

## Supplementary information

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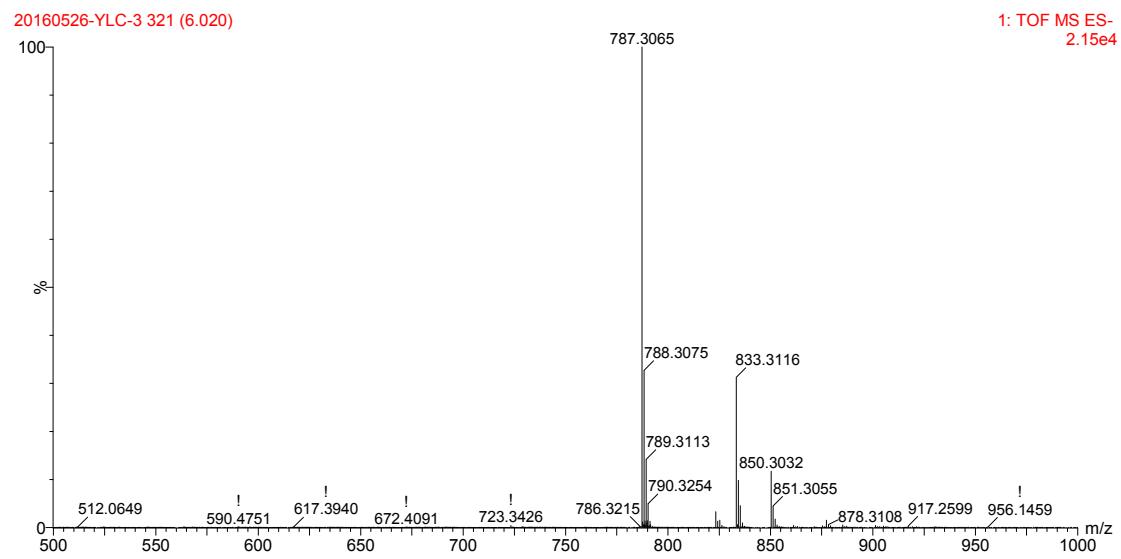


