Supporting Information

NHC Catalysed Annulation of Enals to Tethered Dienones: Efficient Synthesis of Bicyclic Dienes

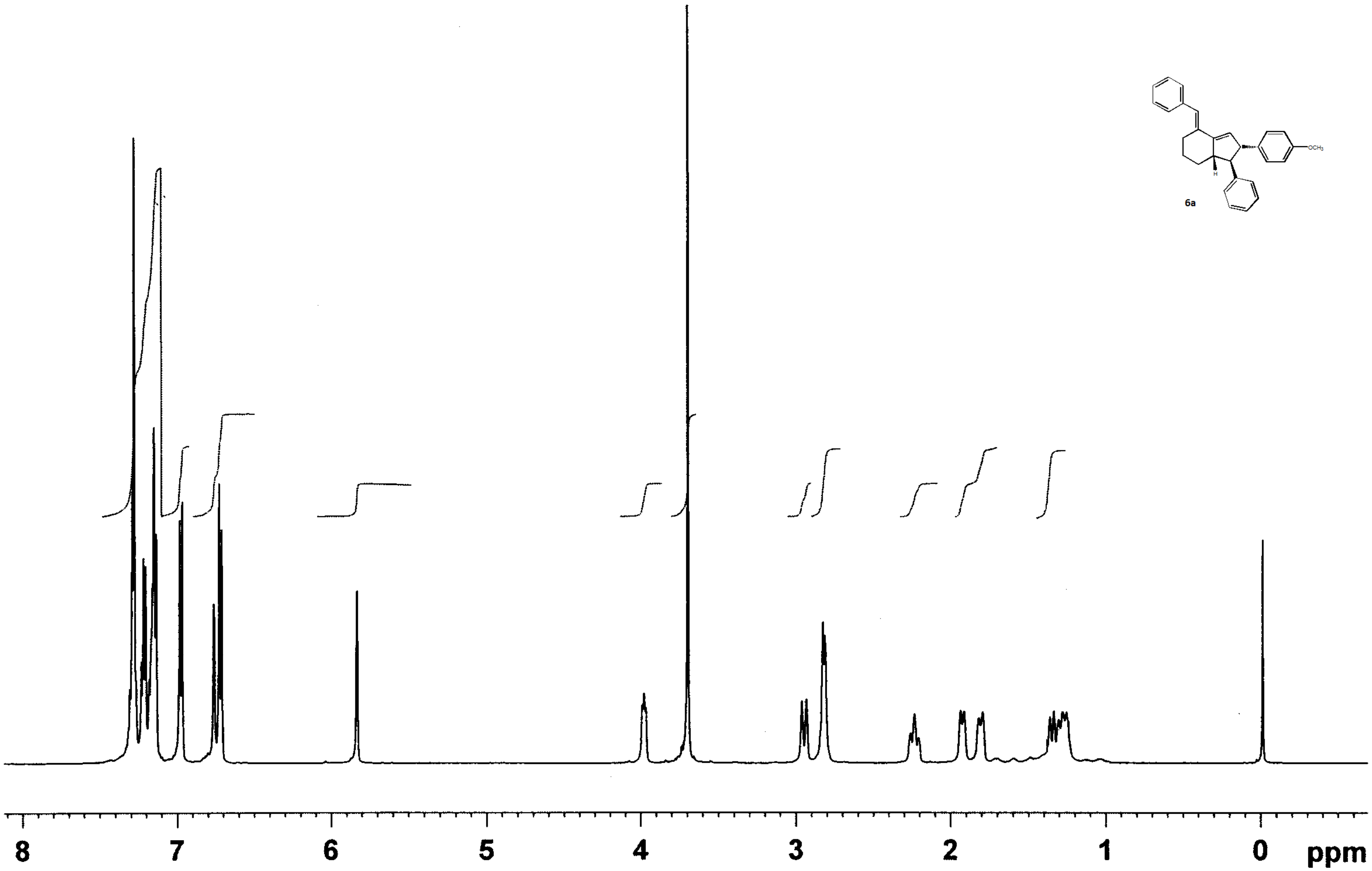
General

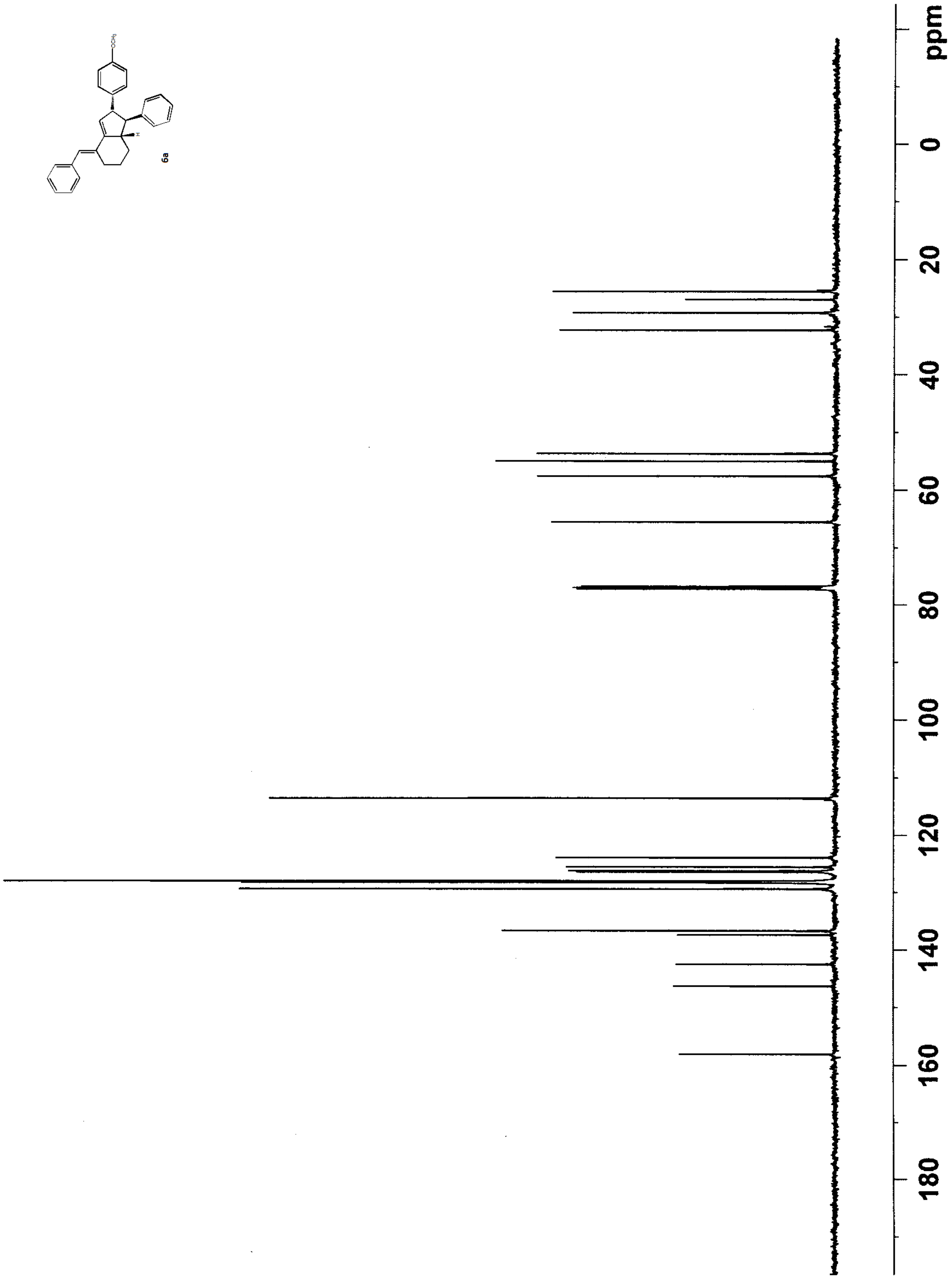
Melting points were recorded on a Büchi melting point apparatus and are uncorrected. NMR spectra were recorded at 300 (^{1}H) and 75 (^{13}C) MHz respectively on a Bruker DPX-300 MHz NMR spectrometer. Chemical shifts (δ) are reported relative to TMS (^{1}H) and $CDCl_3$ (^{13}C) as the internal standards. Coupling constant (*J*) is reported in Hertz (Hz). Mass spectra were recorded under EI/HRMS or FAB using JEOL JMS 600H mass spectrometer. IR spectra were recorded on a Nicolet Impact 400D FT-IR spectrophotometer. Gravity column chromatography was performed using 100-200 mesh silica gel and mixtures of petroleum ether-ethyl acetate were used for elution.

