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Supplementary material

Fabrication of a new magnetic nanocatalyst and its application for the effectual construction of pyrimido[4,5-*b*]quinolines

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Materials and apparatuses

The reactants and solvents were purchased from Fluka or Sigma-Aldrich Chemical Companies. To observe progress of the reactions, thin layer chromatography (TLC) (silica gel SIL G/UV 254 plates, EtOAc/*n*-hexane: 1/2) was applied. To measure melting points in open capillary tubes, a Thermo Scientific 9200 apparatus was used. For recording the FT-IR spectra, a Thermo device (model AVATAR) was used. A Bruker Avance DPX, FT-NMR spectrometer was utilized for running the NMR spectra (δ in ppm). Energy dispersive X-ray spectroscopy (EDS) and elemental mapping analysis were done on a SAMX-EDS instrument (France system). An FE-SEM instrument TESCAN (model MIRA III) was utilized for determining sizes and morphologies of the particles. VSM analysis was performed using a MDK (Meghnatis Daghigh Kavir, Iran) device at room temperature. XRD analysis was carried out on a PHILIPS apparatus (Cu K α radiation, $\lambda=1.54056 \text{ \AA}$, model PW1730). TGA was done using TA apparatus (model Q600), at 25-600 °C, with temperature increase rate of 10 °C.min⁻¹ in an argon atmosphere. Mass spectra were recorded on a Shimadzu GC-MS-QP 1100 Ex instrument.

Selected original spectrums of the constructed pyrimido[4,5-*b*]quinolines

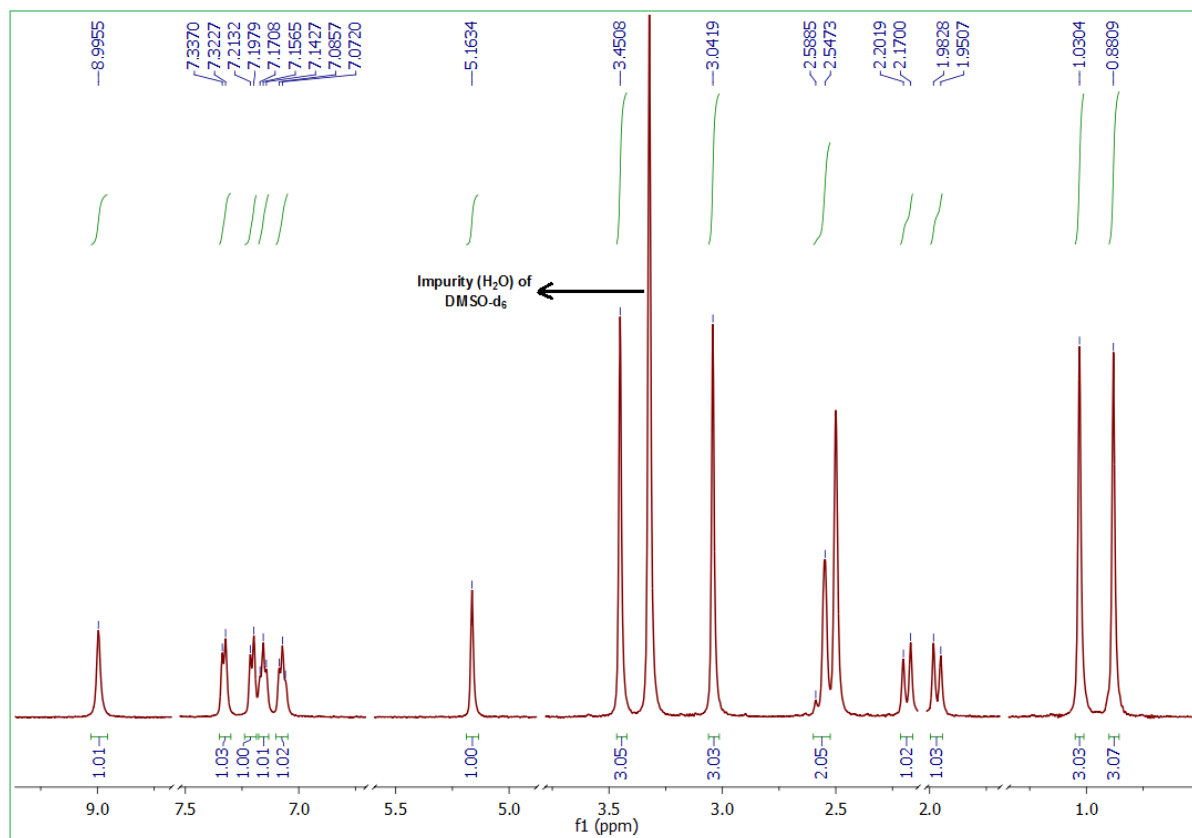


Figure S1. The ^1H NMR spectrum of product **4c**.