Fig. 1S The mass (negative) chromatography of compound 1

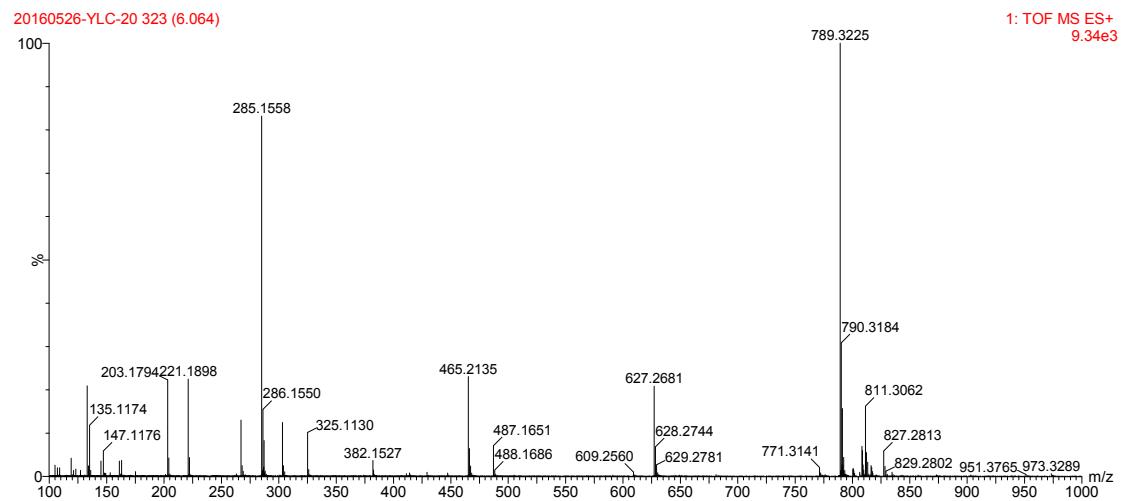


Fig. 2S The mass (positive) chromatography of compound 1

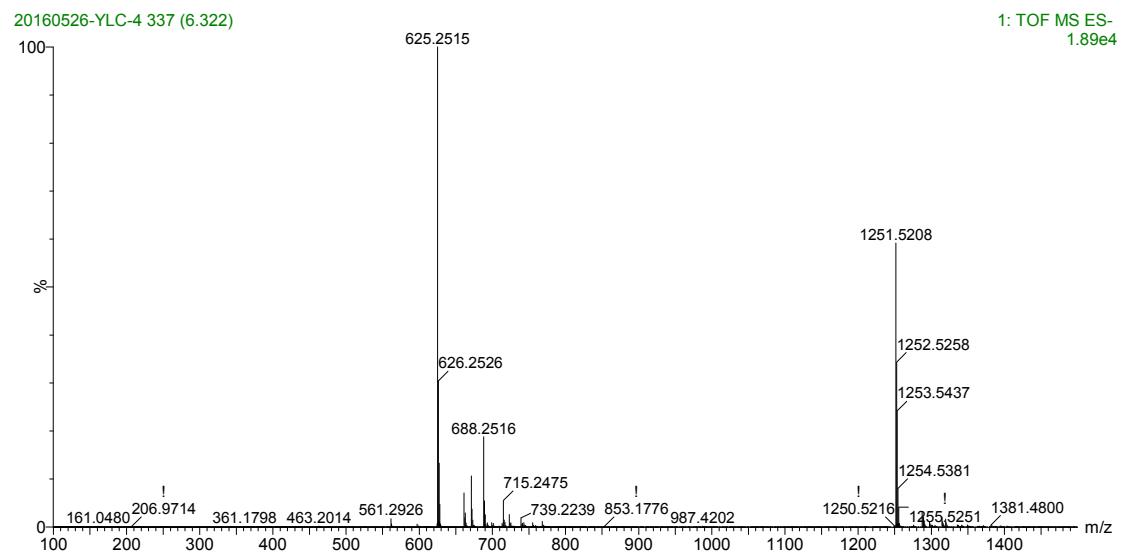


Fig. 3S The mass (negative) chromatography of compound 2

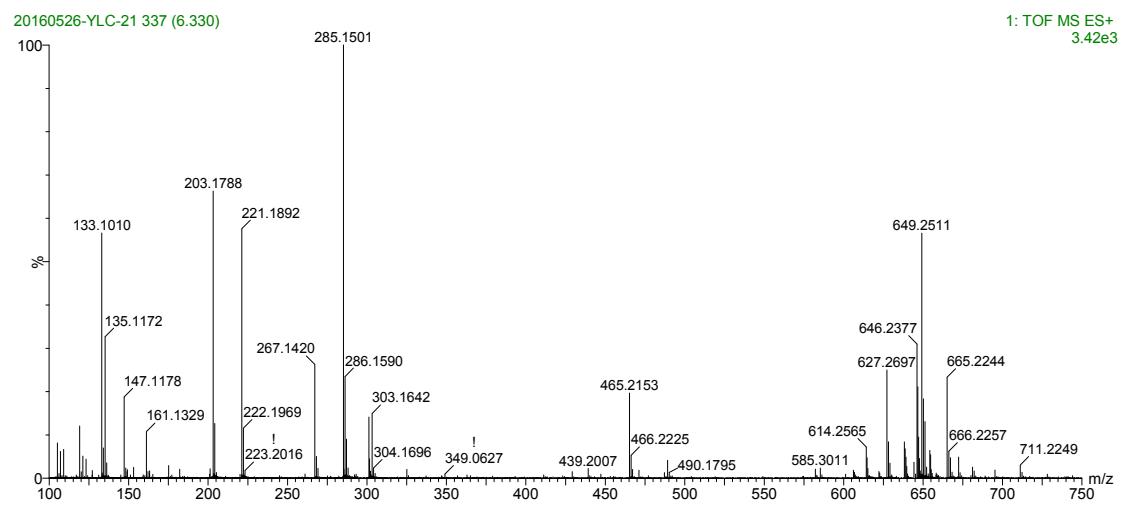


