

**Biocatalytic Synthesis of a Novel Bioactive Ginsenoside Using UDP-Glycosyltransferase  
from *Bacillus subtilis* 168**

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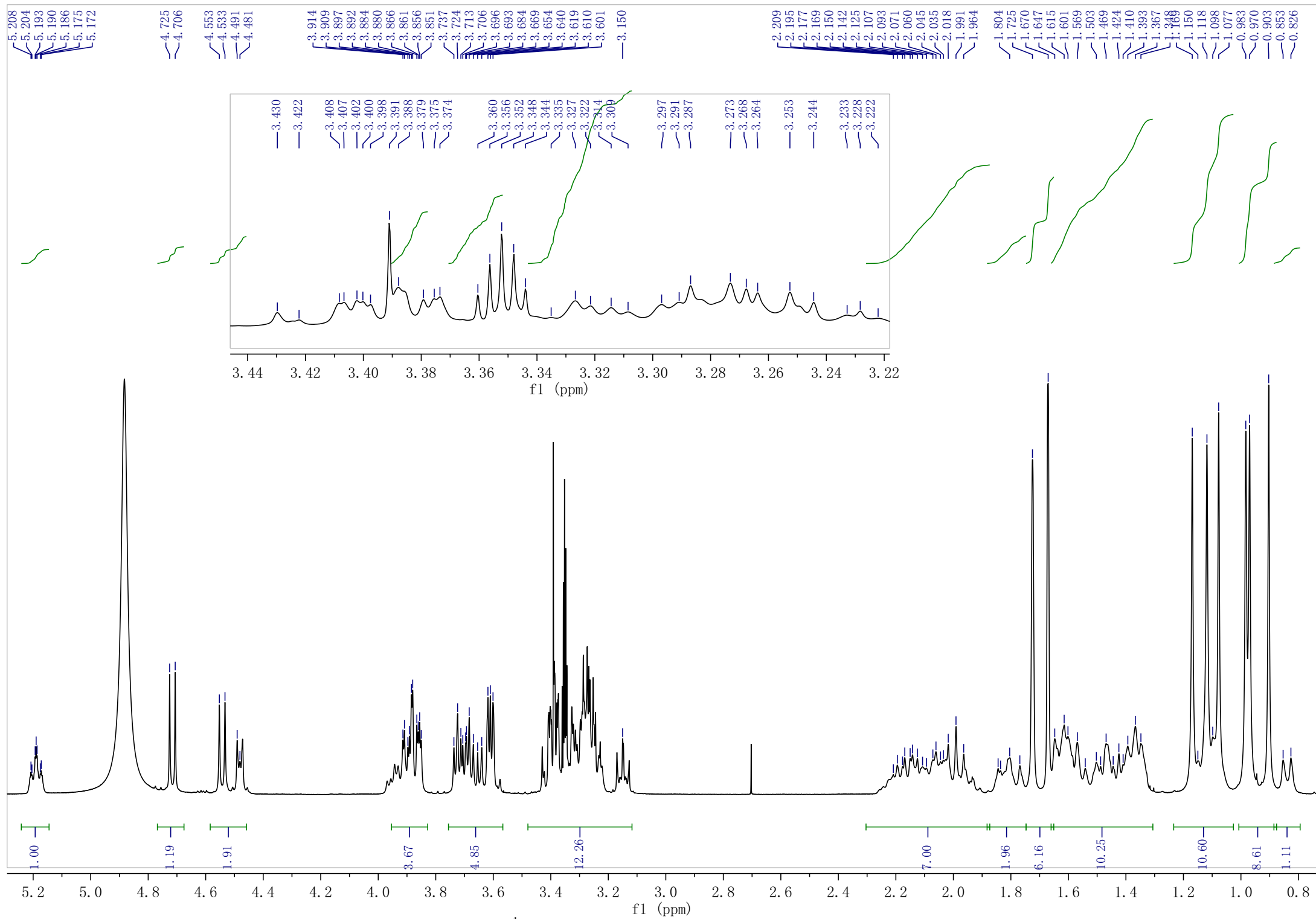
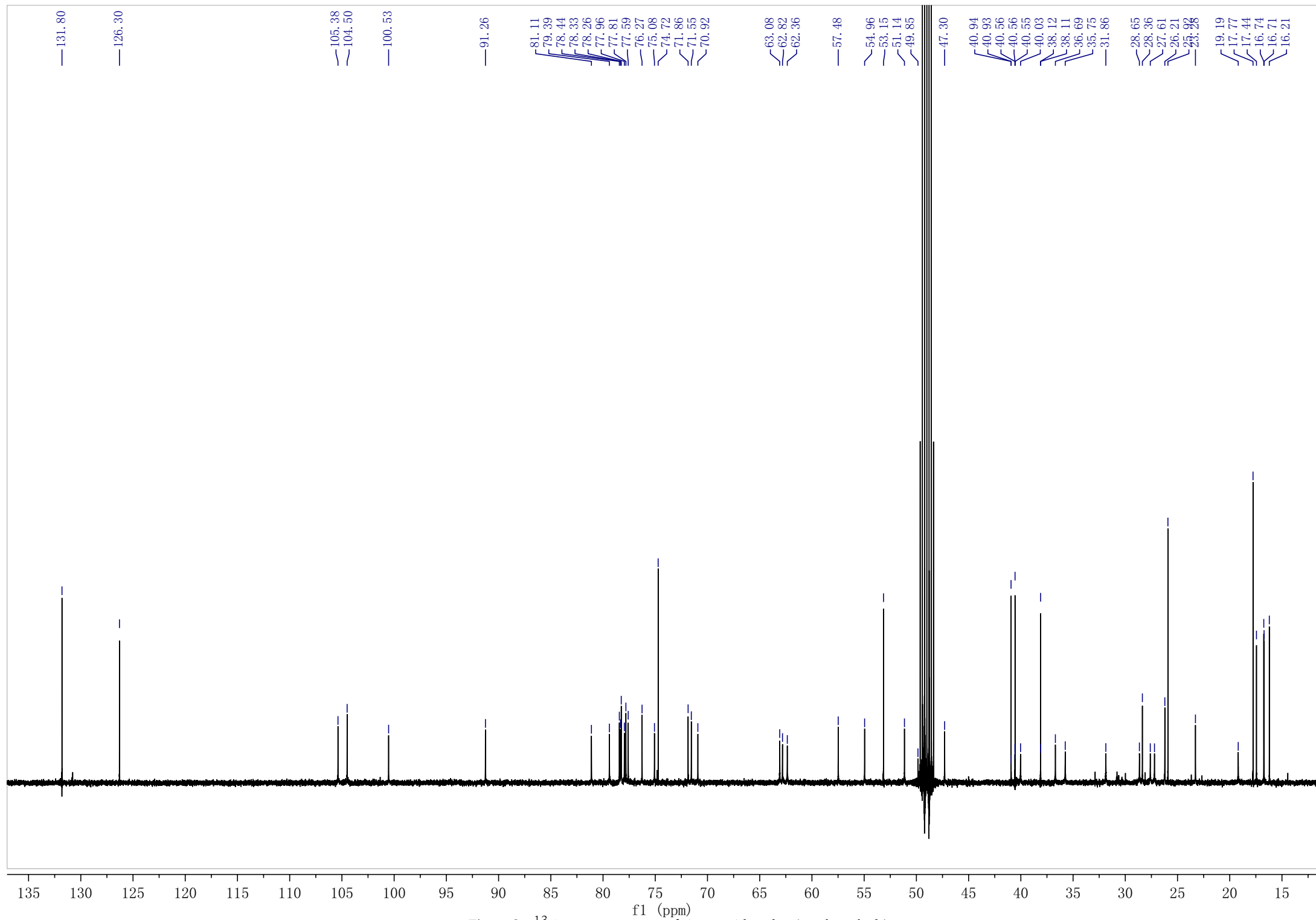