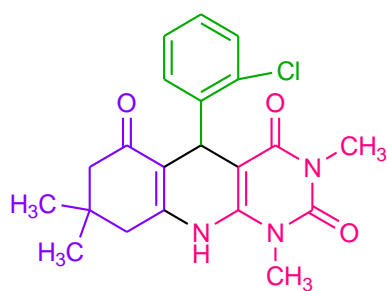
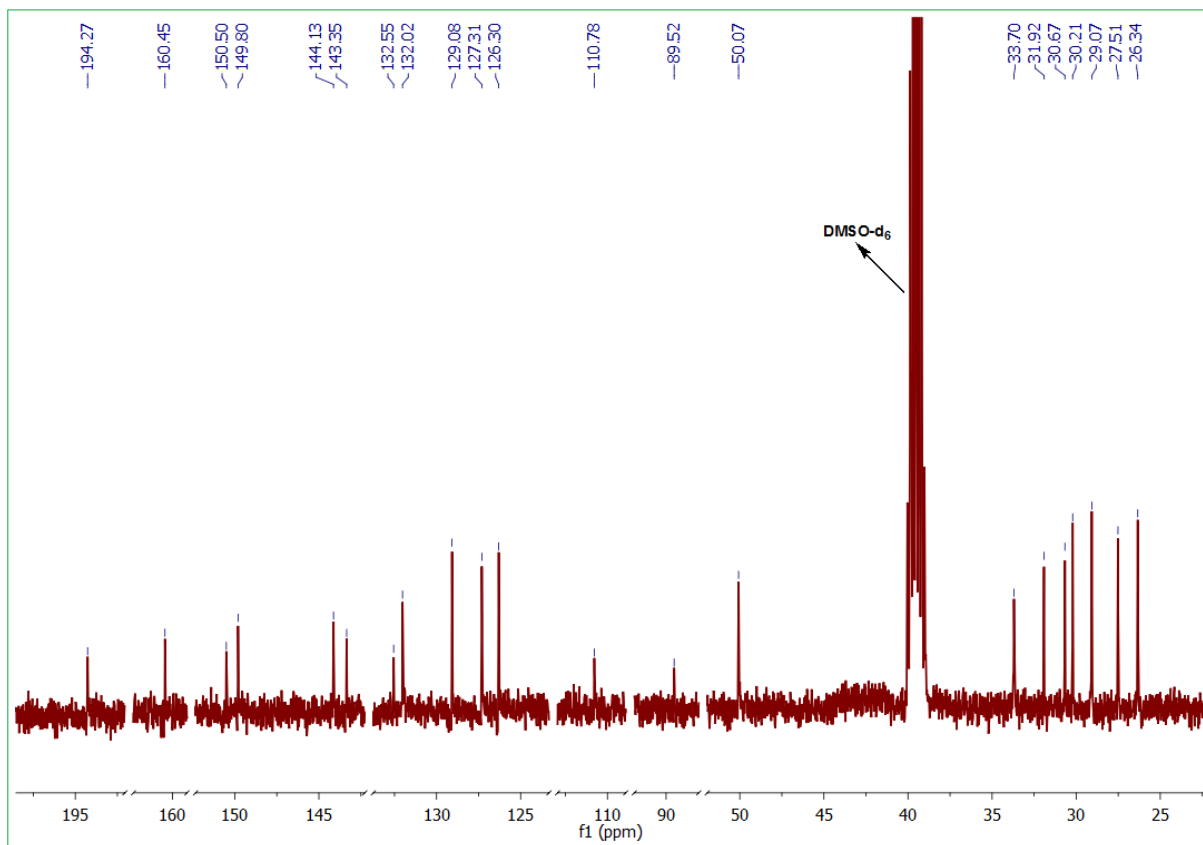


Figure S2. The ¹³C NMR spectrum of product **4c**.

