

General procedure for the synthesis and identification of the derivative NaF

The derivative NaF was synthesized by Claisen–Schmidt condensation using a solution of 2.2 g of NaOH in 32 mL of water/ethanol (2:1), followed by 5.2 g of acetophenone derivative and 4.6 g of the corresponding aldehyde. The reaction medium was kept in an ice bath for 5 minutes, then removed and retained at room temperature for 3 hours. After that, the mixture was stored in the freezer for 12 hours and then filtered by suction.

A gas chromatograph equipped with a mass spectrometer (Shimadzu GC-MS-QP2010 – Kyoto, Japan) was used for mass spectrum determinations using a Rtx®-5MS Restek fused silica capillary column (5% -diphenyl-95%-dimethyl polysiloxane) of 30 m, 0.25 mm internal diameter (di), 0.25 μm film thickness, in a constant helium flow (99.999%) with a rate of 1.2 mL min^{-1} . The volume of injection used was 1 μL (10 mg mL^{-1}), with a split ratio of 1:30. The oven temperature was programmed from 80 °C (isotherm for 1.0 min), with an increase of 6 °C/min, ending with a 10 min isotherm at 300 °C. The molecules were ionized by electrons (EI) with energy of 70 eV and the fragments analyzed by a quadrupole analyzer programmed to filter fragments ions from m/z 40 to 600 Da and detected by an electron multiplier. The data processing was performed by the GC/MS software. HRMS analyses were recorded on a Bruker microTOF-Q II model device with “time off flight” analyzer and “Electrospray Ionization” source operating in positive mode (ESI⁺).

Nuclear Magnetic resonance (NMR) spectra were recorded using a Varian Inova Spectrometer (500 MHz for ¹H and 125 MHz for ¹³C NMR) in CDCl₃. All spectra were recorded at 25 °C and coupling constants (J values) are given in Hz. The chemical shifts are reported in parts per million (ppm) downfield from tetramethylsilane (TMS), which was used as the internal standard.

(E)-1-phenyl-3- α -naphthylprop-2-en-1-one (C-5)

Dark yellow solid (93%); m.p. 79-81 °C (Lit. - °C); ¹H NMR (600 MHz, CDCl₃) δ 8.72 (d, J = 15.4 Hz, 1H), 8.30 (d, J = 8.5 Hz, 1H), 8.13 (m, 2H), 7.96 (m, 3H), 7.68 (d, J = 15.4 Hz, 1H), 7.60 (m, 6H); ¹³C NMR (150 MHz, CDCl₃) δ 190.5 (C), 141.7 (CH), 138.2 (C), 133.7 (C), 133.6 (C), 133.6 (CH), 130.7 (C), 129.0 (CH), 128.7 (CH), 128.5 (CH), 128.4 (CH), 126.9 (CH), 126.3 (CH), 125.6 (CH), 125.4 (CH), 124.6 (CH), 123.4 (CH); HR-MS m/z [M+1] 259.1129; EIMS: m/z 258 [M]⁺, 257, 230, 181, 153, 147, 105, 77; FT-IR (KBr, cm^{-1}): ν_{Max} 3046, 1661, 1602.

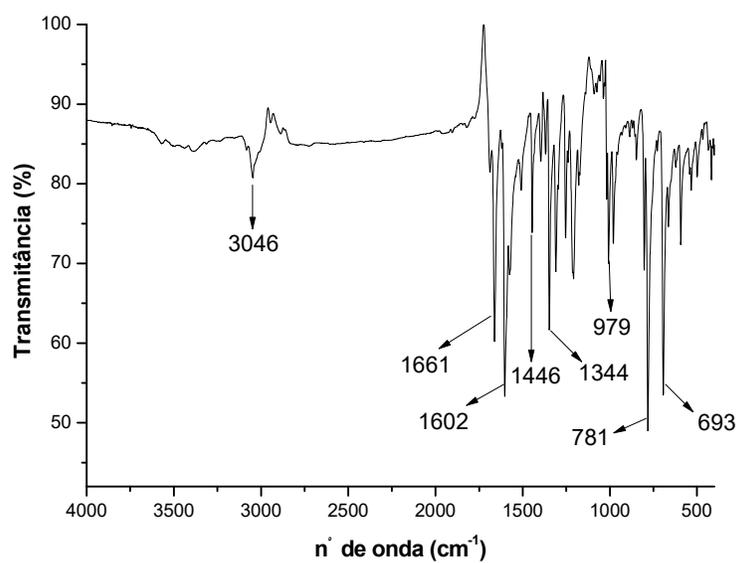


Figure S1. Infrared absorption spectrum of the derivative **NaF**.