Figure S1.  $^1\text{H}$  NMR spectrum of ginsenoside Rd12 (Methanol- $d_4$ )



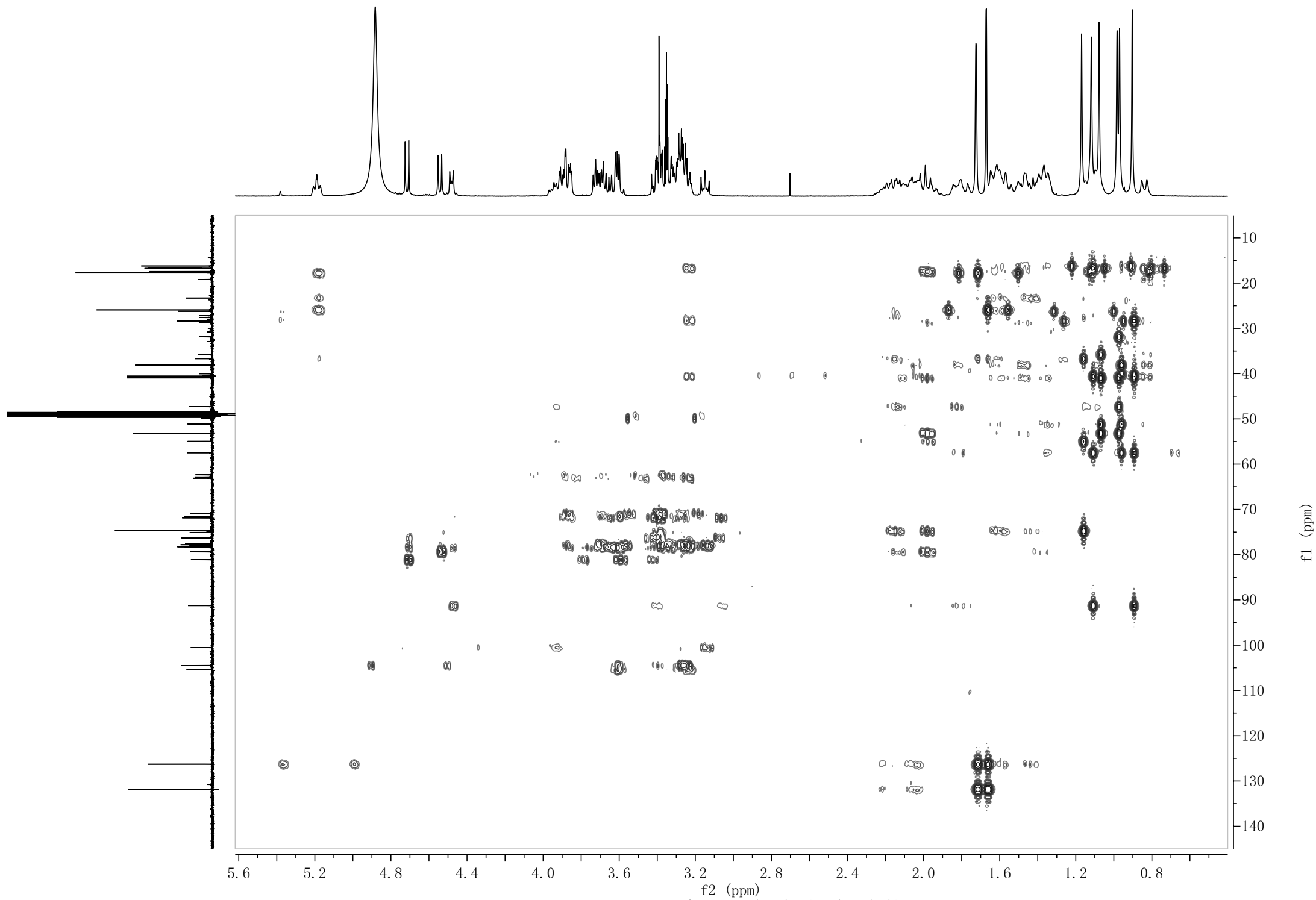


Figure S3. HMBC spectrum of