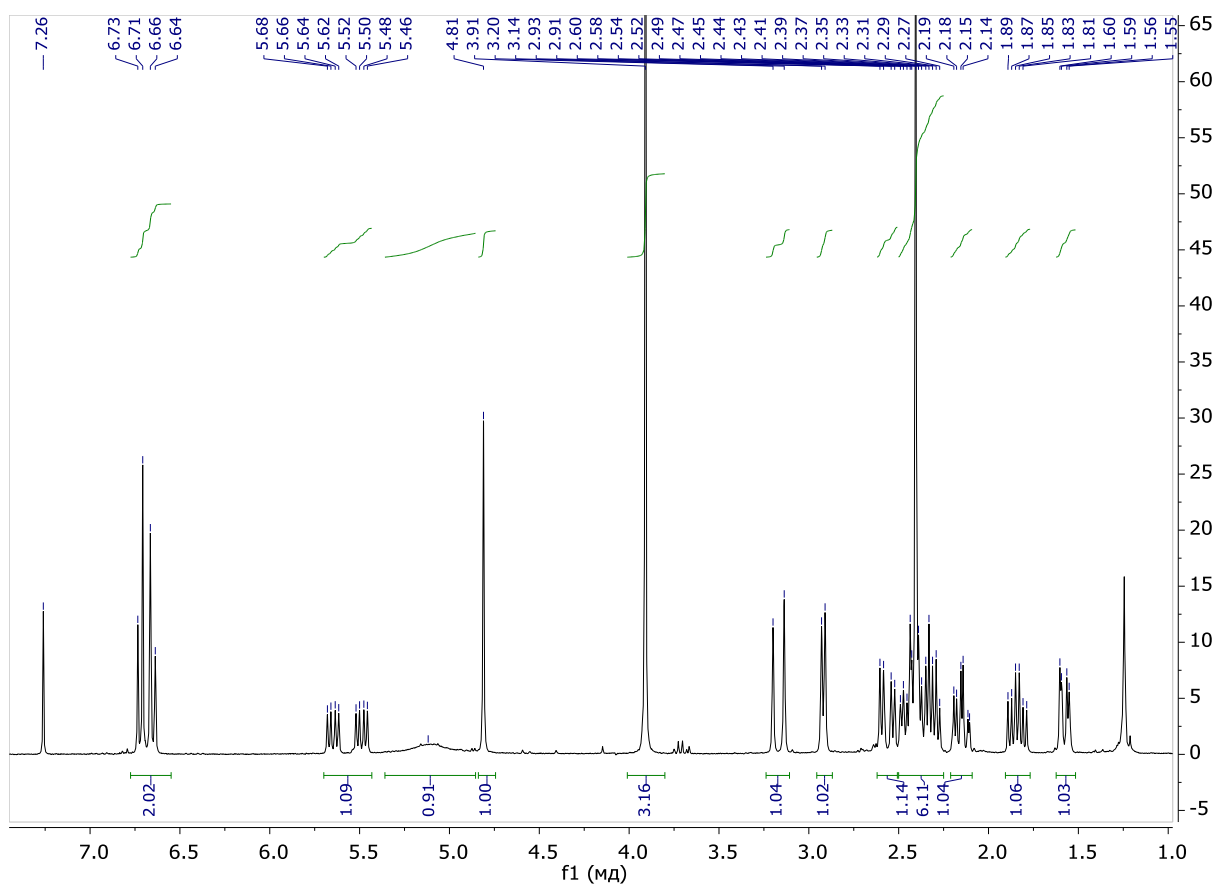


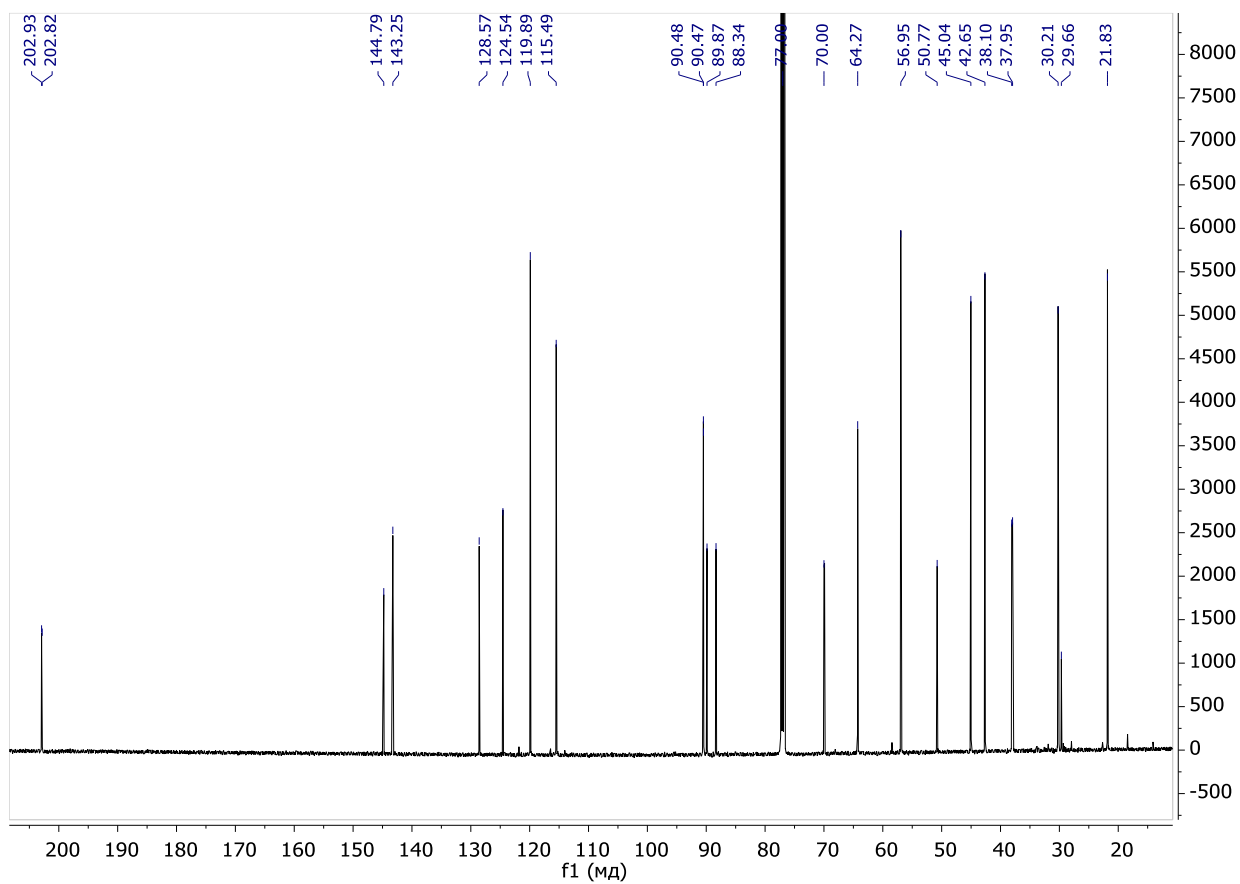
Figure S2.  $^{13}\text{C}$  NMR spectrum (101 MHz,  $\text{CDCl}_3$ ) of **5**



