Electronic Supplementary Material (ESI) for Analytical Methods.


# Electronic Supplementary Information

# Separation of the Alkaloids in *Sophora flavescens* Aiton *via* Molecular Imprinted Polymer on Silica-gel Surface

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**Contents:**

**Experiment** – detection of template removal

**Fig. S1** The FTIR spectra of initial silica-gel (SG) and modified silica-gel (MSG)

**Fig. S2** The MS spectra of the substance with the retention time 5.0 min.

**Fig. S3** The MS spectra of the substance with the retention time 31.5 min.

**Fig. S4** The MS spectra of the substance with the retention time 35.0 min.

**Fig. S5** The NMR spectra of the substance with the retention time 5.0 min.

**Fig. S6** The NMR spectra of the substance with the retention time 31.5 min.

## **Experiment** – detection of template removal

The content of sophoridine in the whole process was detected by HPLC to ensure the template was removed completely. The solutions before and after the polymerization, the refluxing solutions used to remove the template (acetic acid-methanol solution (1:9, v/v)) were dried by nitrogen-blow, and then redissolved by methanol. After passed through a 0.45 μm membrane filter, all these samples were detected by high performance liquid chromatography (HPLC) (LC-20AT SHIMADZU, SPD-M20A detector，Shim-pack VP-ODS 150×4.6mm 4.51 μm). The HPLC conditions used a mobile phase of potassium dihydrogen phosphate water solution (0.01 mol $L^{-1}$, contained 0.08% triethylamine)-methanol (78:22, v/v) and a flow rate of 1.0 mL $min^{-1}$ with detection at 210 nm. The results show that compared with the template added there was 6.34% and 76.59% sophoridine in the solution after the polymerization and the refluxing solution respectively. And parts of sophoridine which absorbed on the surface of MIP lost in the washing steps and were not detected by HPLC. Therefore, this result can indicate that most of the template was removed from the MIP in the refluxing process.