Fig. 4S The mass (positive) chromatography of compound 2

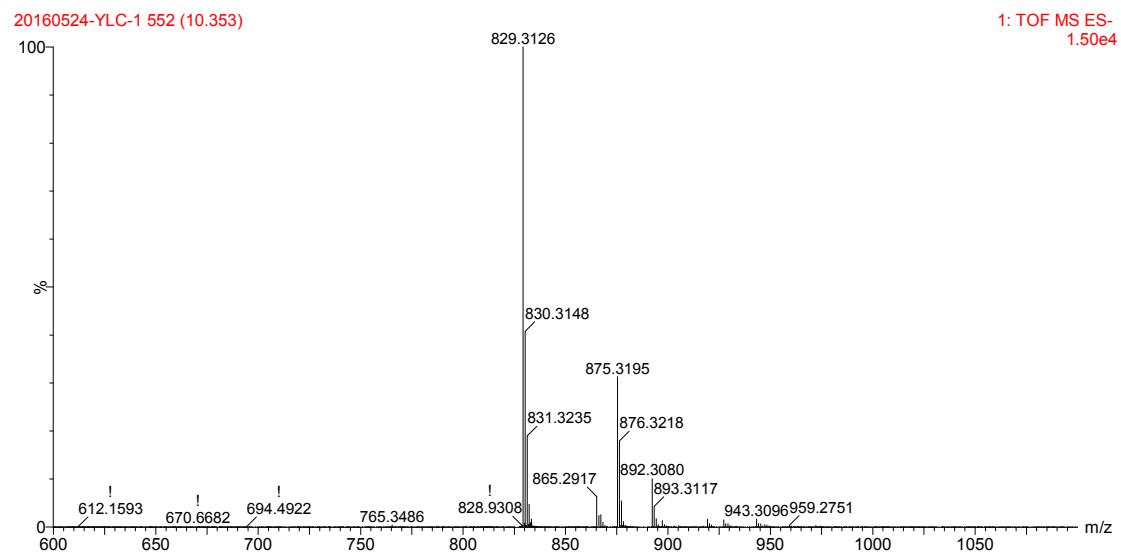


Fig. 5S The mass (negative) chromatography of compound 3

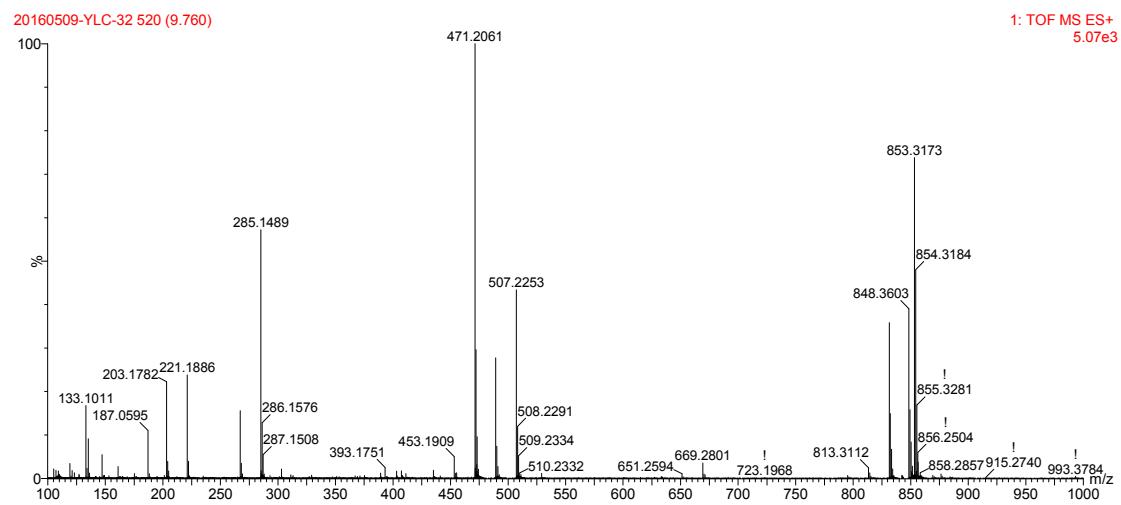


Fig. 6S The mass (positive) chromatography of compound 3

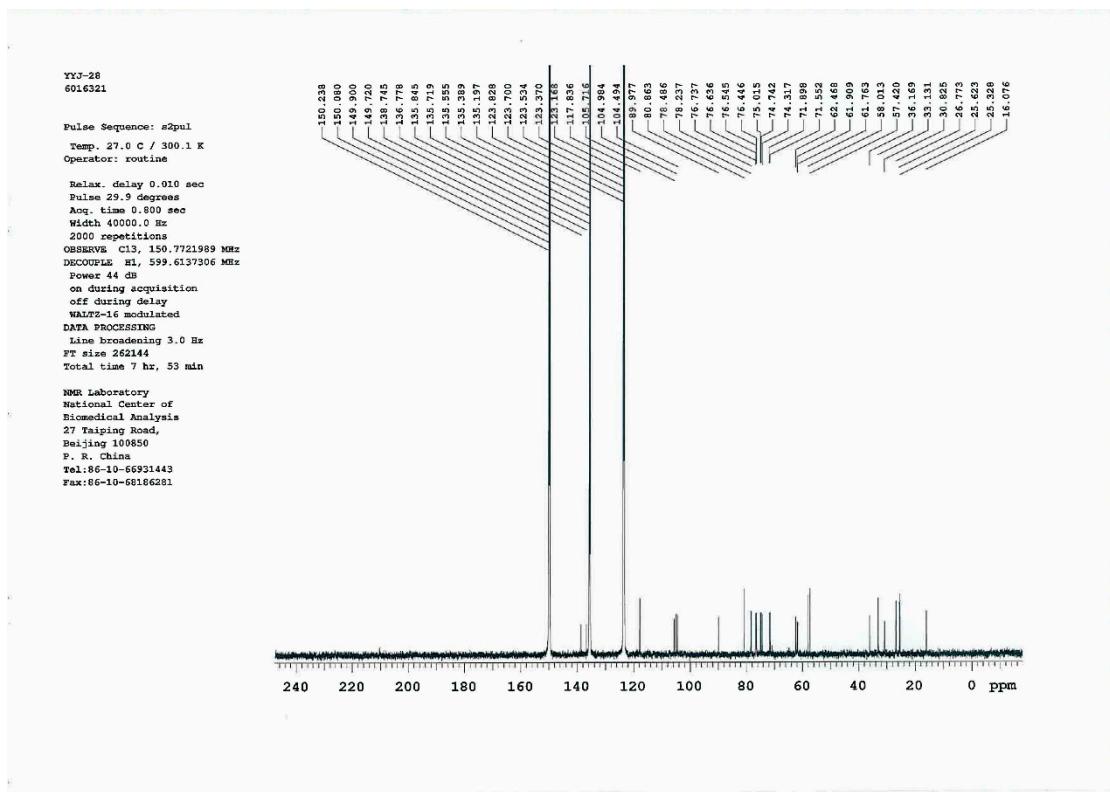
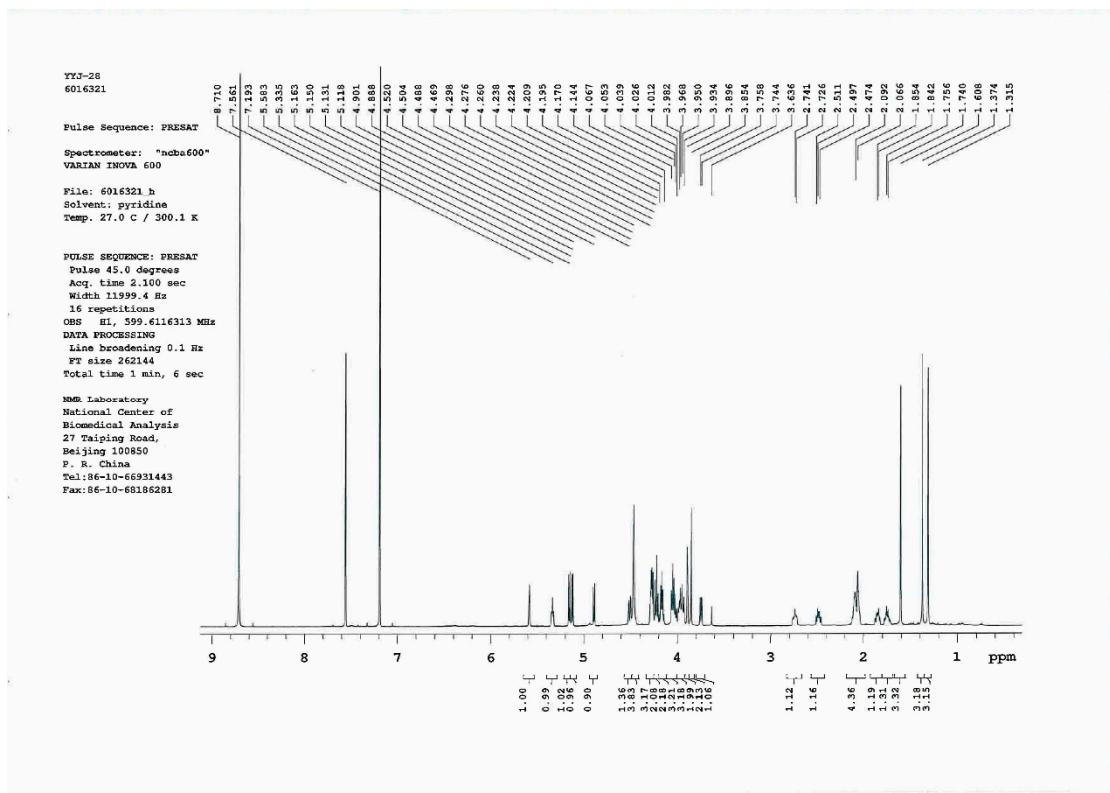