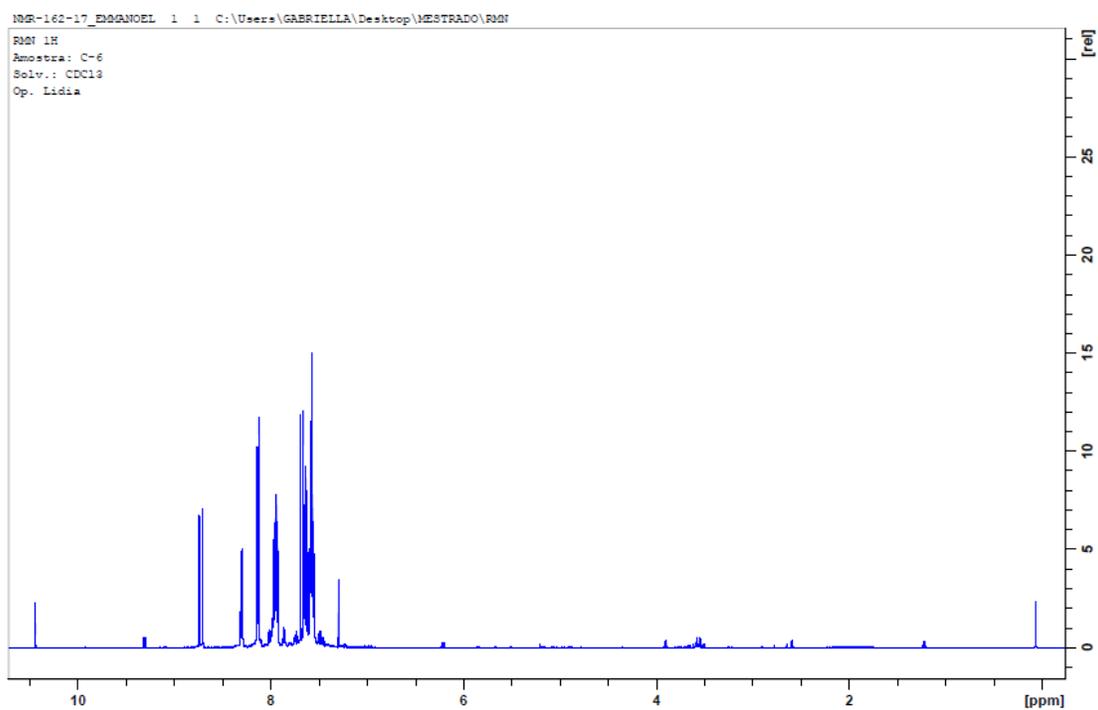


Figure S2. ¹H-NMR (500 MHz, CDCl₃) spectrum of the derivative **NaF**.