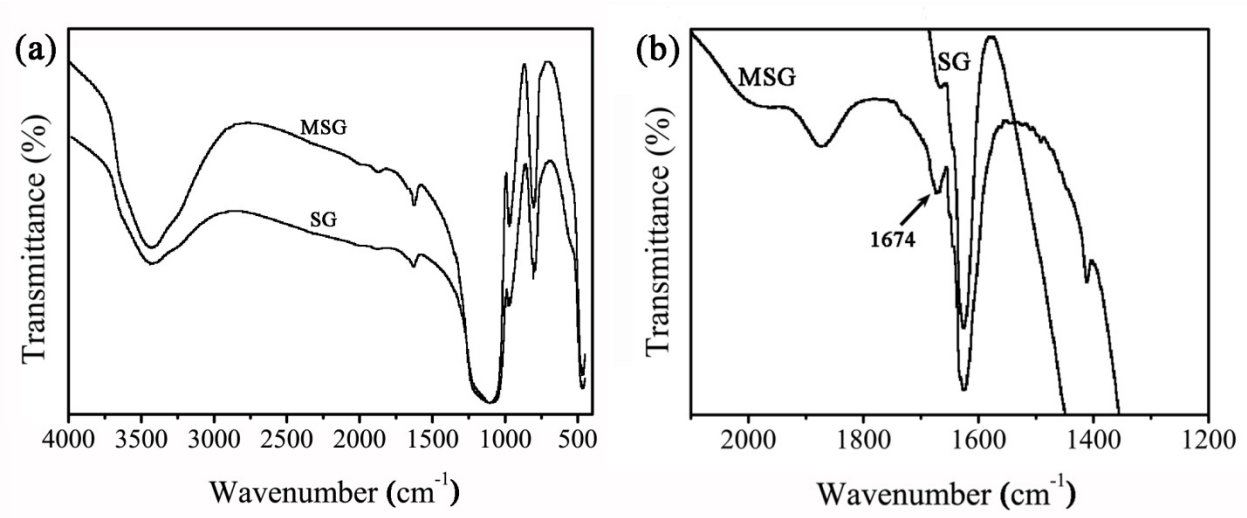


**Fig. S1** The FTIR spectra of initial silica-gel (SG) and modified silica-gel (MSG)

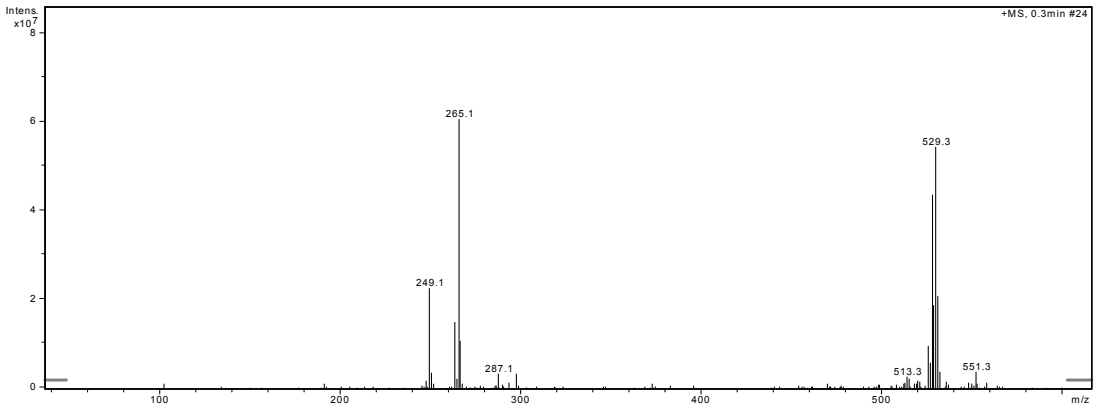


**Fig. S2** The MS spectra of the substance with the retention time 5.0 min.

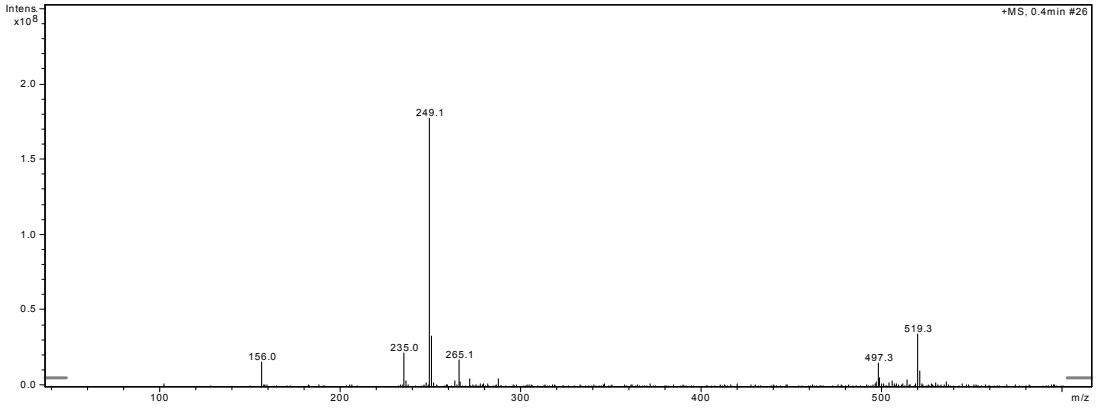


**Fig. S3** The MS spectra of the substance with the retention time 31.5 min.

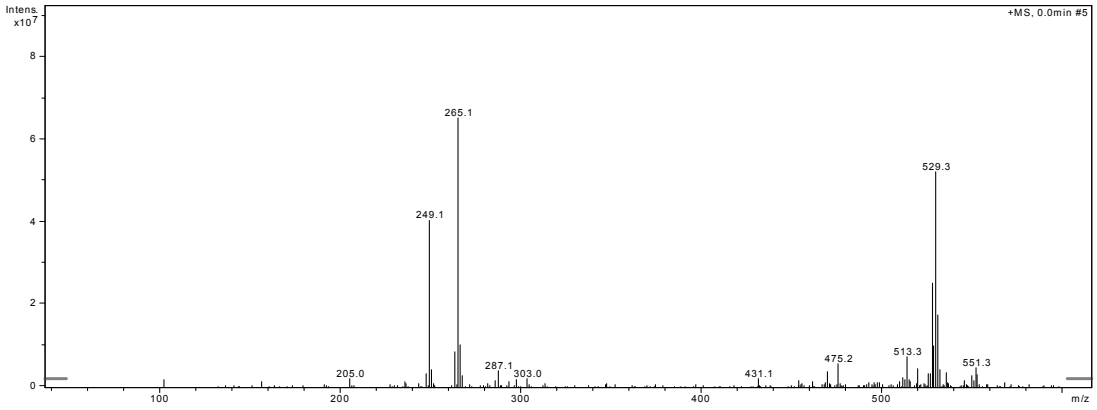