Fig. 8S  $^{13}\text{C}$  NMR spectrum of compound 1

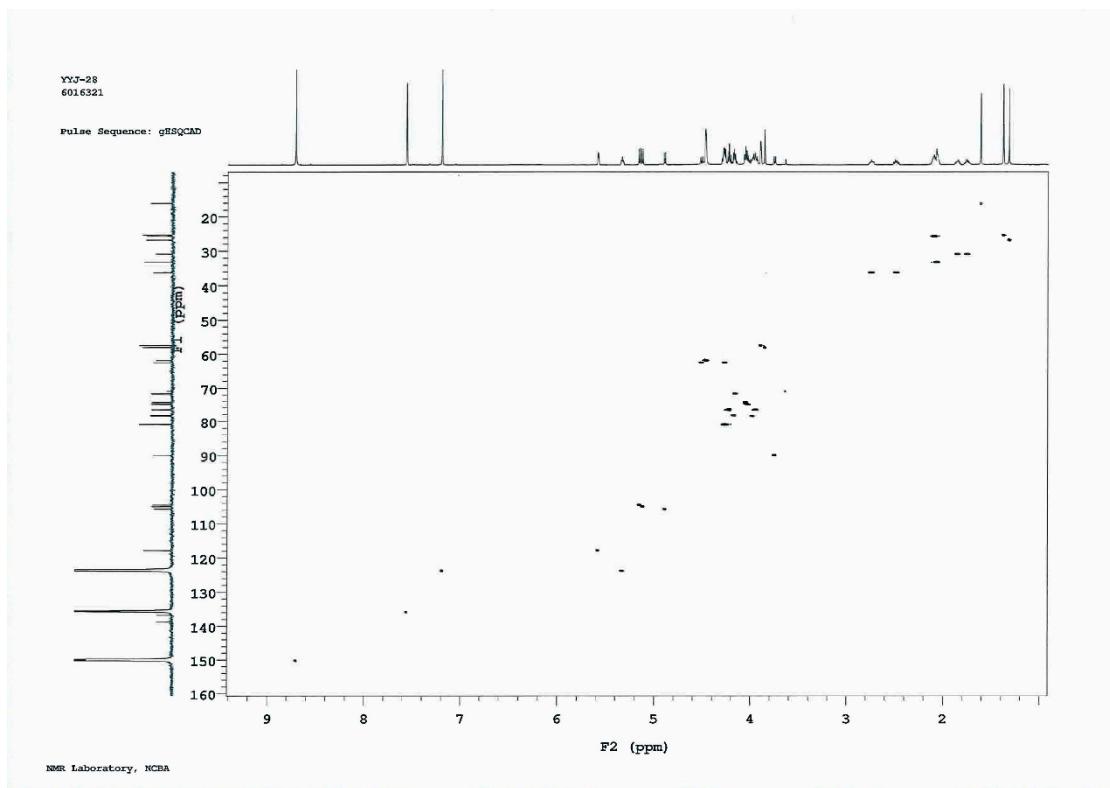


Fig. 9S HSQC spectrum of compound 1

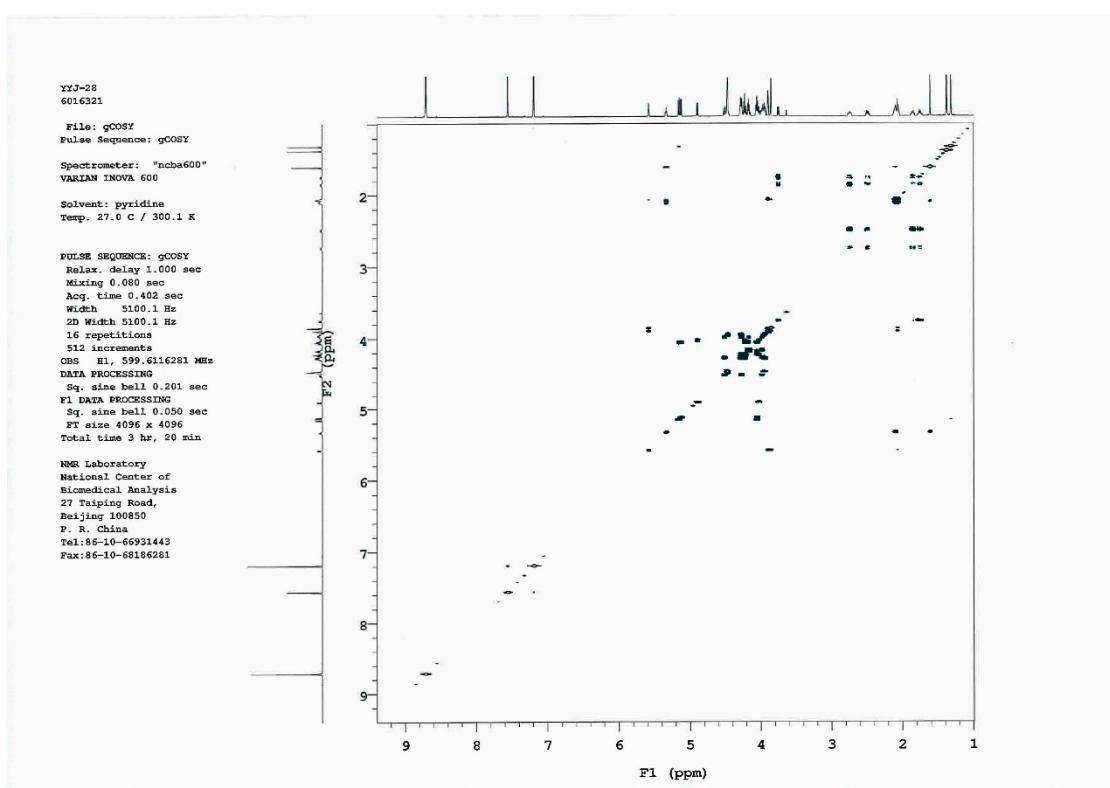


Fig. 10S  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of compound 1

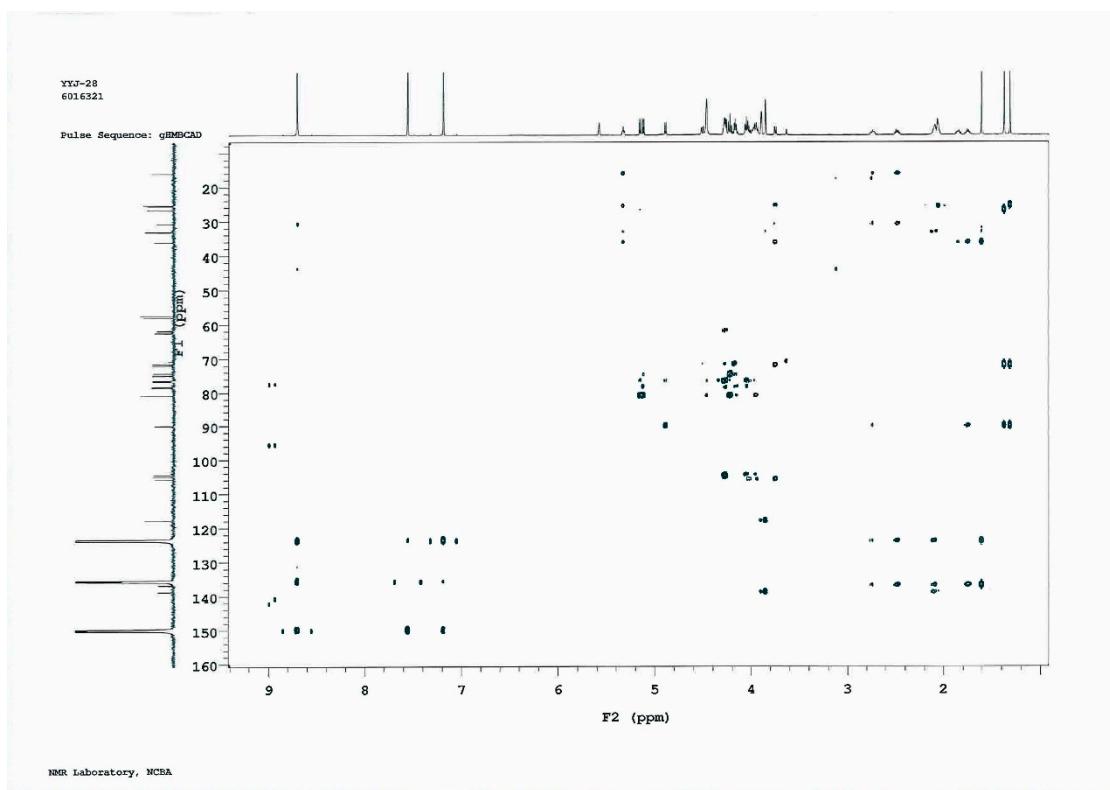


Fig. 11S HMBC spectrum of compound 1

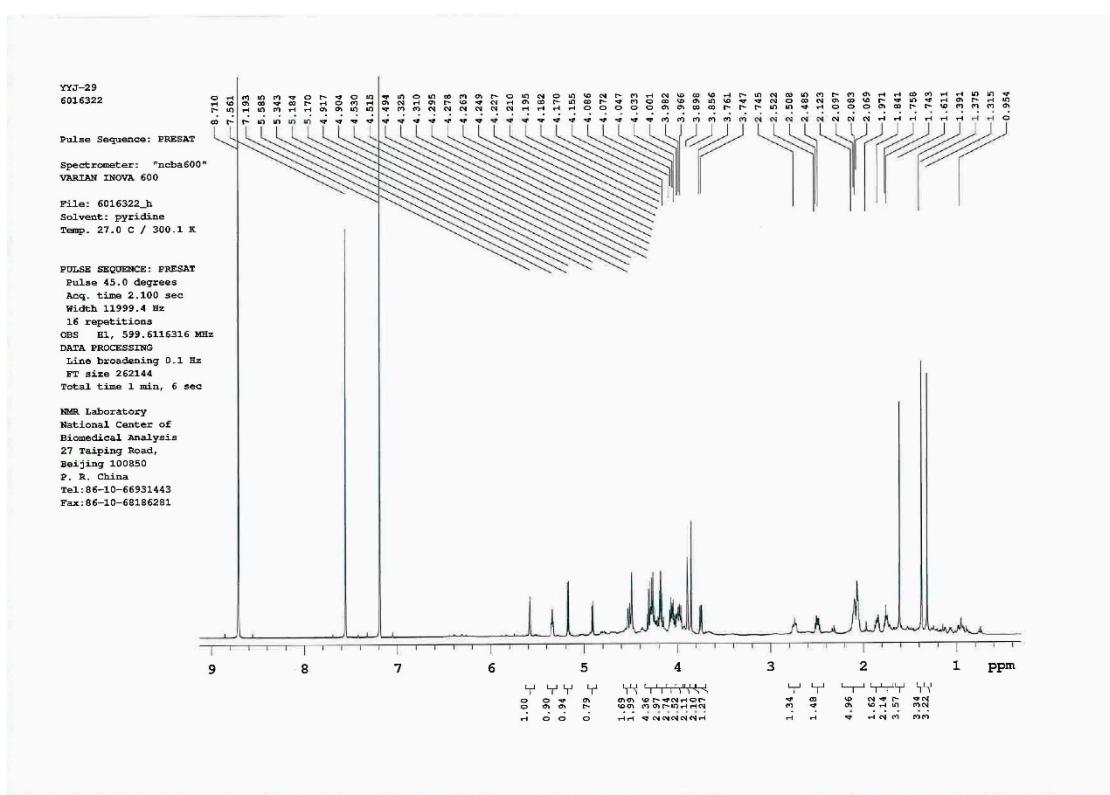