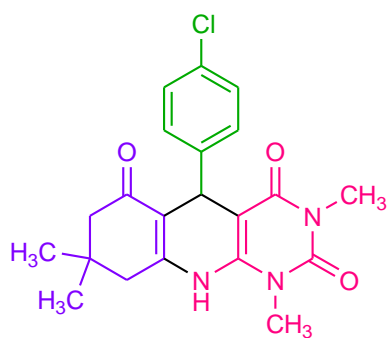
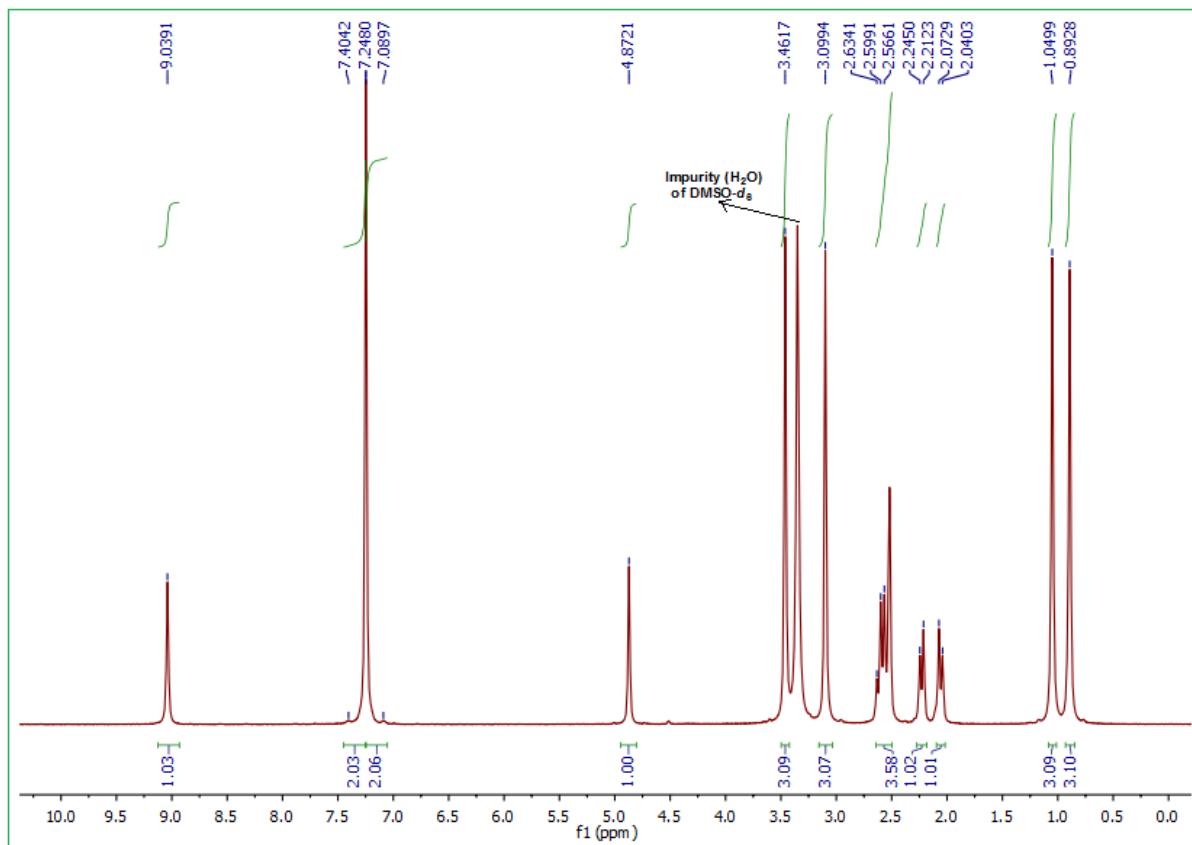


Figure S3. The ¹H NMR spectrum of product **4e**.