**Fig. S4** The MS spectra of the substance with the retention time 35.0 min.

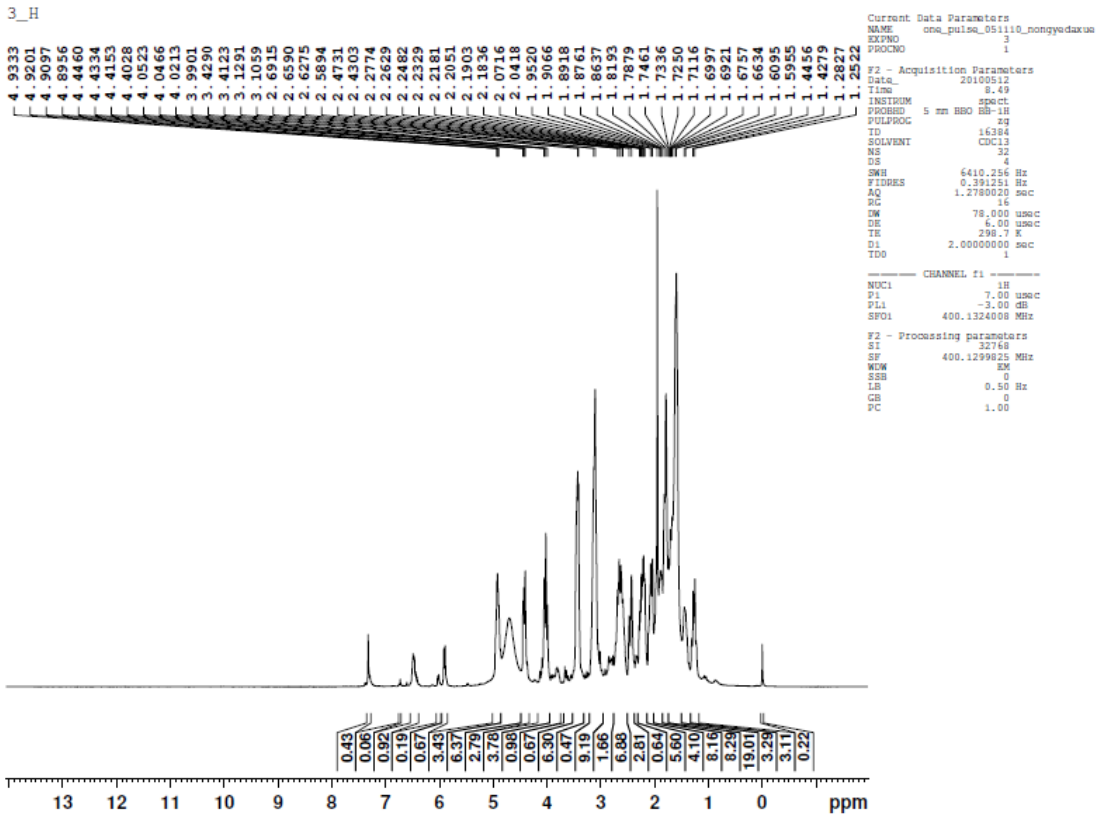


**Fig. S5** The NMR spectra of the substance with the retention time 5.0 min.

1H NMR(CDCl3, TMS) δ ppm：3.28-3.47(3H, m), 2.81-3.02(2H, m), 2.27-2.39(3H, m), 2.15-2.24(2H, m), 2.10-1.00