Fig. 12S <sup>1</sup>H NMR spectrum of compound 2

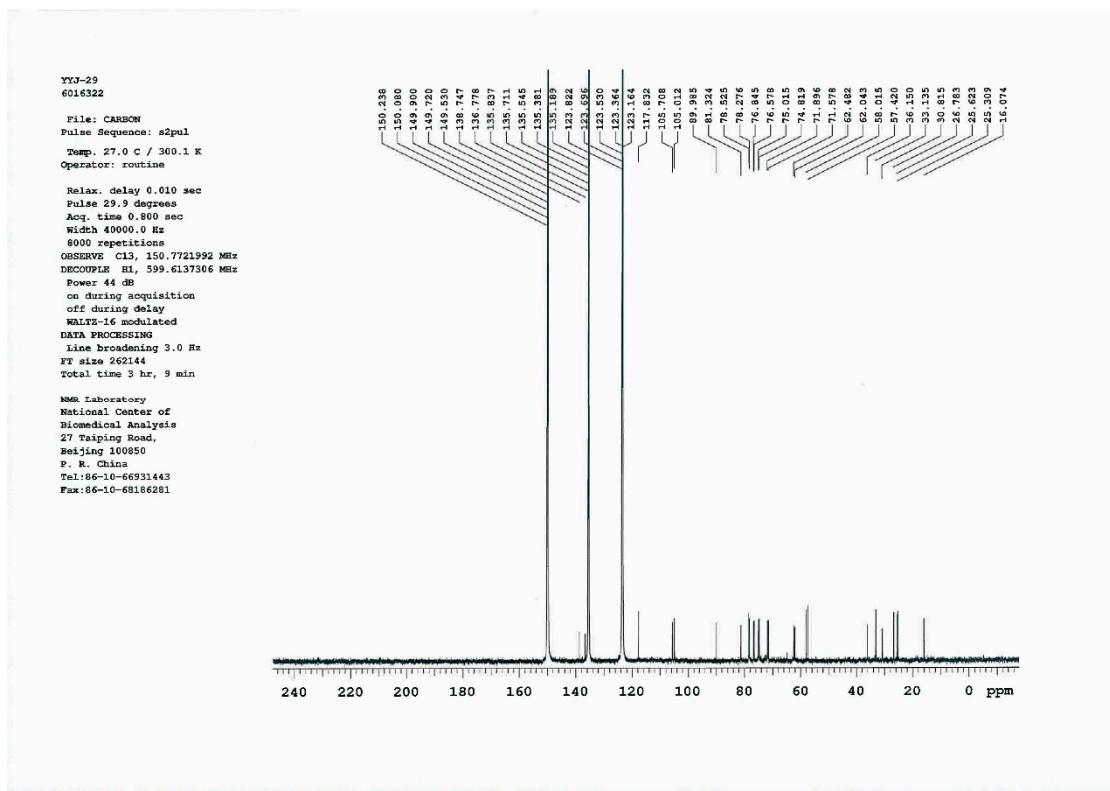


Fig. 13S  $^{13}\text{C}$  NMR spectrum of compound 2

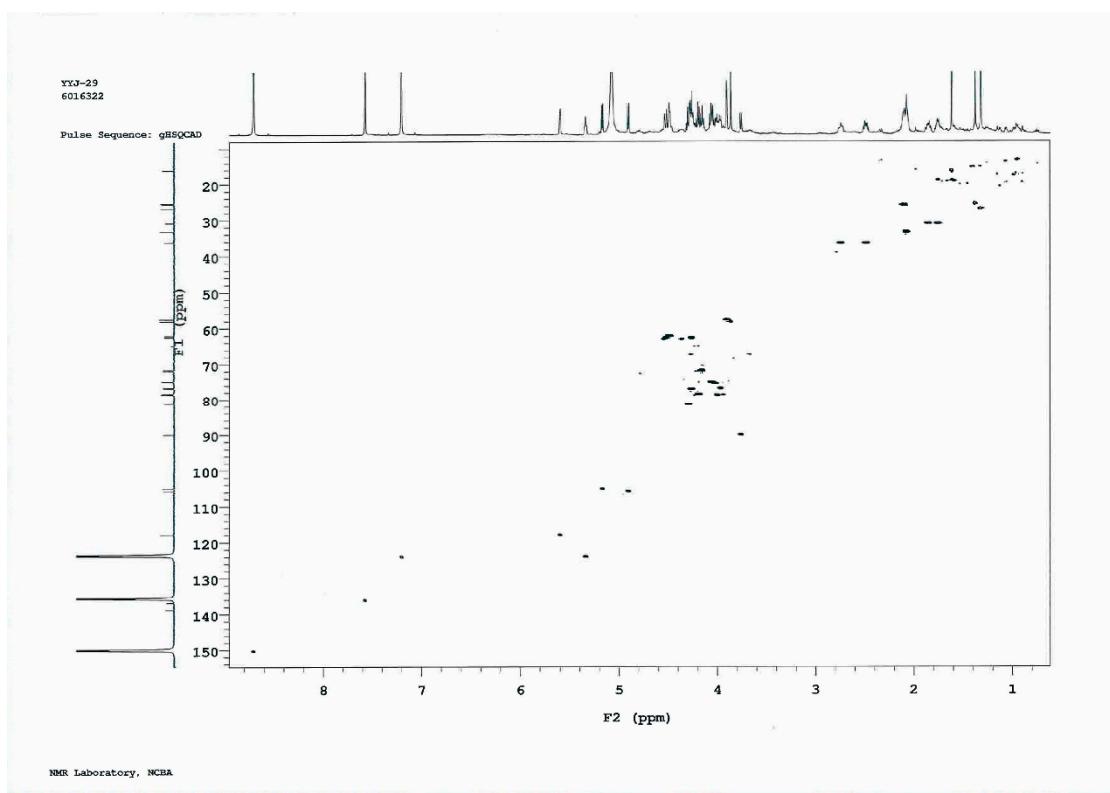


Fig. 14S HSQC spectrum of compound 2

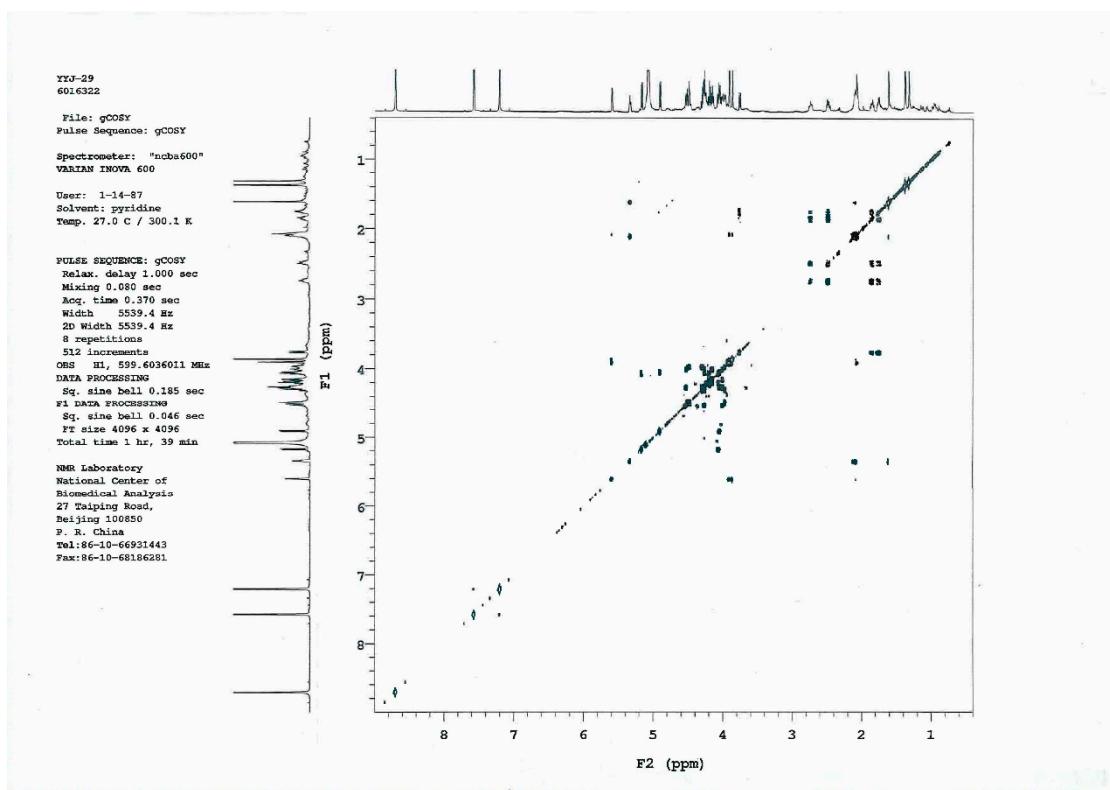


Fig. 15S  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of compound 2