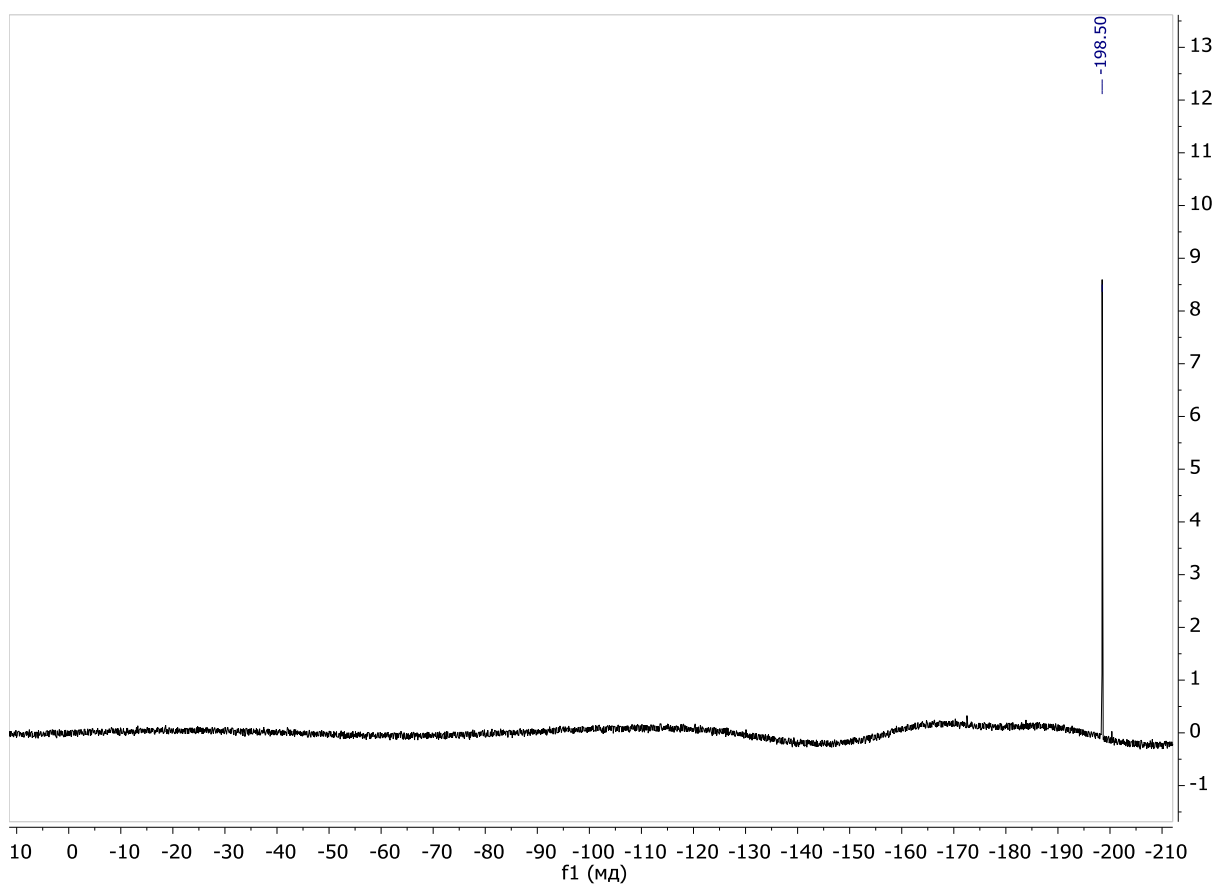
**Figure S3.**  $^1\text{H}$ - $^1\text{H}$  COSY NMR spectrum (300 MHz,  $\text{CDCl}_3$ ) of **5**



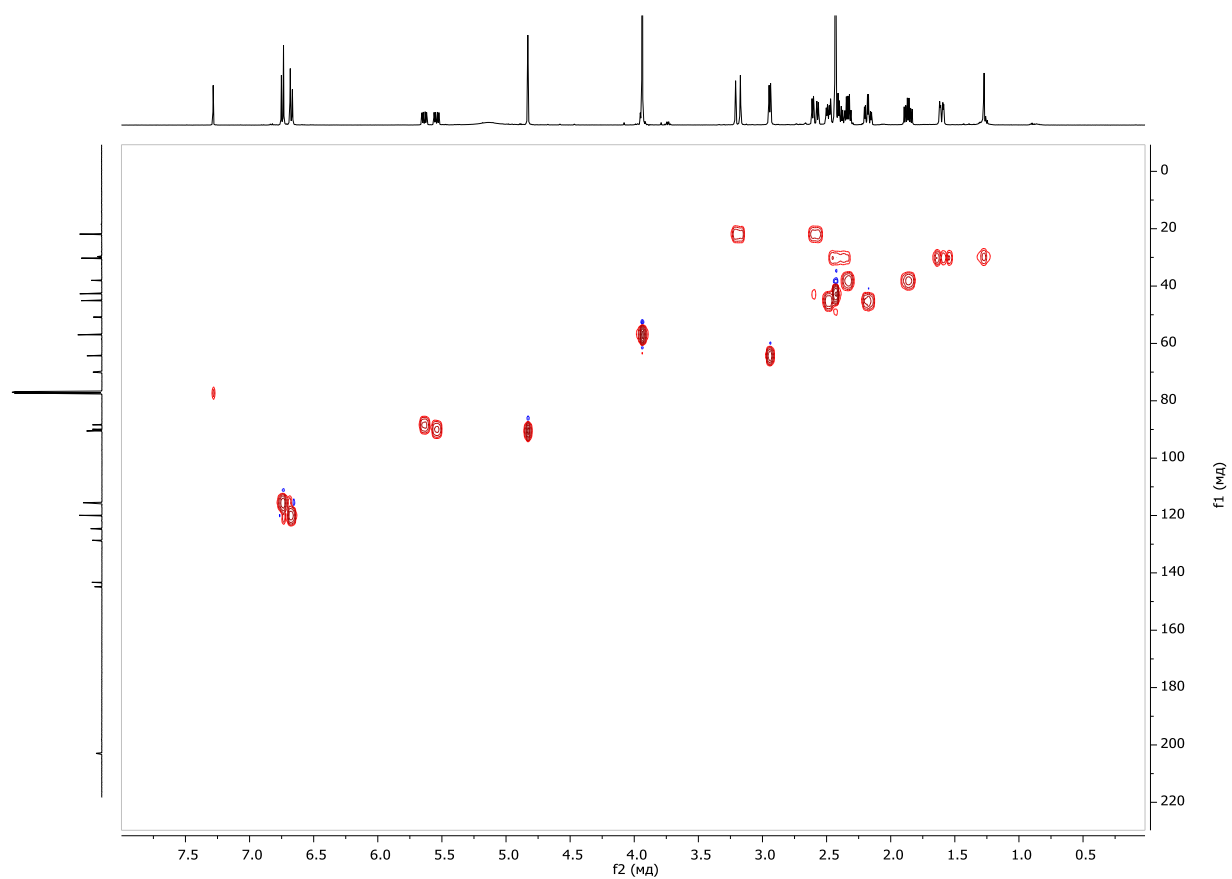