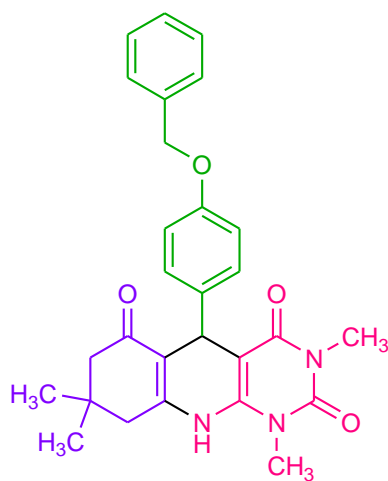
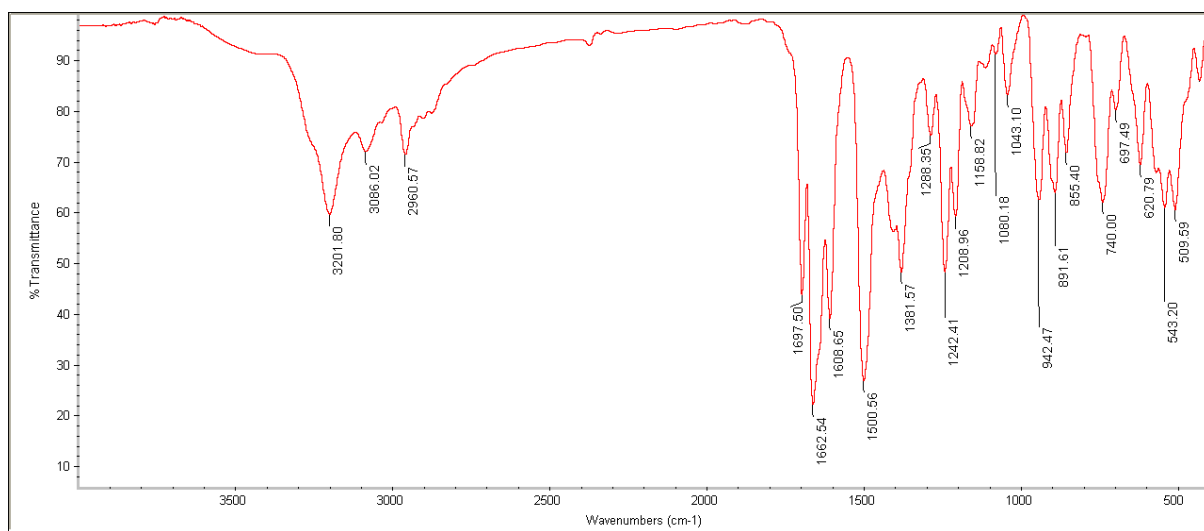


Figure S4. The FT-IR spectrum of product **4i**.

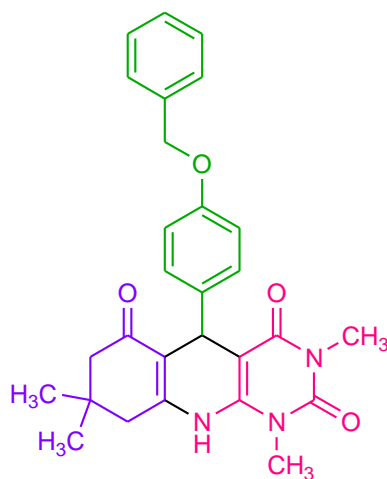
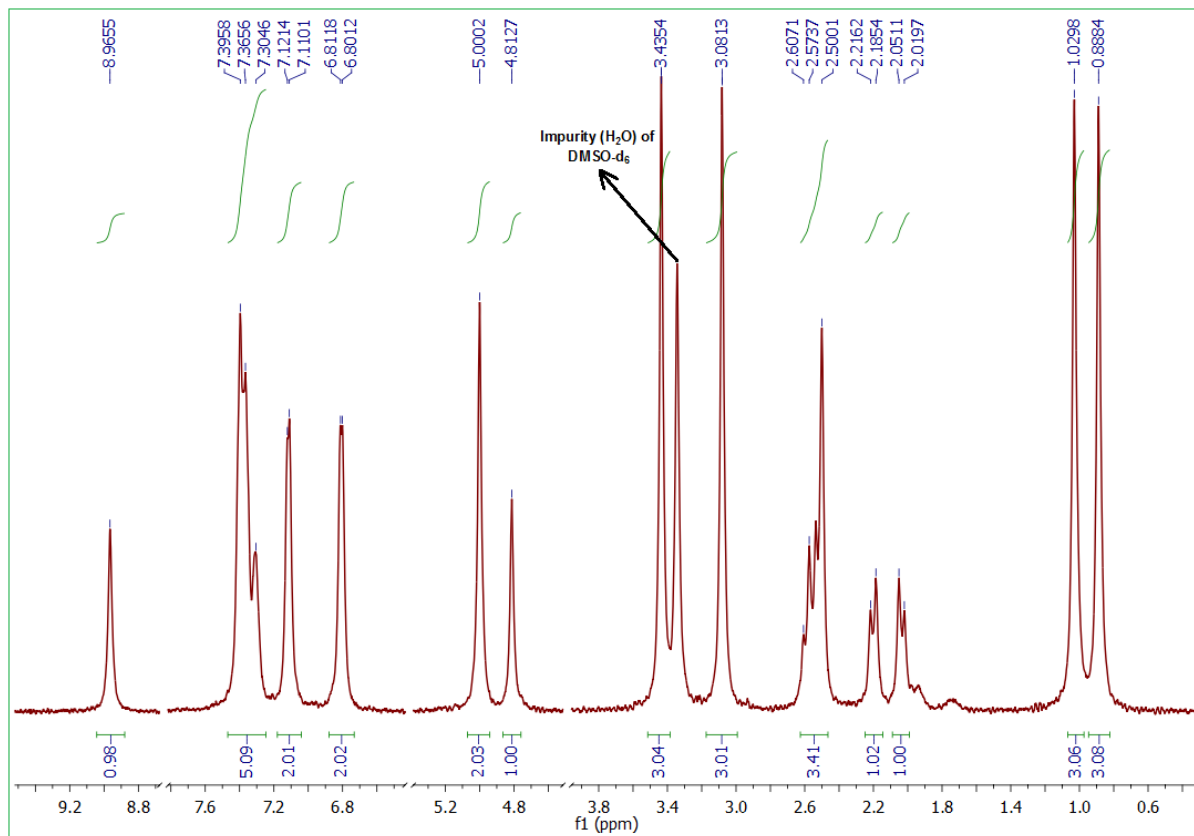