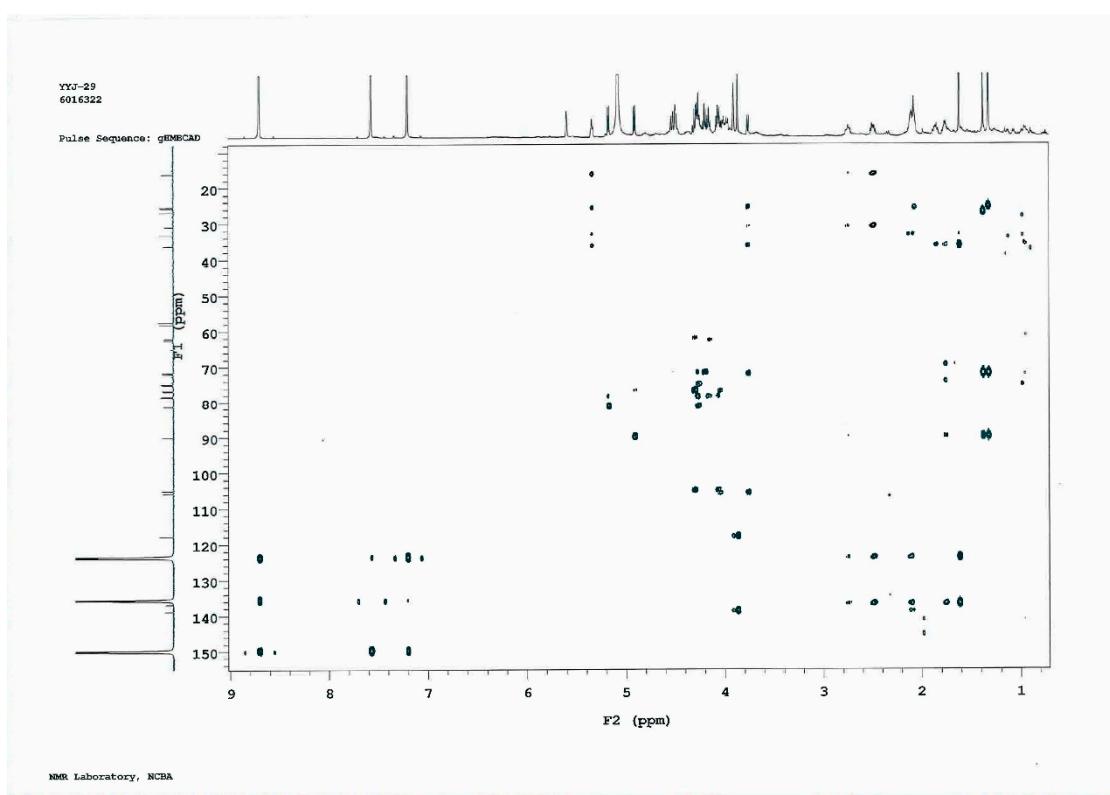


Fig. 16S HMBC spectrum of compound 2

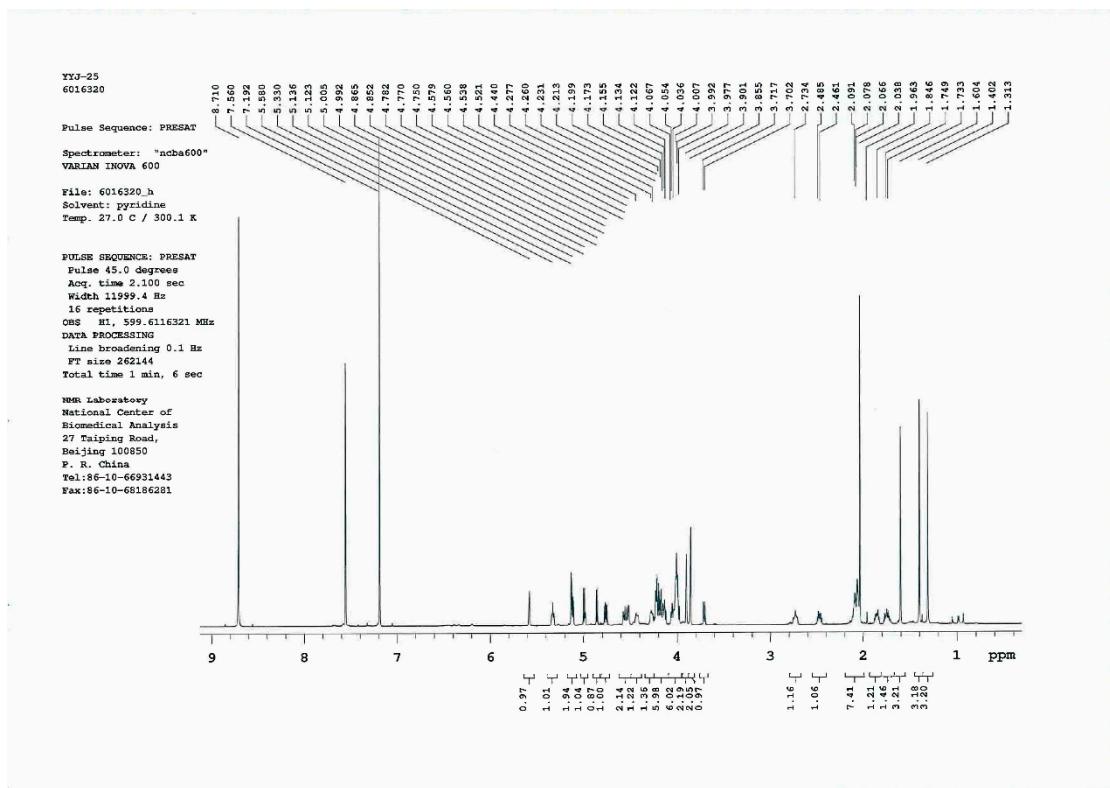


Fig. 17S  $^1\text{H}$  NMR spectrum of compound 3

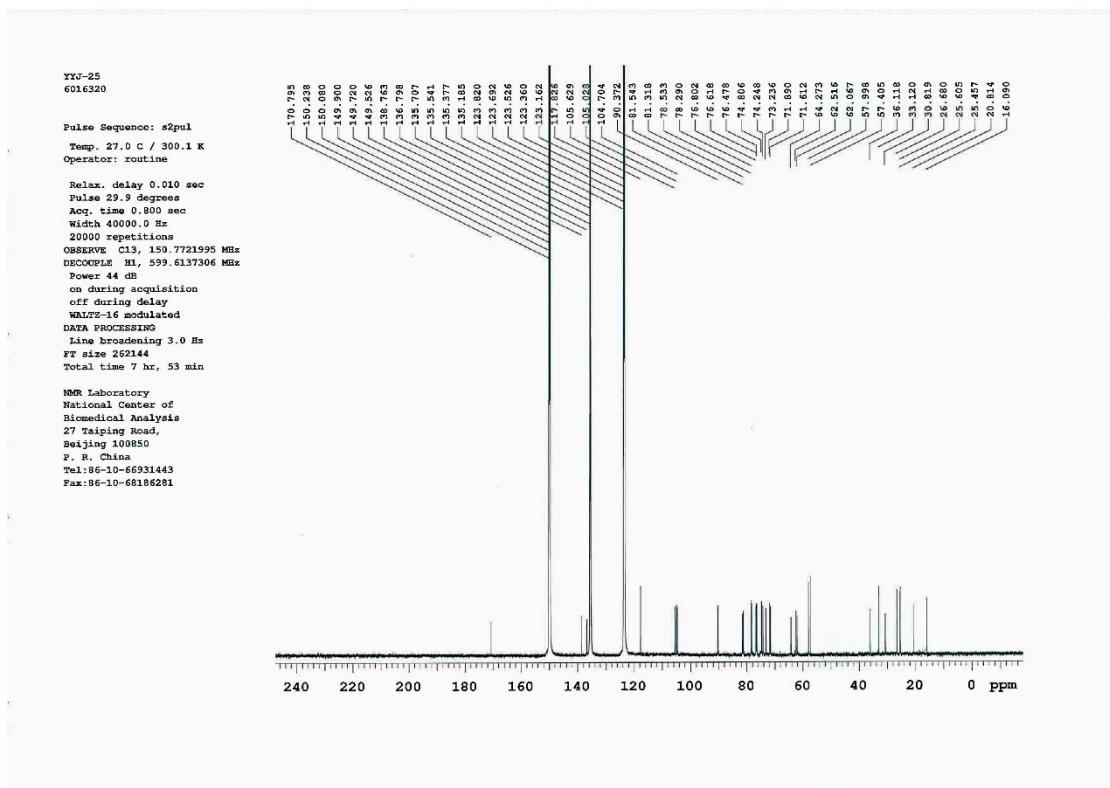


Fig. 18S  $^{13}\text{C}$  NMR spectrum of compound 3

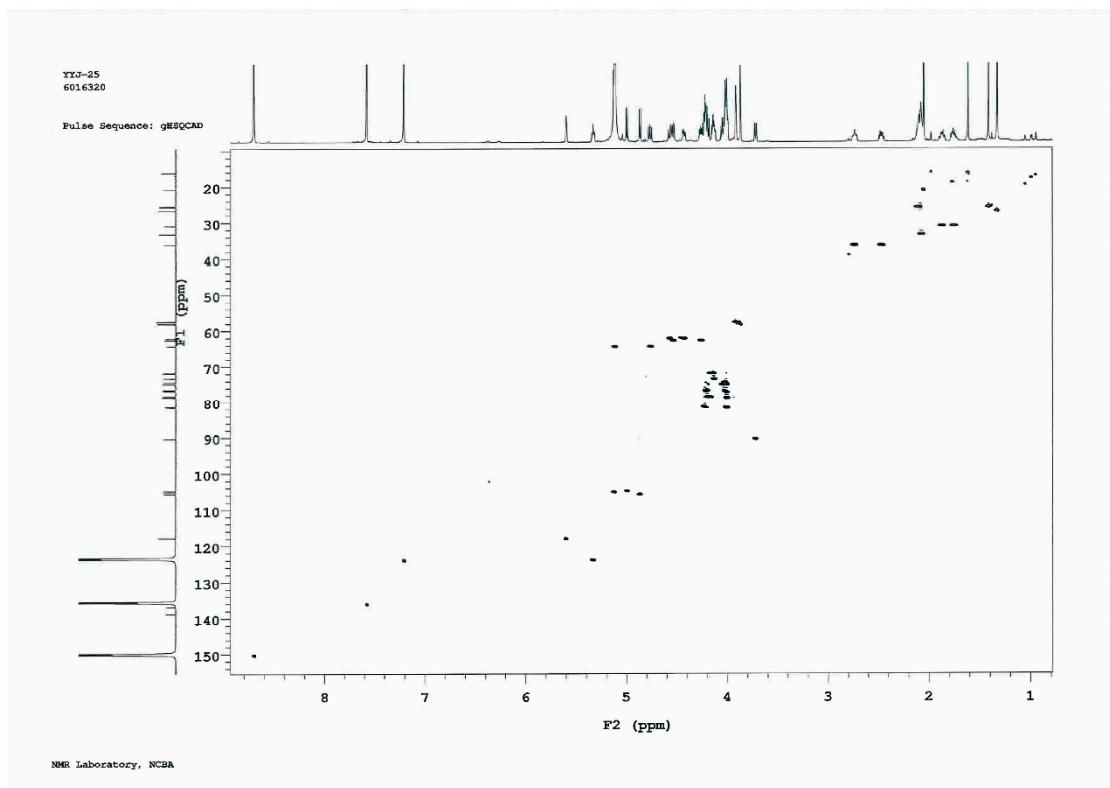


Fig. 19S HSQC spectrum of compound 3