General Procedure for the Synthesis of bicyclic cyclopentenes.

DBU (12 mol %) was added to a suspension of the carbene precursor-1,3-dimesityl imidazolium chloride (IMesCl) (6 mol %), enal (1 mmol) and dibenzylidenecyclohexanone derivative (0.50 mmol) in dry dichloromethane and the resulting solution was stirred for 12 h. The reaction mixture was then passed through a short pad of Celite®. After the removal of the solvent by distillation in vacuum using a rotary evaporator, the residue was subjected to column chromatography on a silica gel (60-120 mesh) column using 95:5 petroleum ether-ethyl acetate solvent mixtures to afford the bicyclic cyclopentene derivatives.

Spectral data

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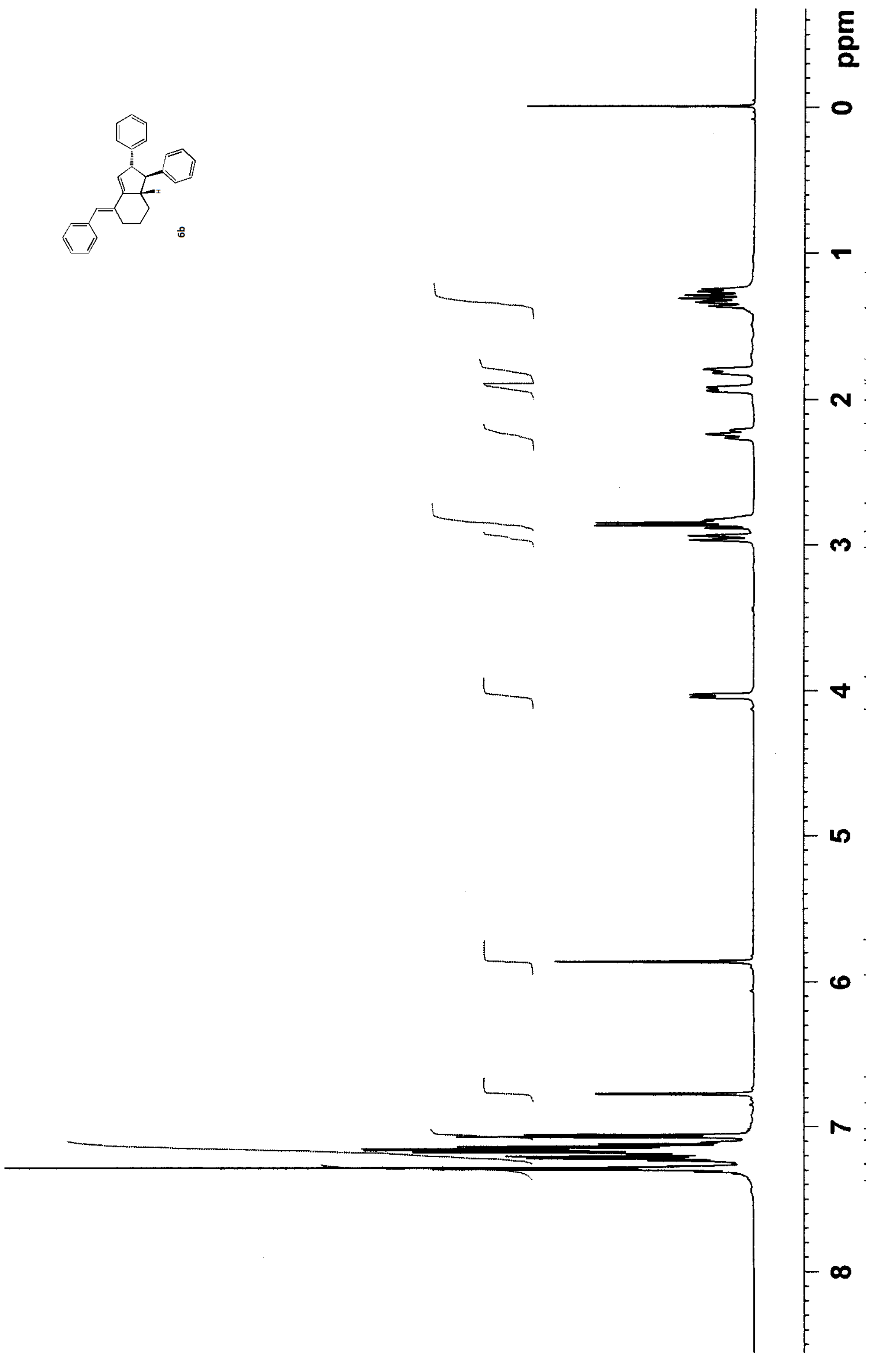
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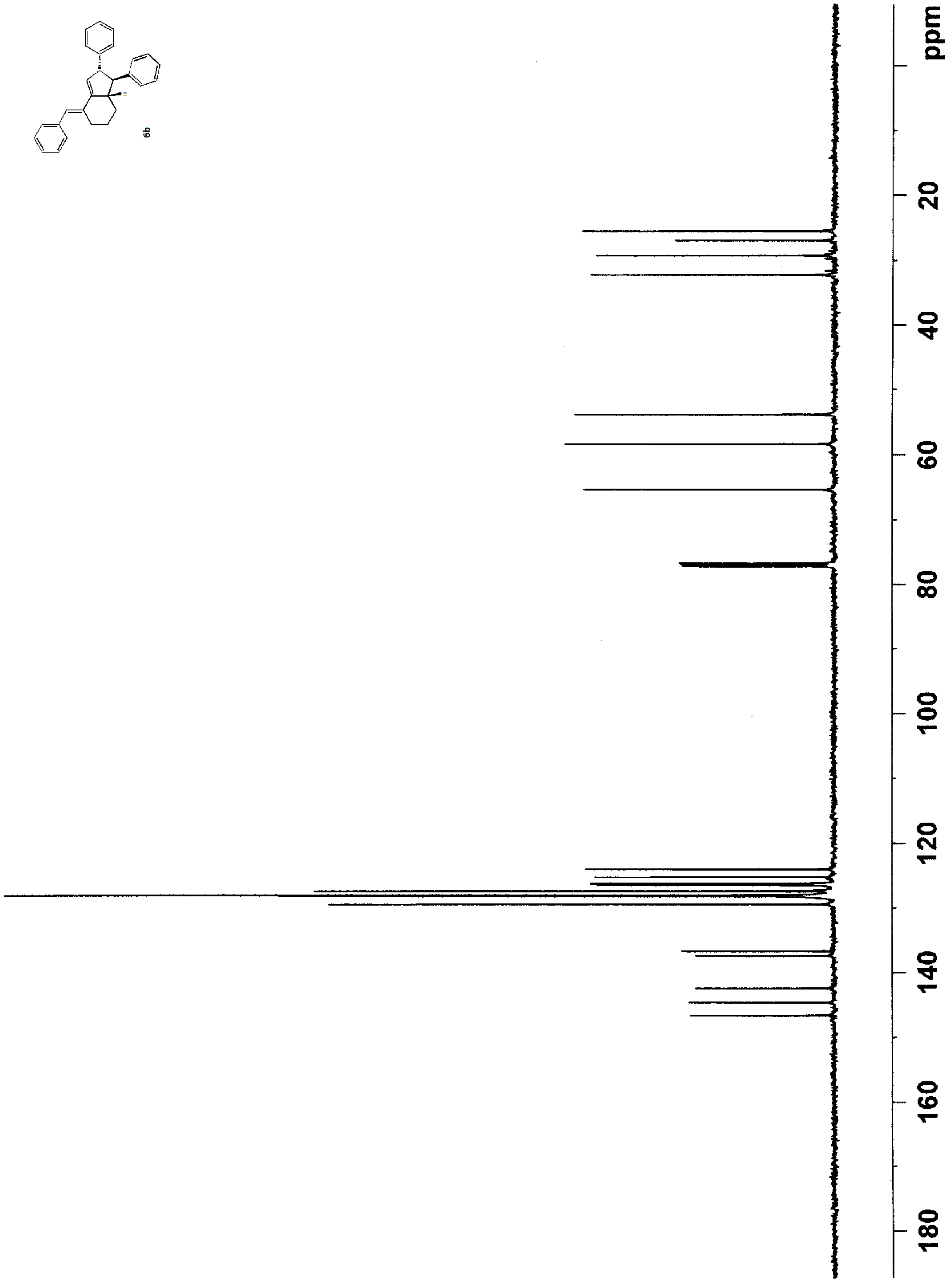