ginsenoside Rd12 (Methanol- $d_4$ )

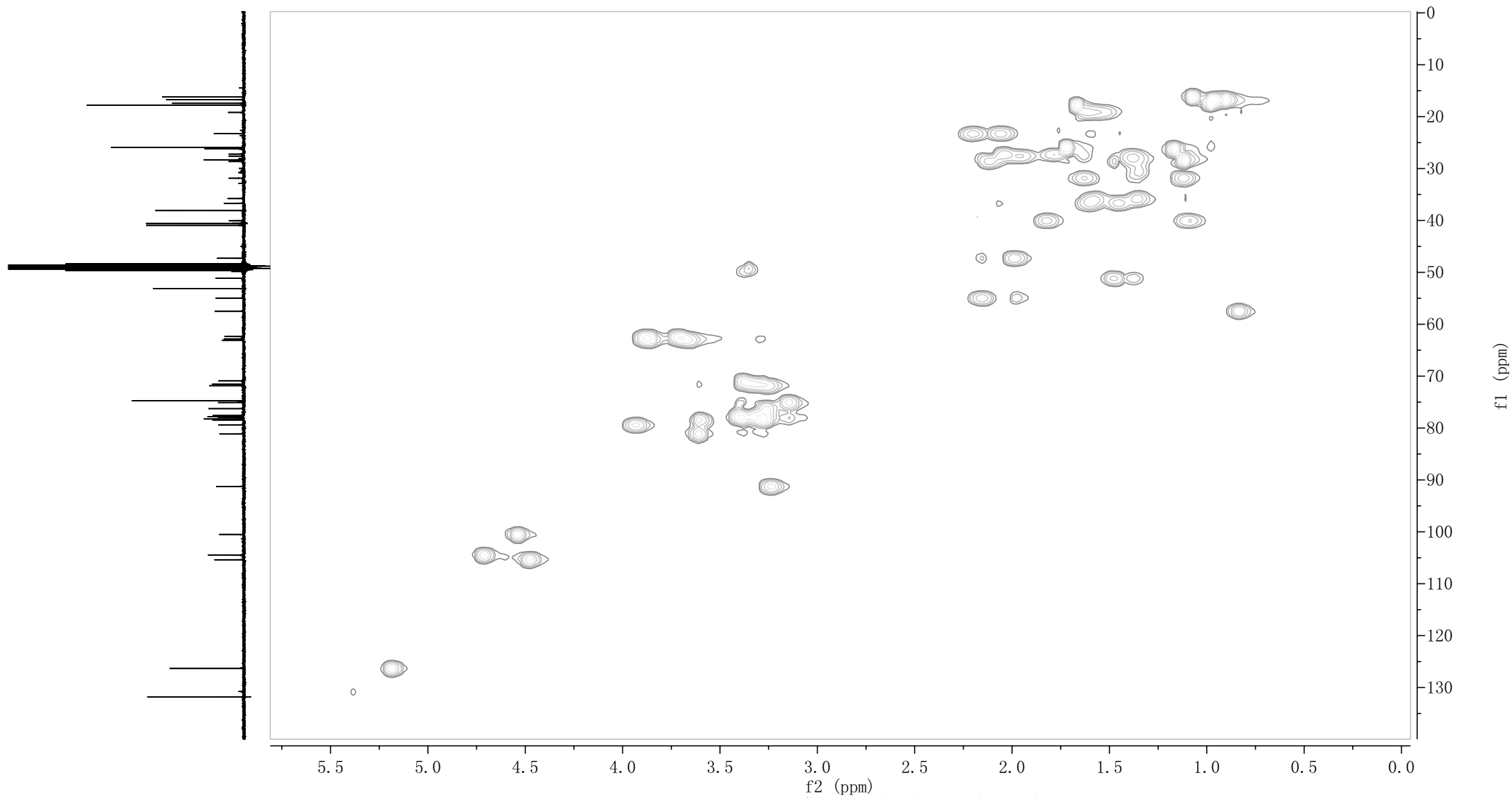
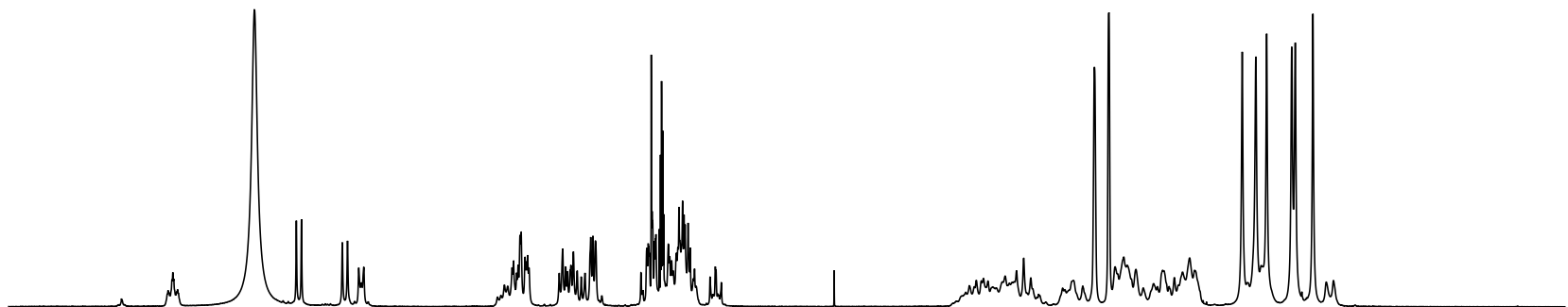