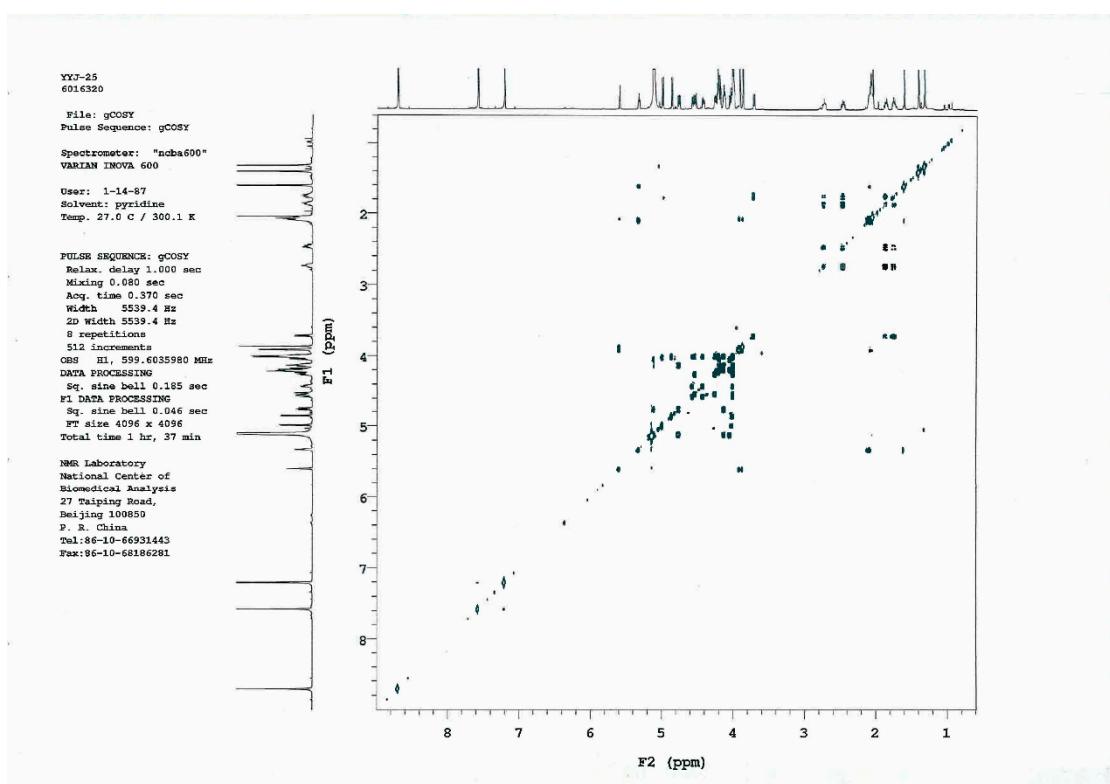


Fig. 20S  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of compound 3

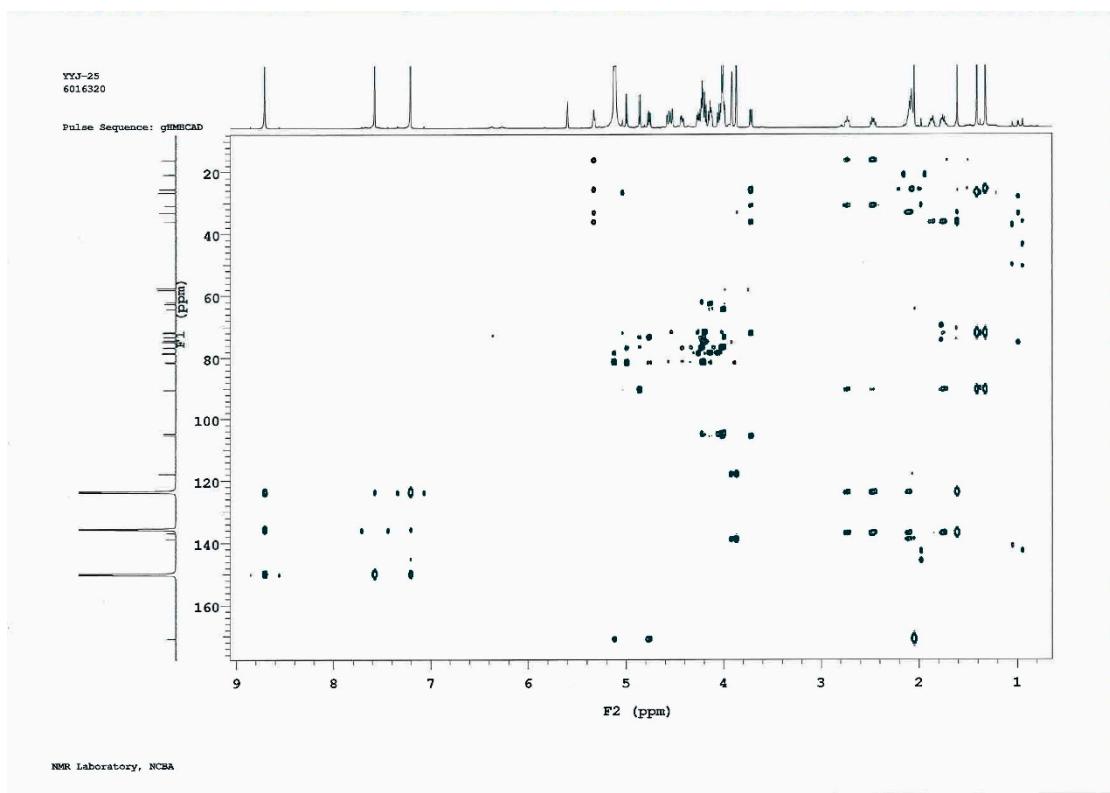


Fig. 21S HMBC spectrum of compound 3

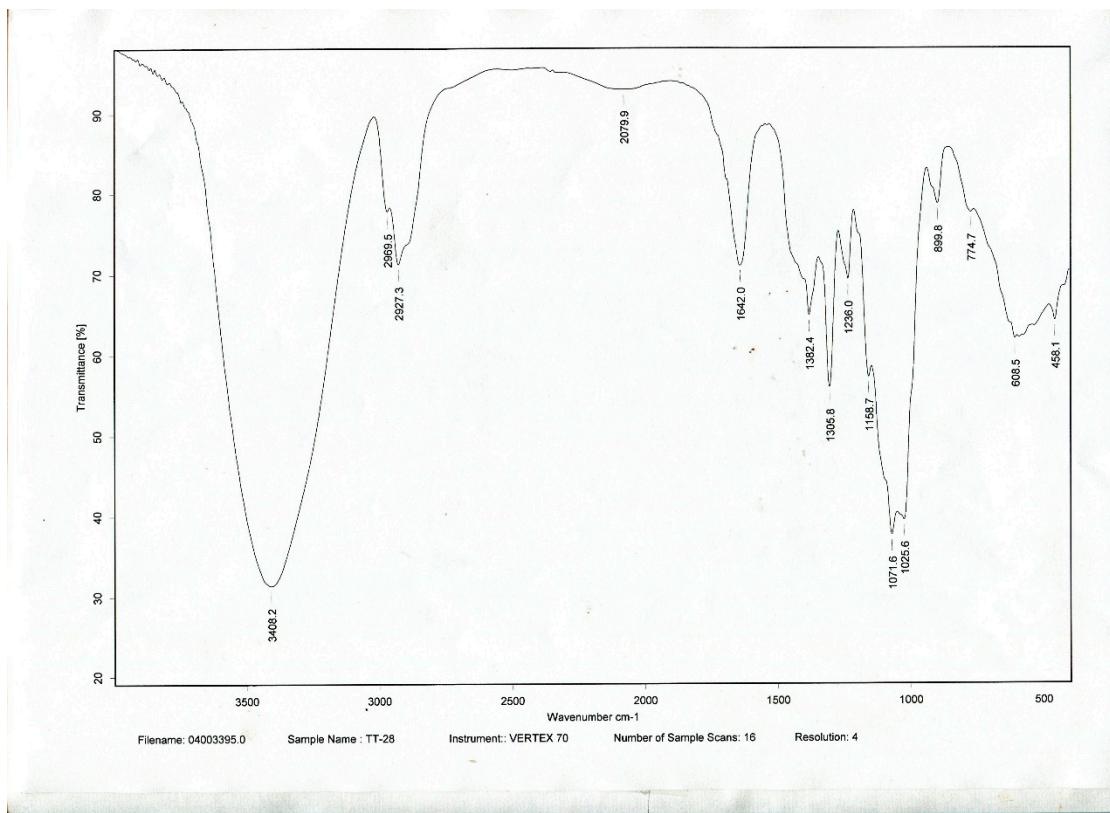


Fig. 22S IR spectrum of compound 1

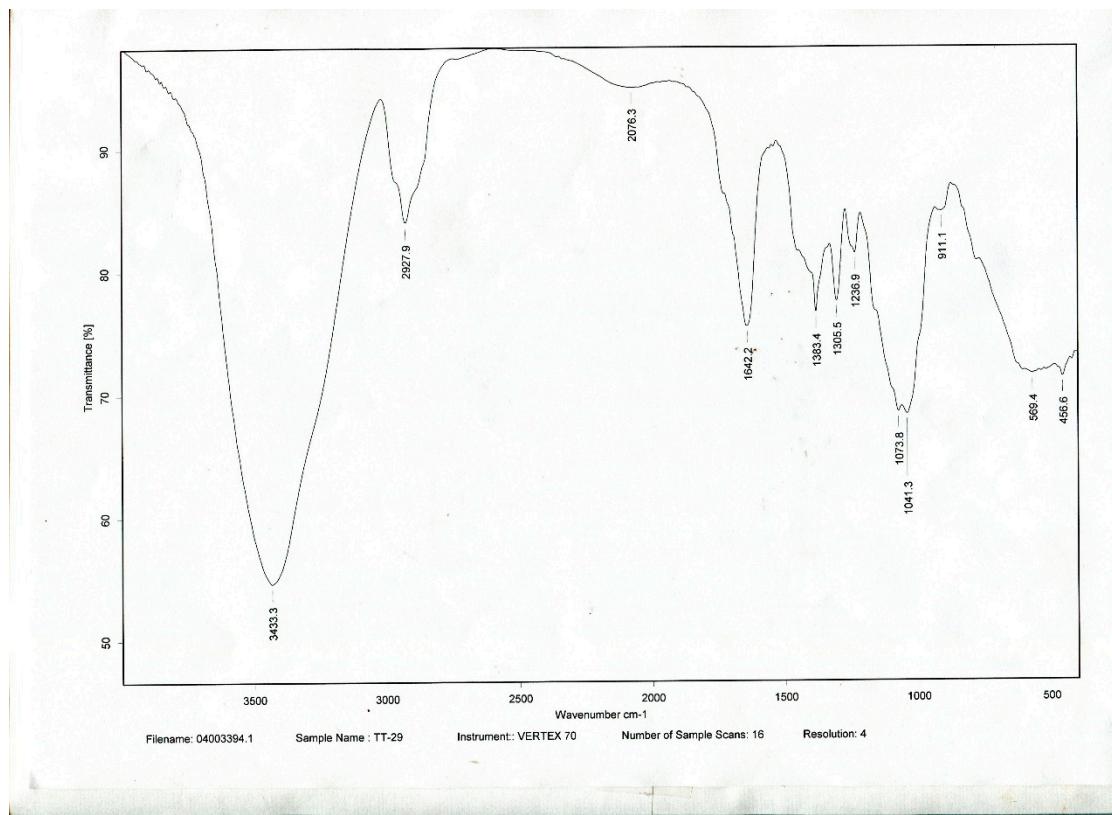


Fig. 23S IR spectrum of compound 2