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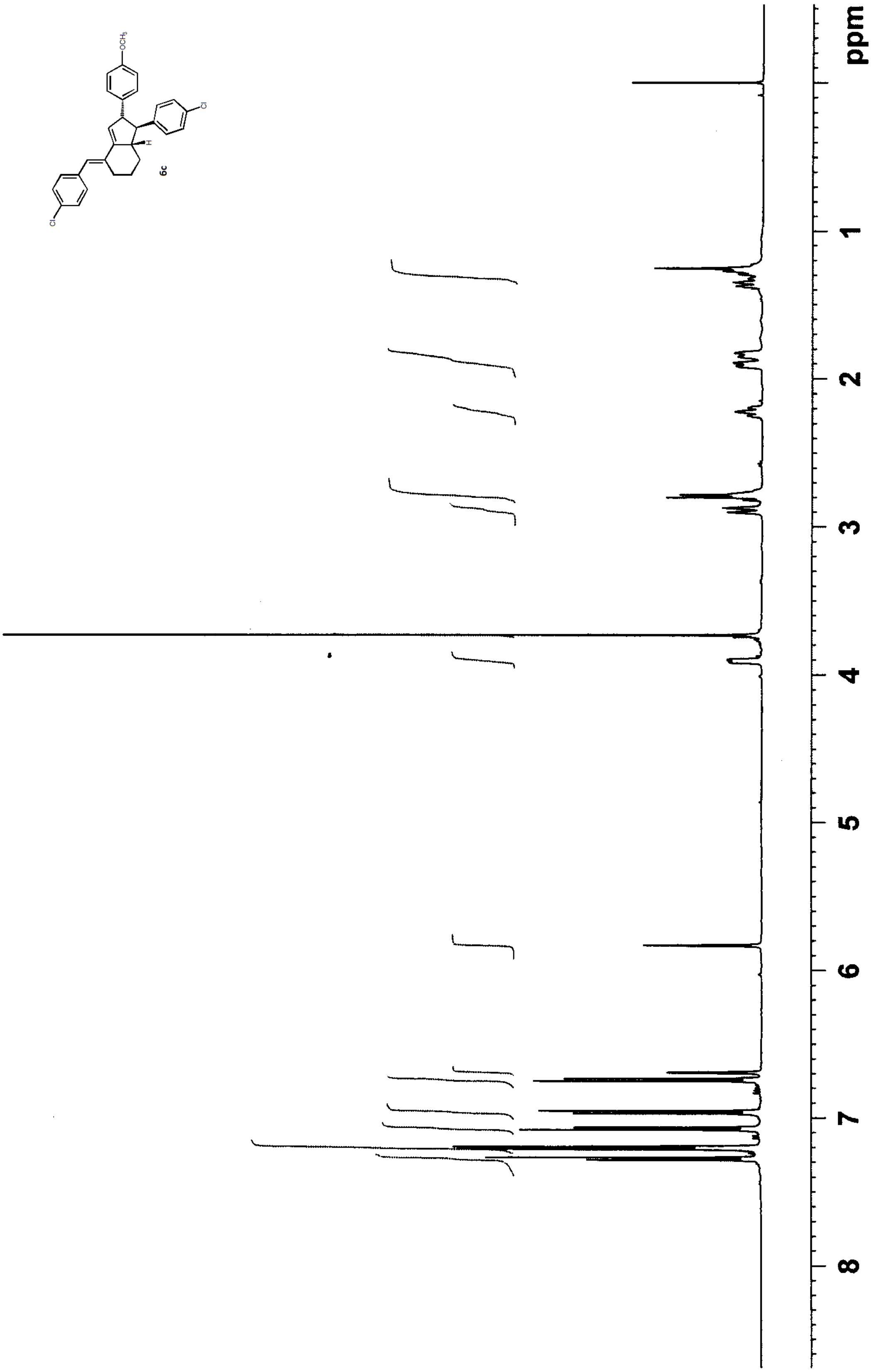
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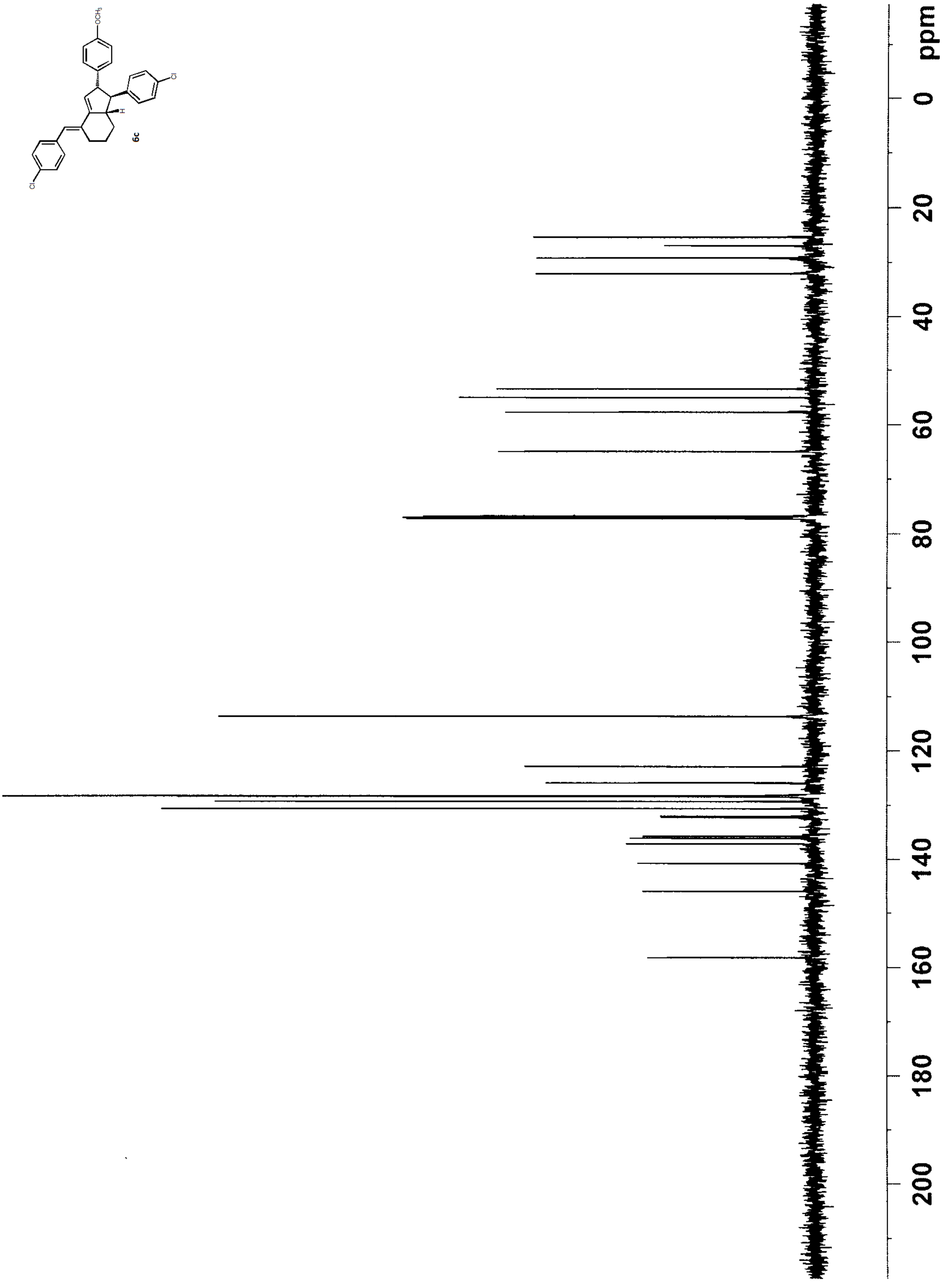
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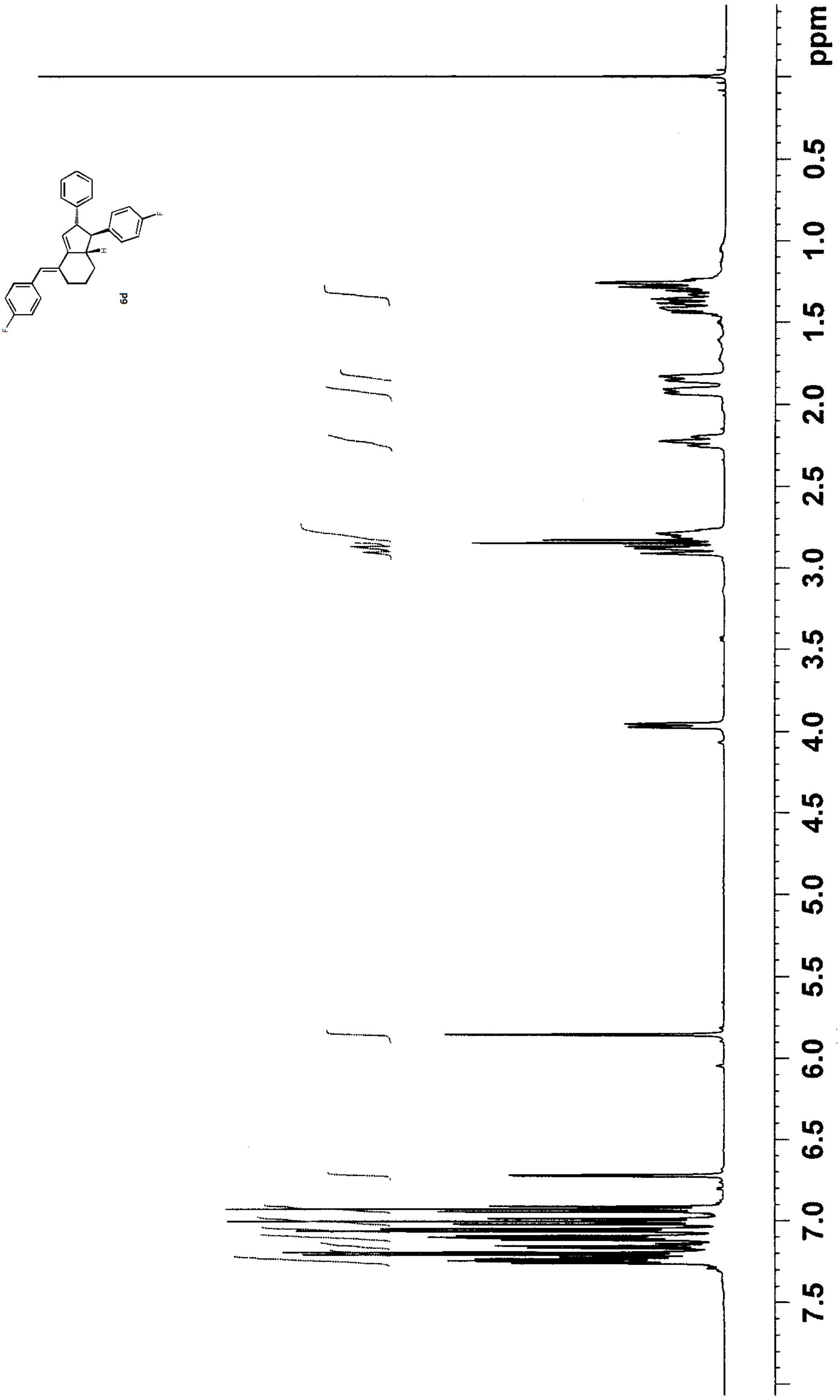