Figure S4. HSQC spectrum of ginsenoside Rd12 (Methanol-*d*<sub>4</sub>)

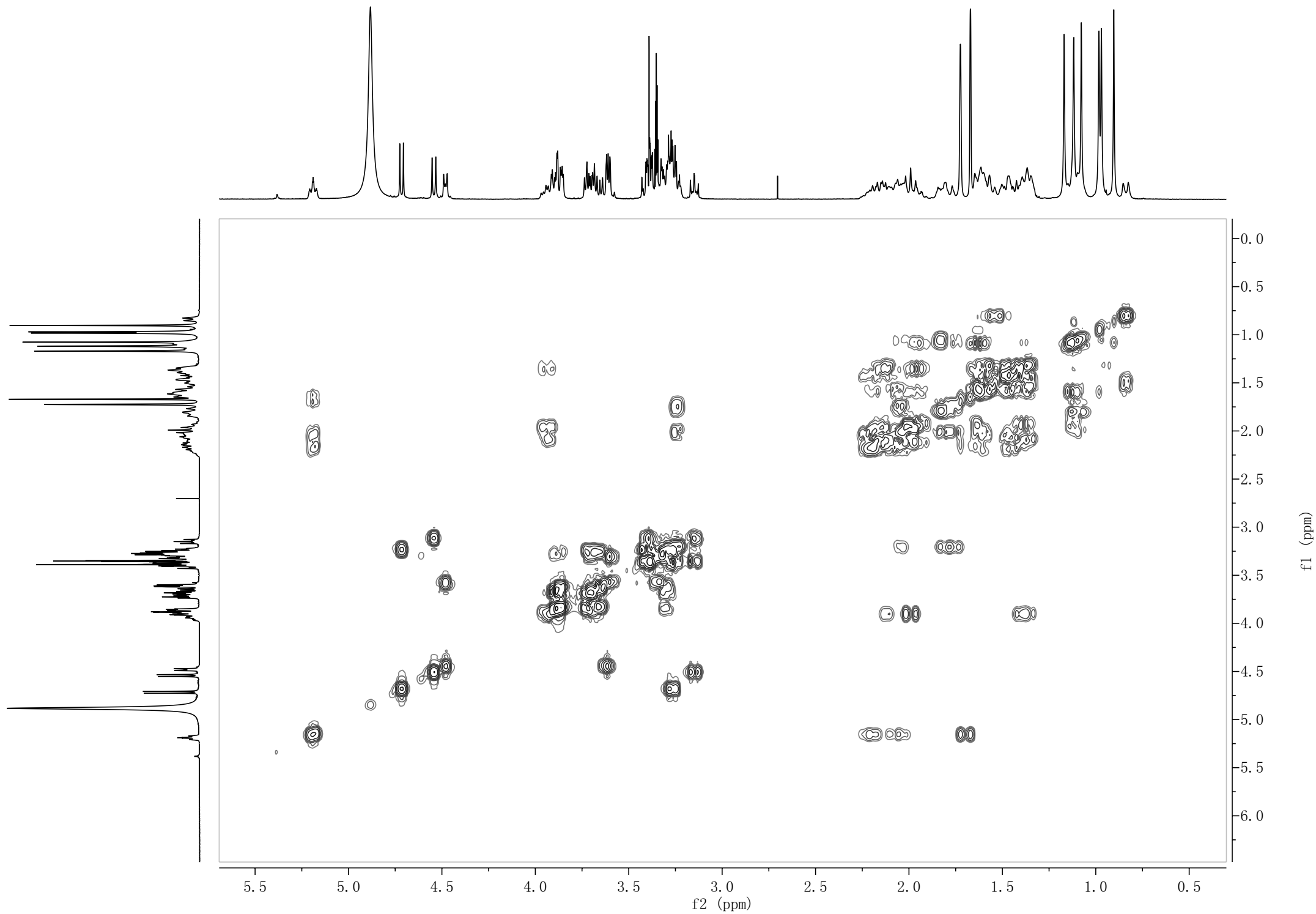
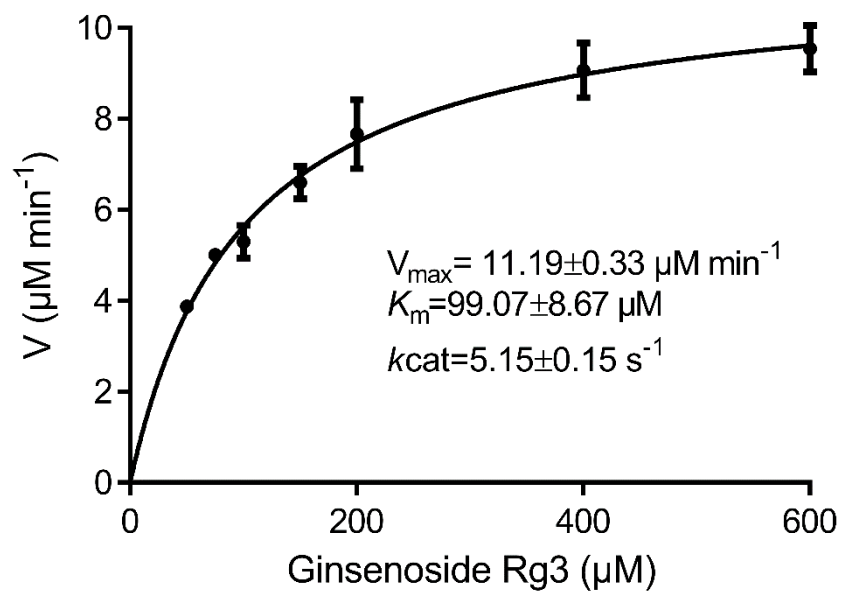


Figure S5. COSY NMR spectrum of ginsenoside Rd12 (Methanol- $d_4$ )



**Figure S6.** Kinetic analysis of Bs-YjiC toward ginsenoside Rg3