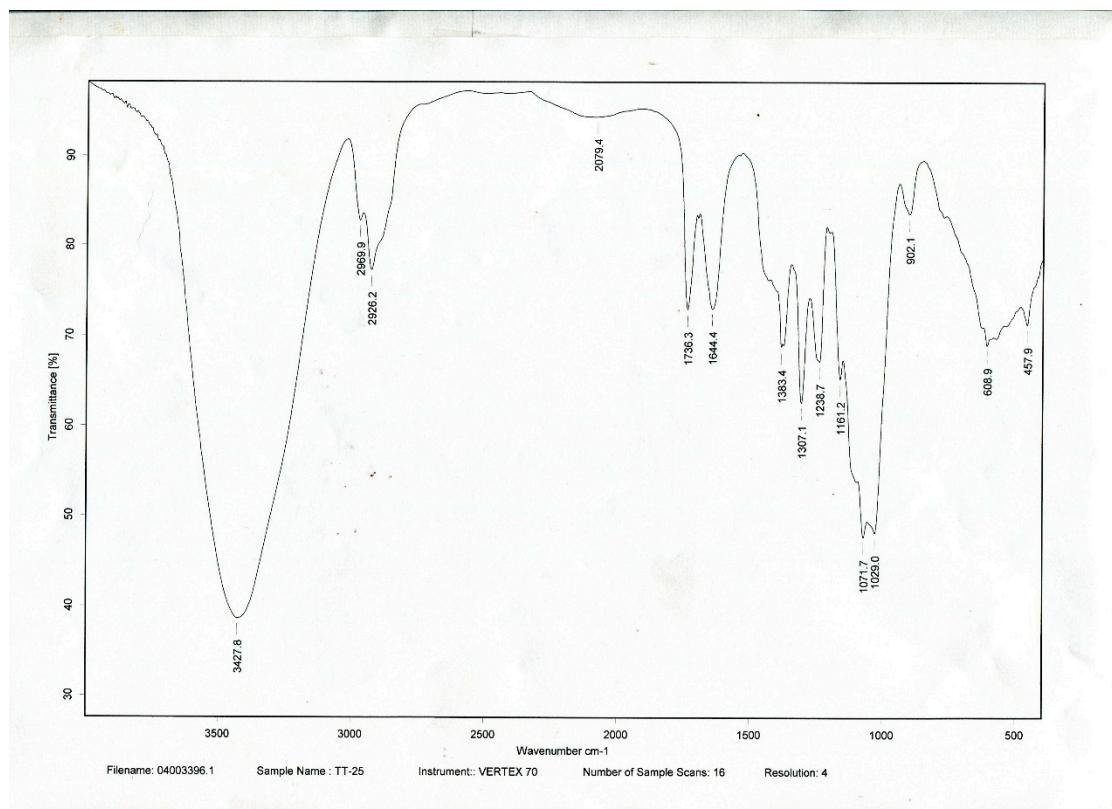


Fig. 24S IR spectrum of compound 3

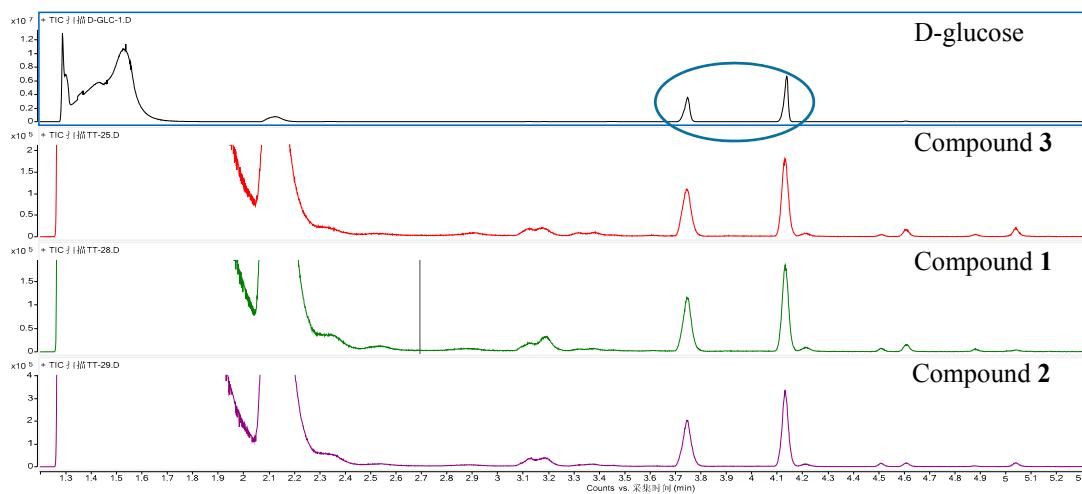


Fig. 25S Chromatography of D-glucose and the acid hydrolysis products of compounds **1-3** separated by GC-MS, the conditions of GC-MS: Agilent 5977A MSD; column, agilent DB-5ms (30m x 250 $\mu$ m, 350°C), program warming (180°C-250°C, 15°C/min).