Figure S5. The ^1H NMR spectrum of product **4i**.

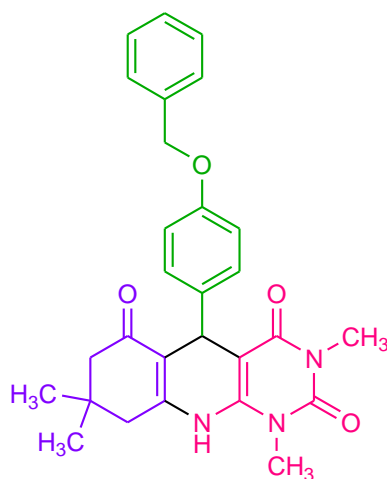
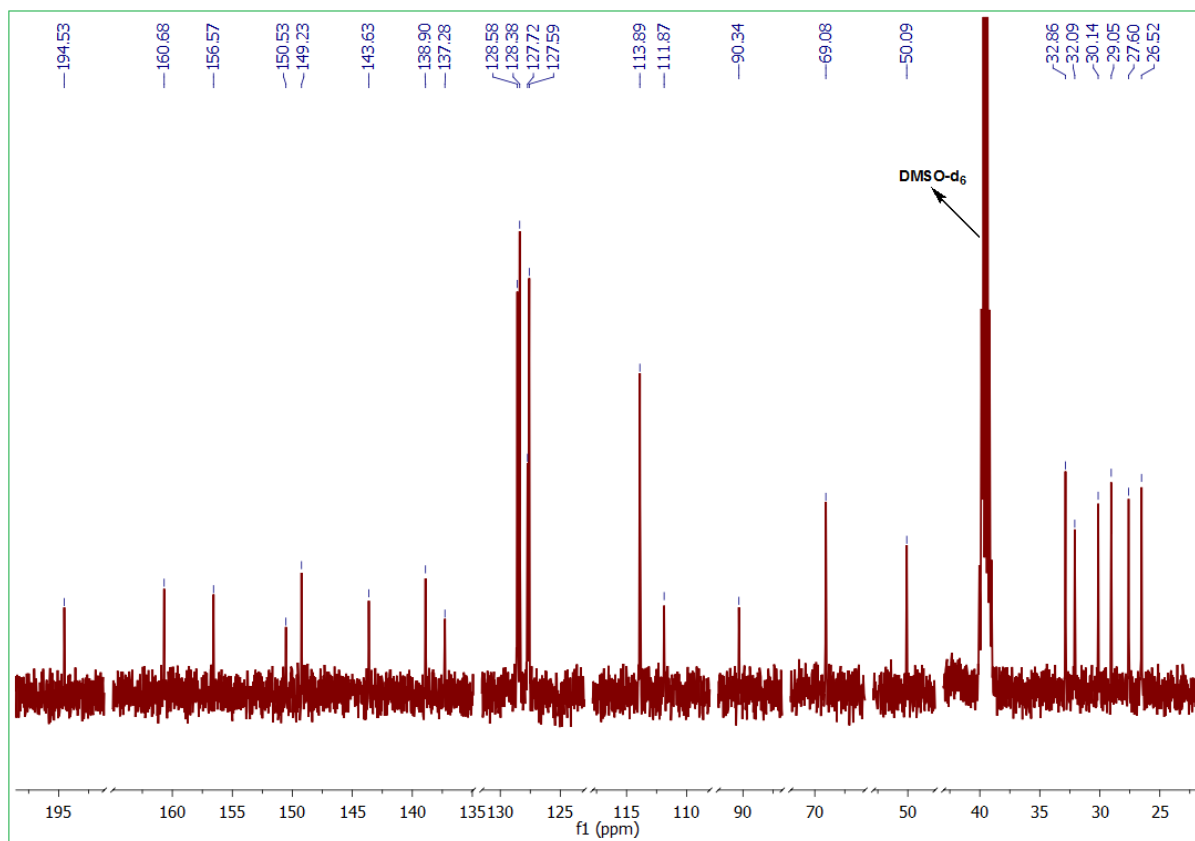