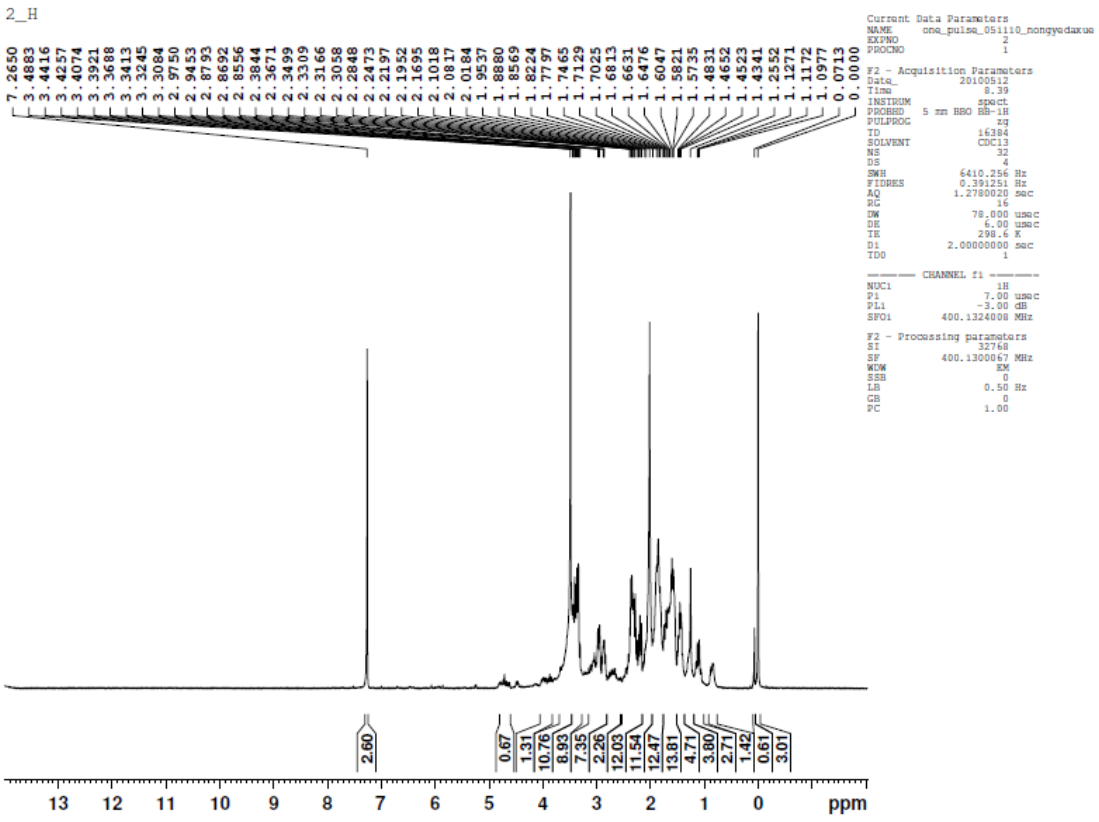


**Fig. S6** The NMR spectra of the substance with the retention time 31.5 min.

1H NMR(CDCl3, TMS) δ ppm：4.86-5.02(1H, dt), 4.37-4.47(1H, dd), 3.95-4.08(1H, t), 2.95-3.22(5H, m), 2.54-2.75(2H, m), 2.37-2.51(1H, m), 2.18-2.31(2H, m), 2.01-2.13(1H, m), 1.50-1.92(9H, m), 1.17-1.34(1H, m)