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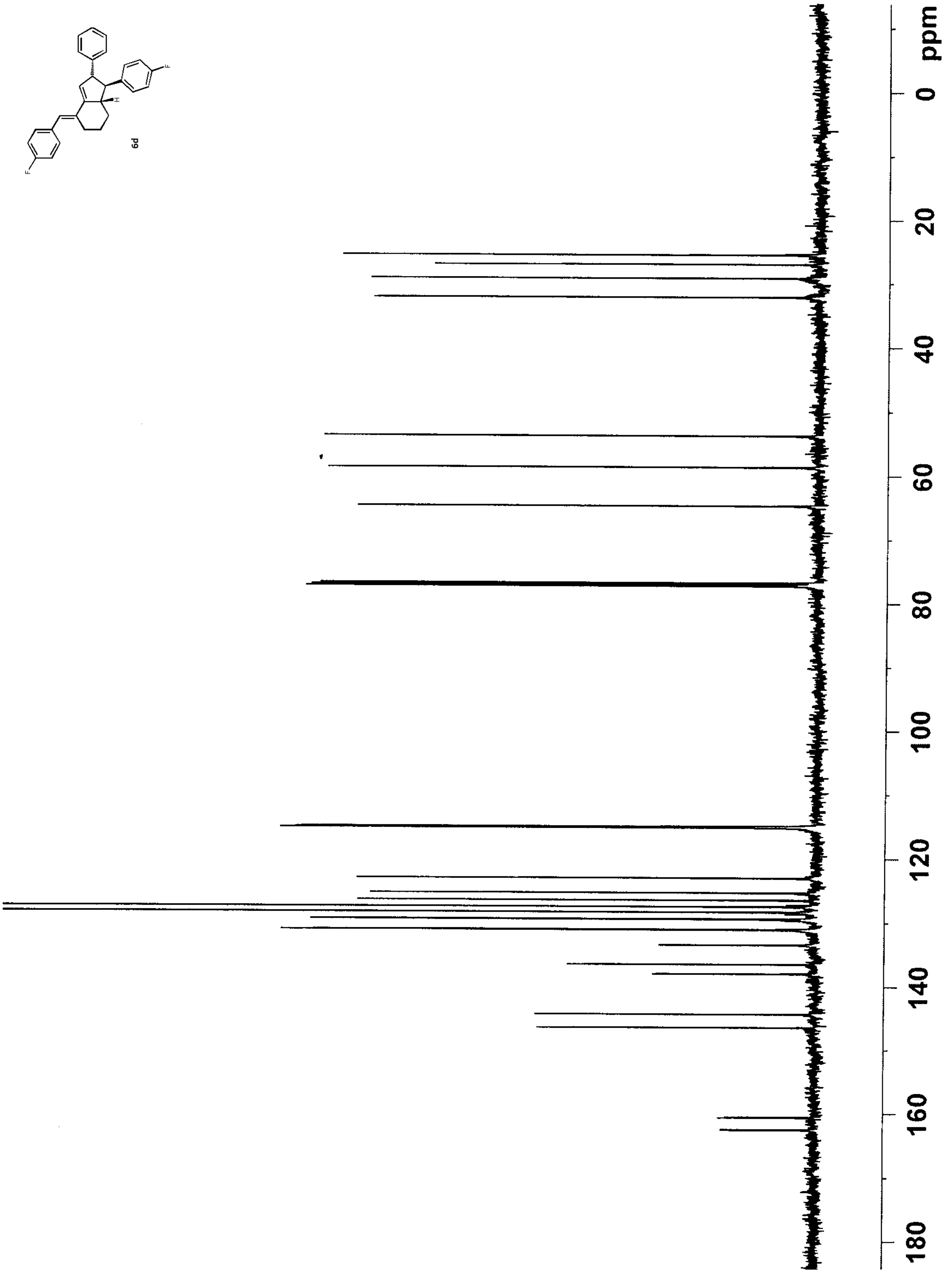
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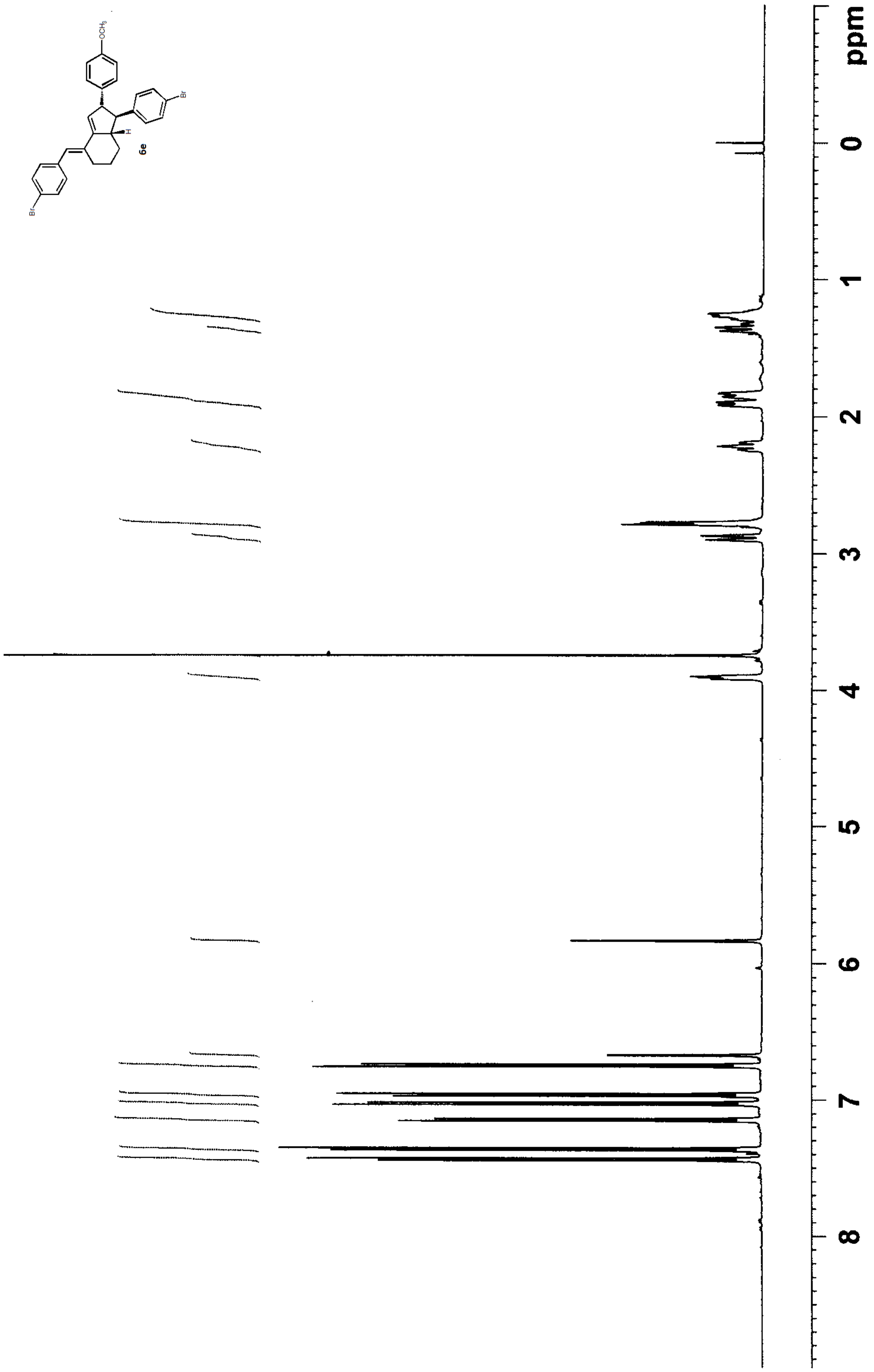
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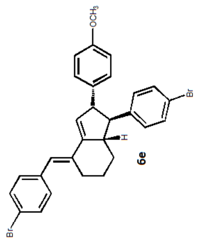