Figure S6. The ¹³C NMR spectrum of product **4i**.

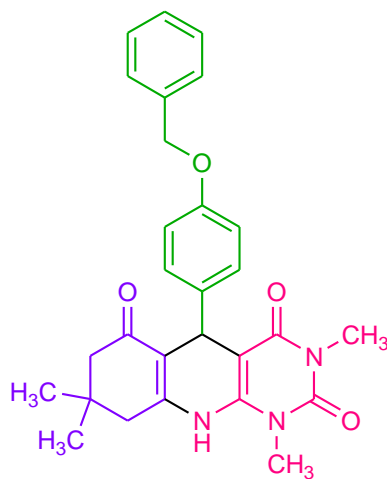
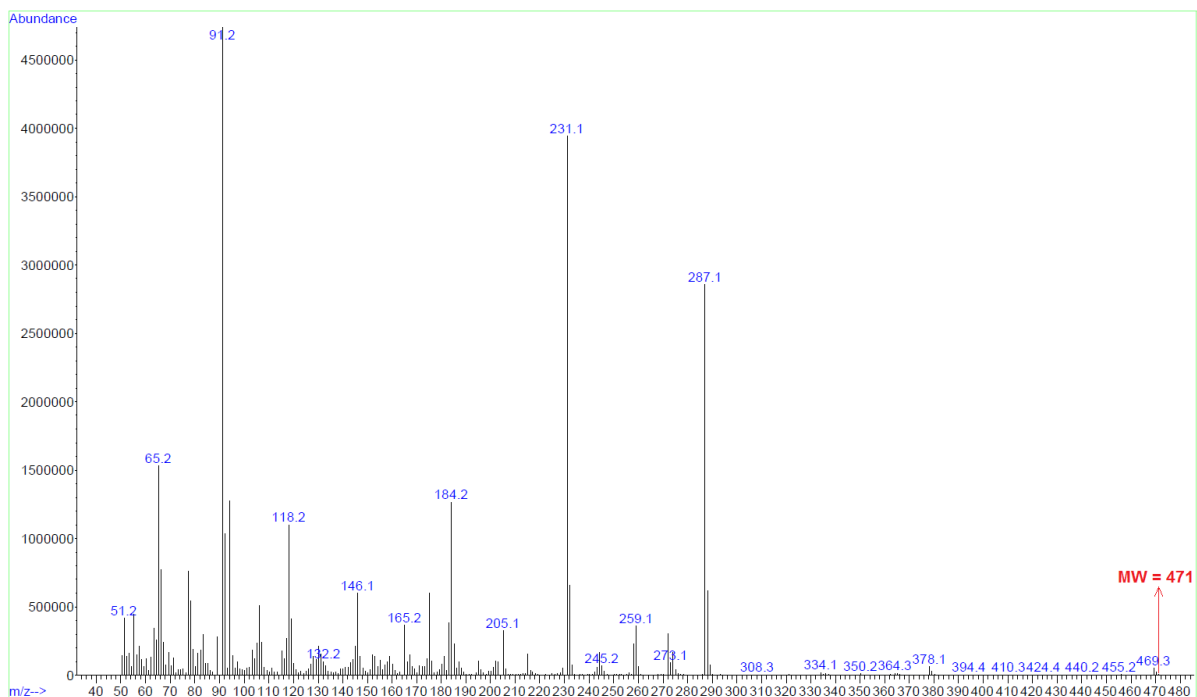


Figure S7. The mass spectrum of product **4i**.