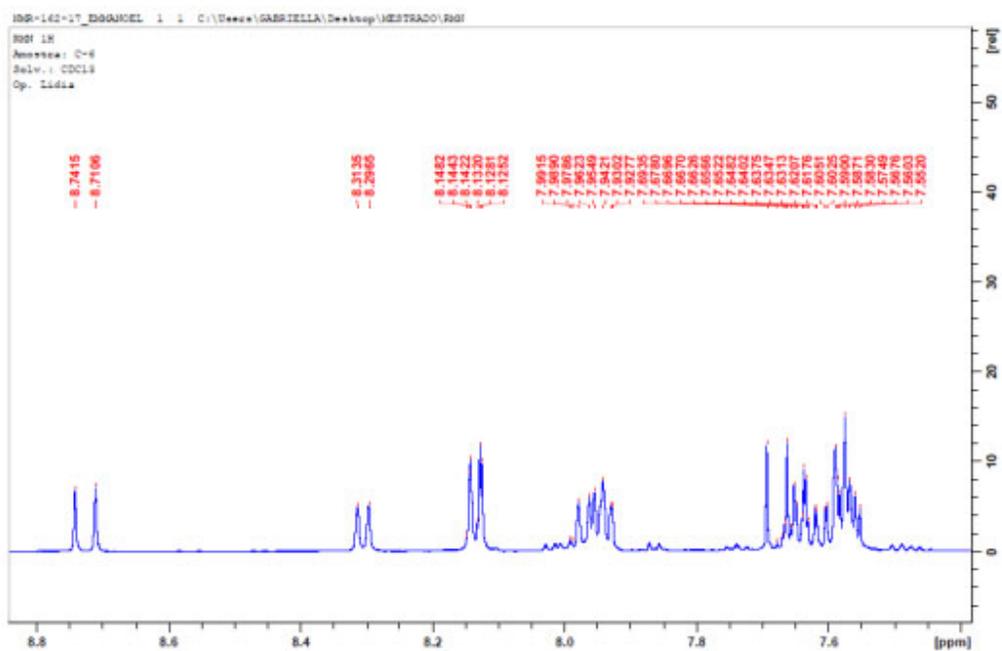


Figure S3. ^1H -NMR (500 MHz, CDCl_3) expansion spectrum of the derivative **NaF**.

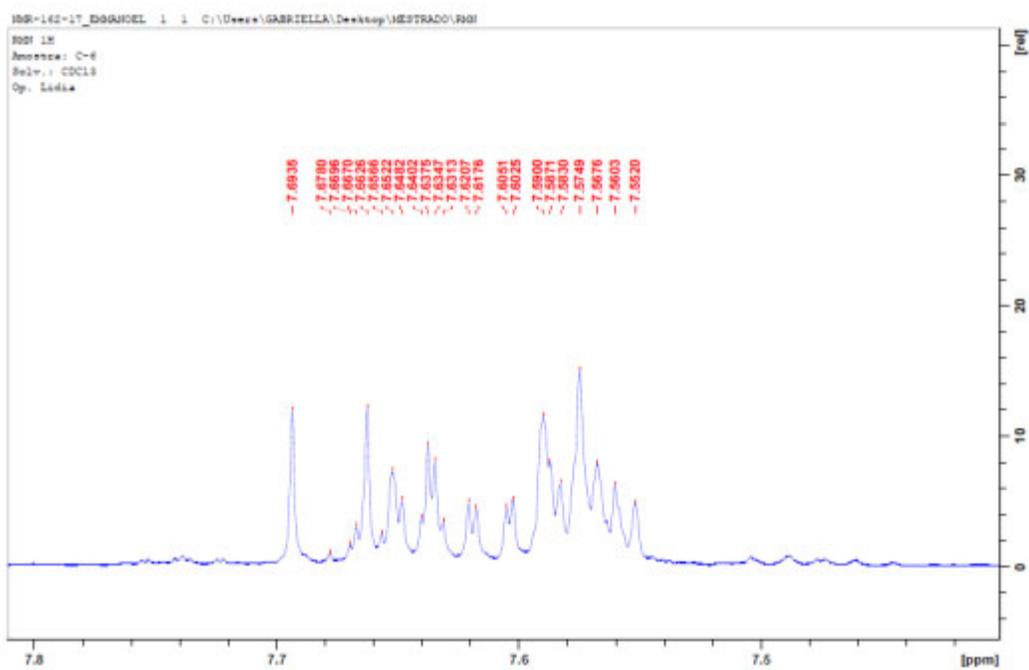


Figure S4. ^1H -NMR (500 MHz, CDCl_3) expansion spectrum of the derivative **NaF**.