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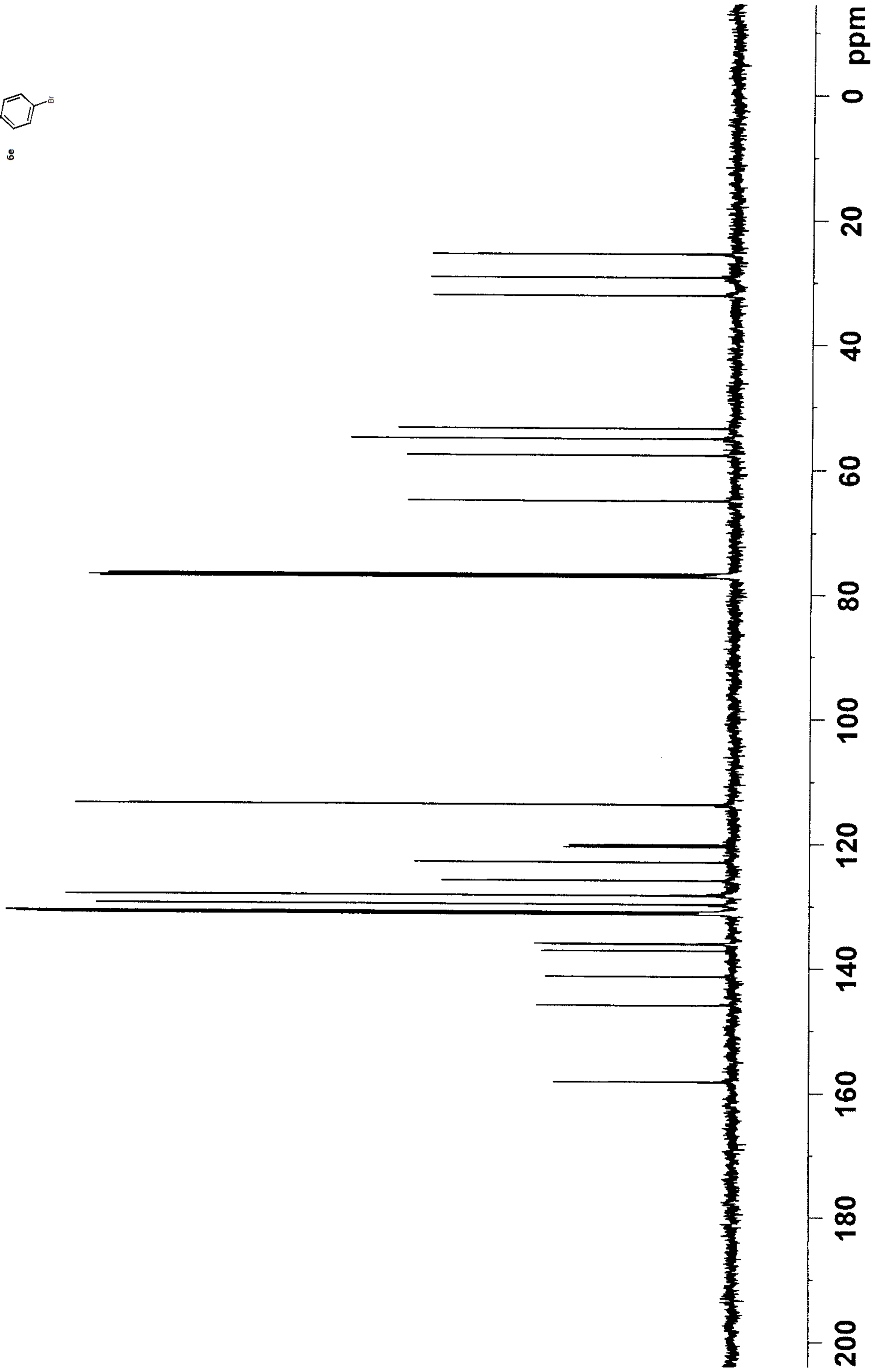

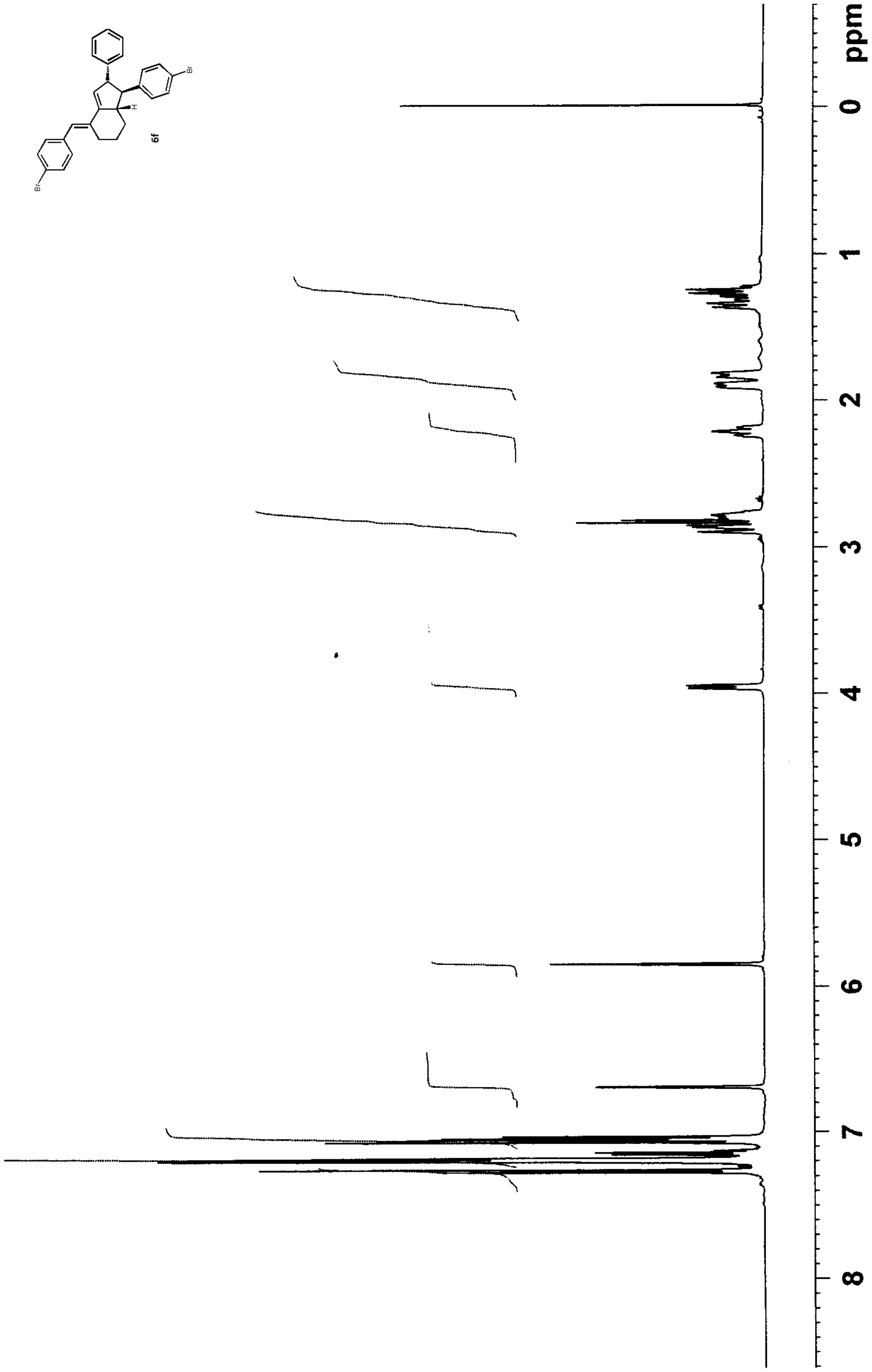
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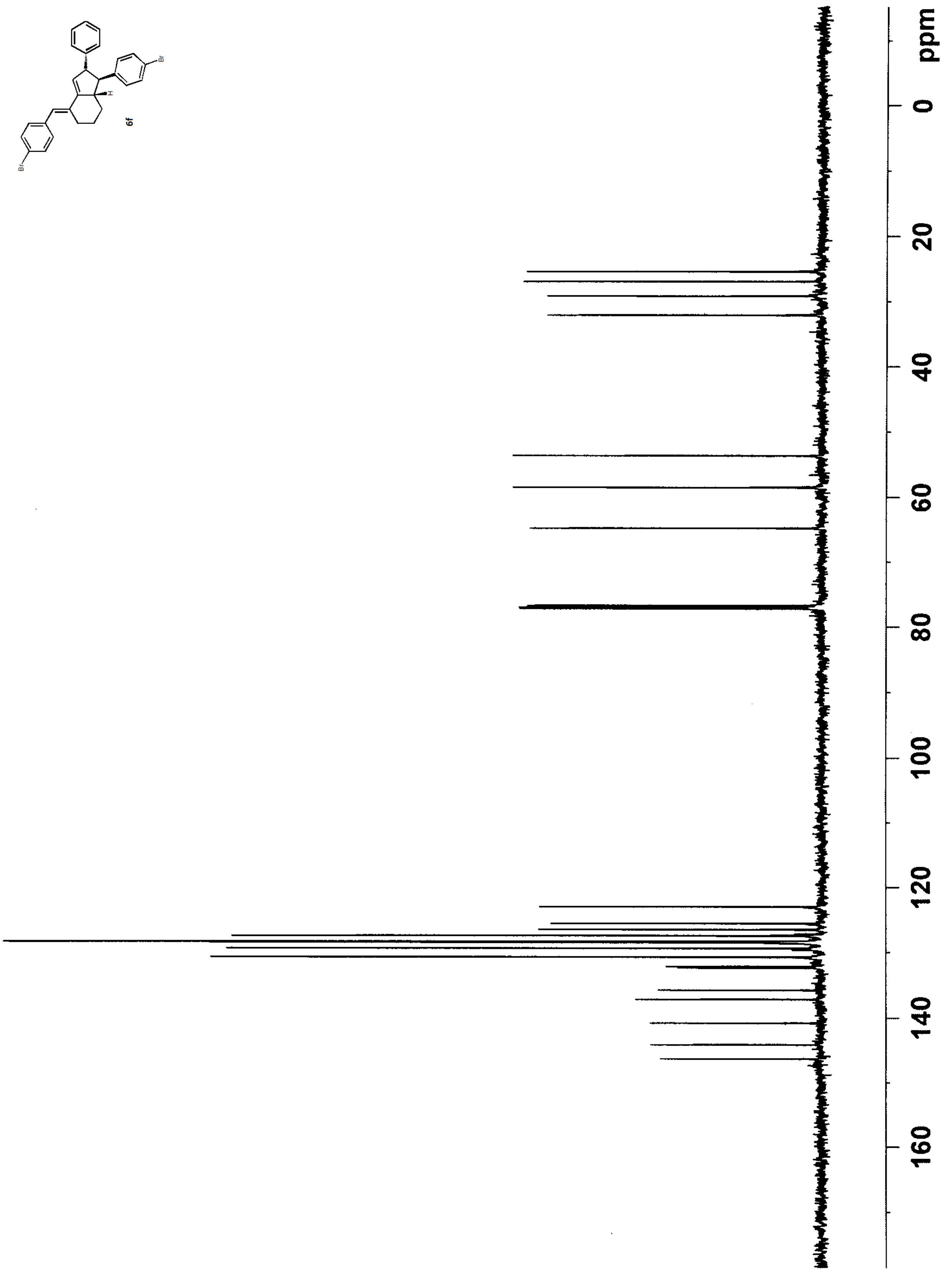