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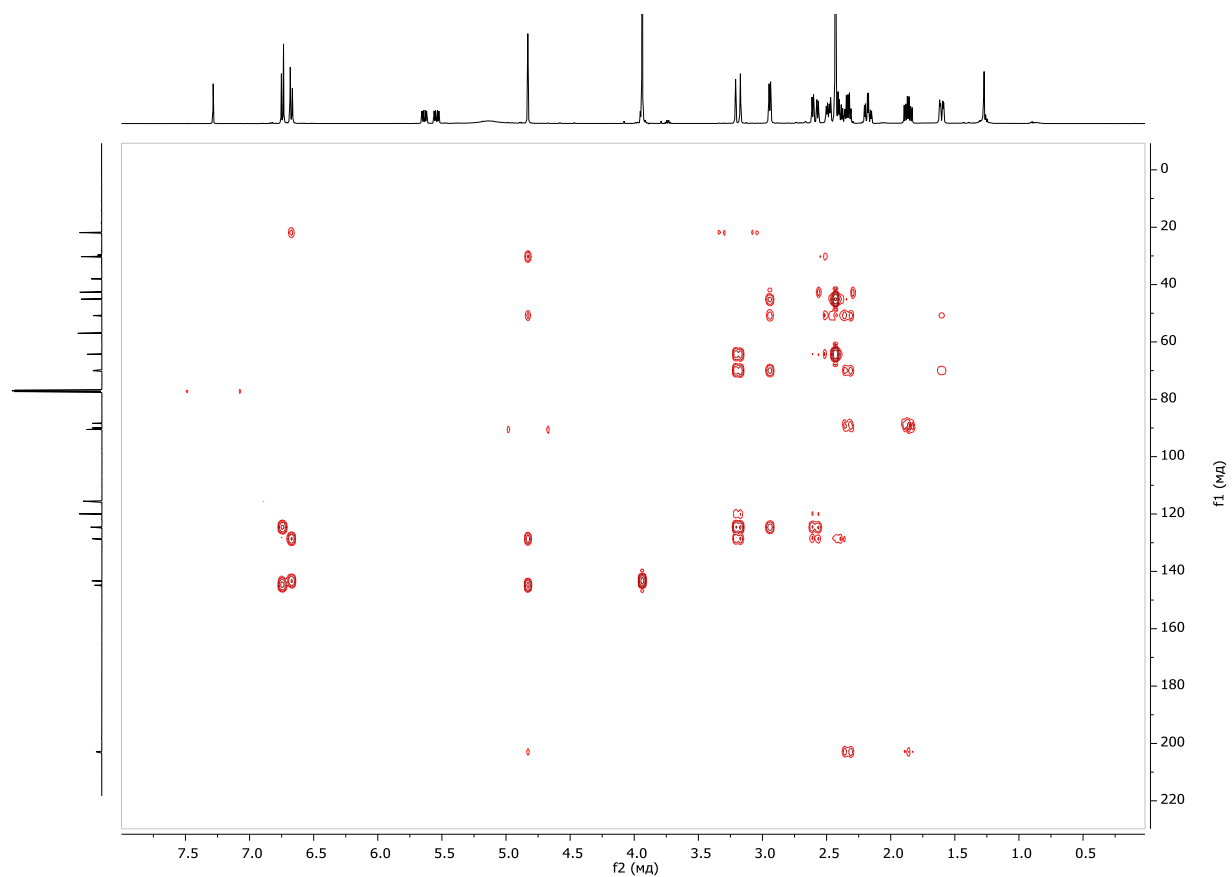
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**Figure S7.**  $^1\text{H}$ - $^{13}\text{C}$  HSQC NMR spectrum (500 MHz,  $\text{CDCl}_3$ ) of **6**



**Figure S8.**  $^1\text{H}$ - $^{13}\text{C}$  HMBC NMR spectrum (500 MHz,  $\text{CDCl}_3$ ) of **6**