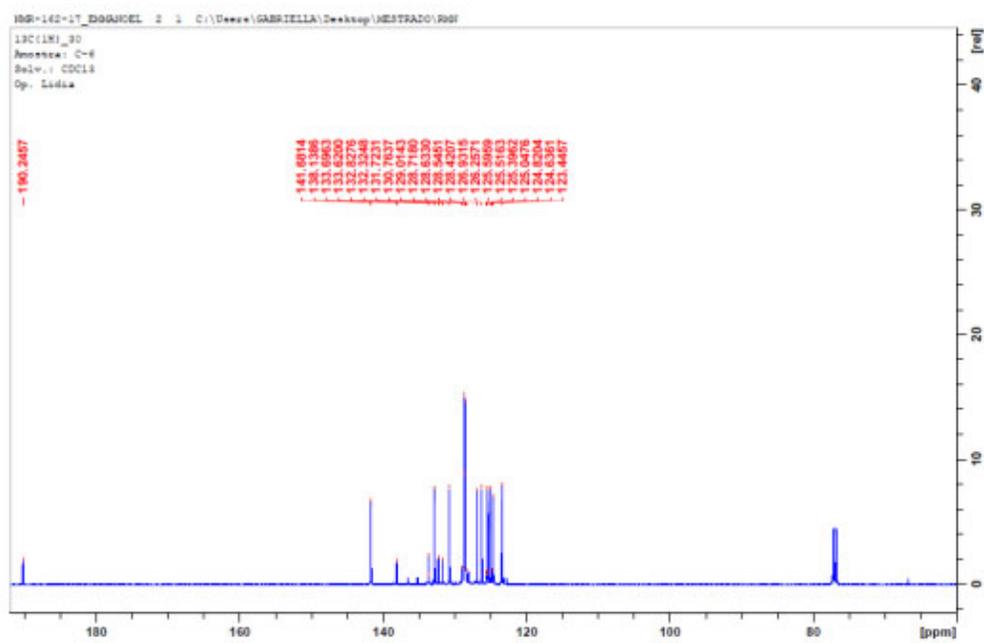


Figure S5. ^{13}C -NMR (125 MHz, CDCl_3) spectrum of the derivative **NaF**.

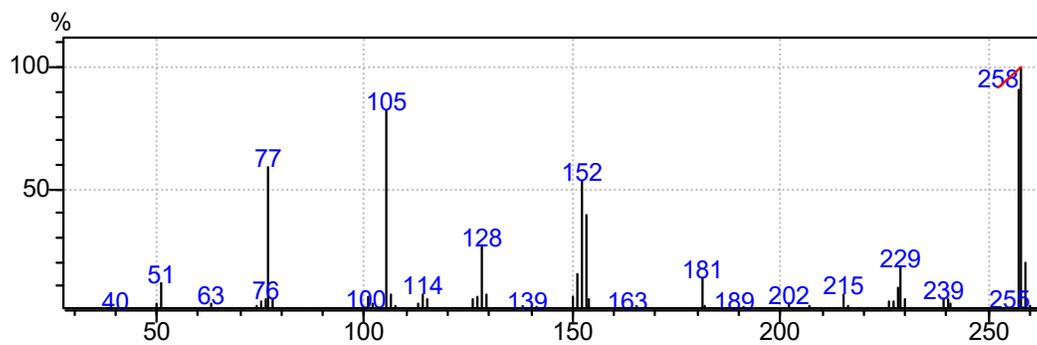


Figure S6. Mass spectrum of the derivative NaF.

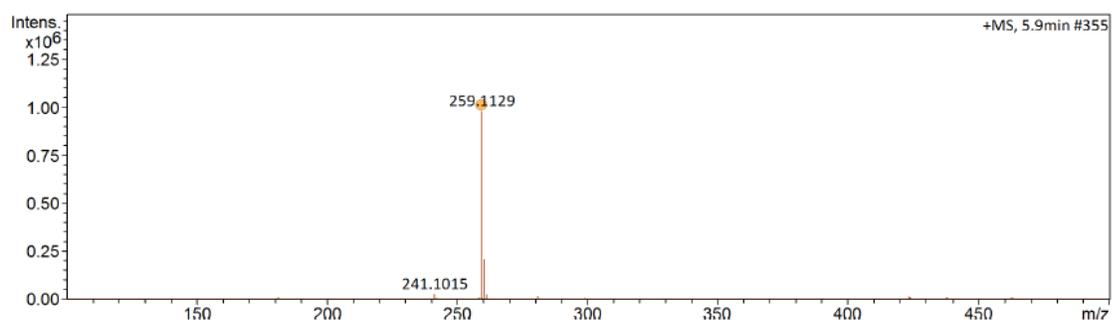


Figure S7. High resolution mass spectrum of the derivative NaF.