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Supplementary Material (ESI) for Organic & Biomolecular Chemistry
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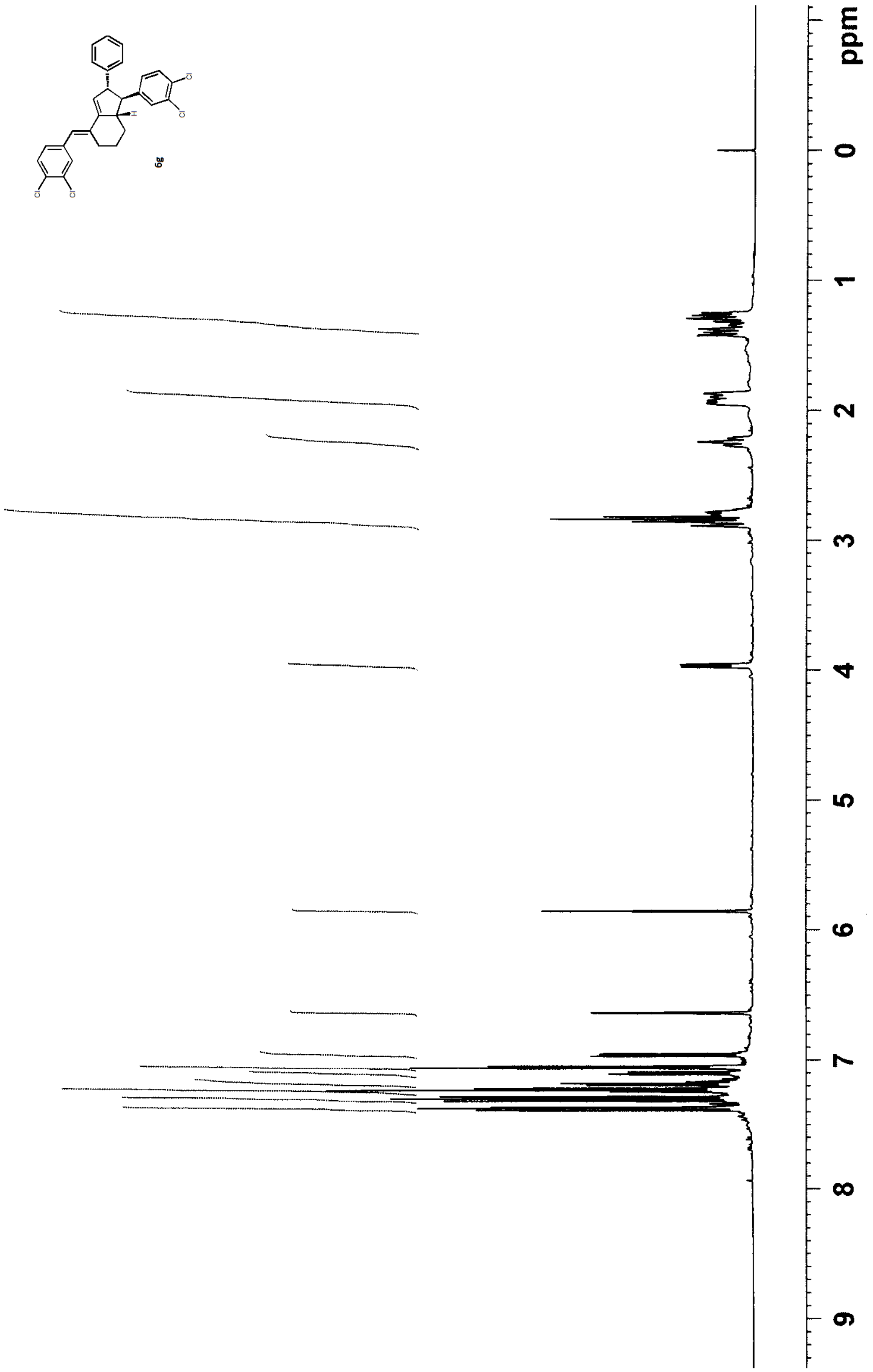

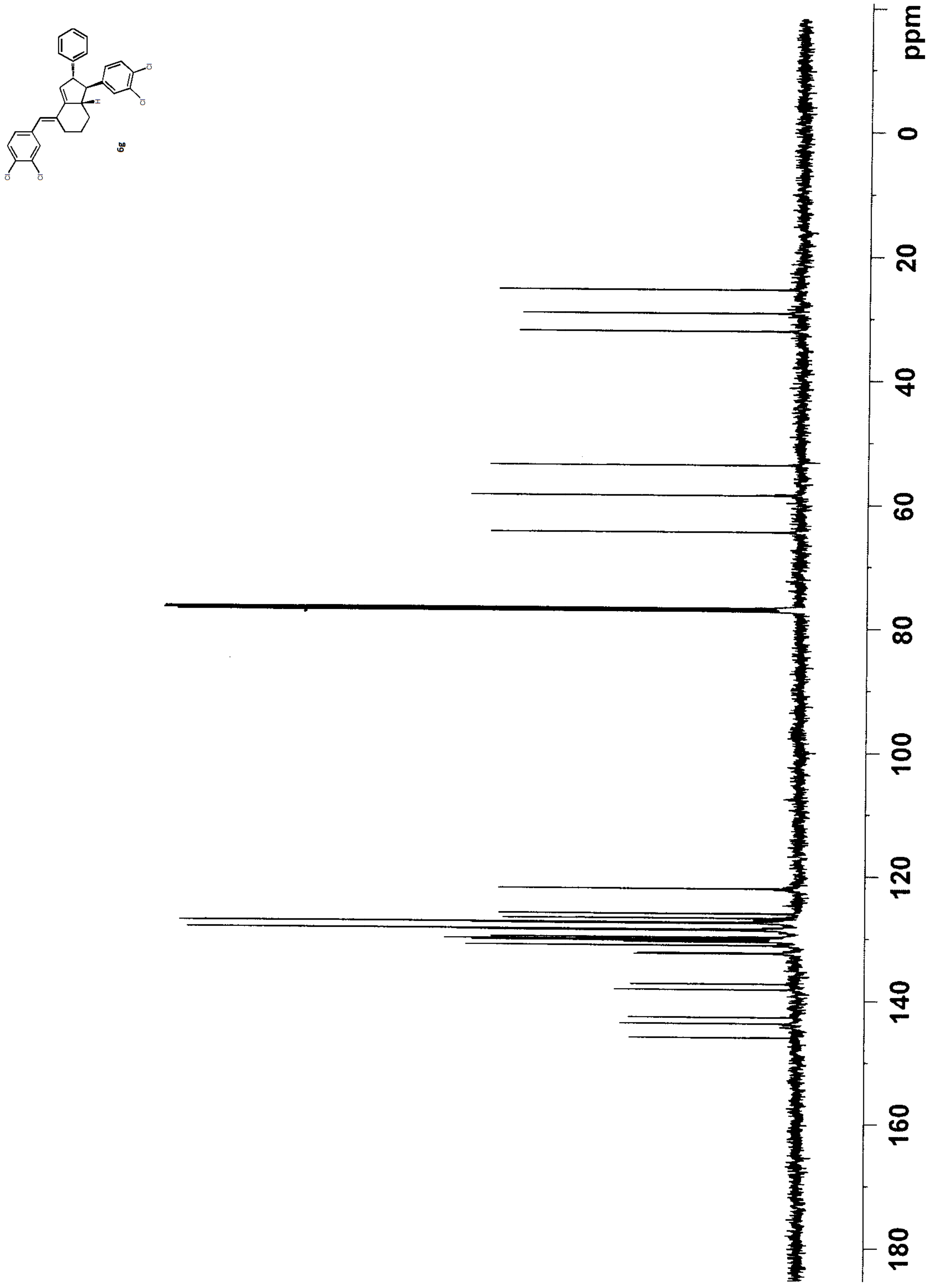
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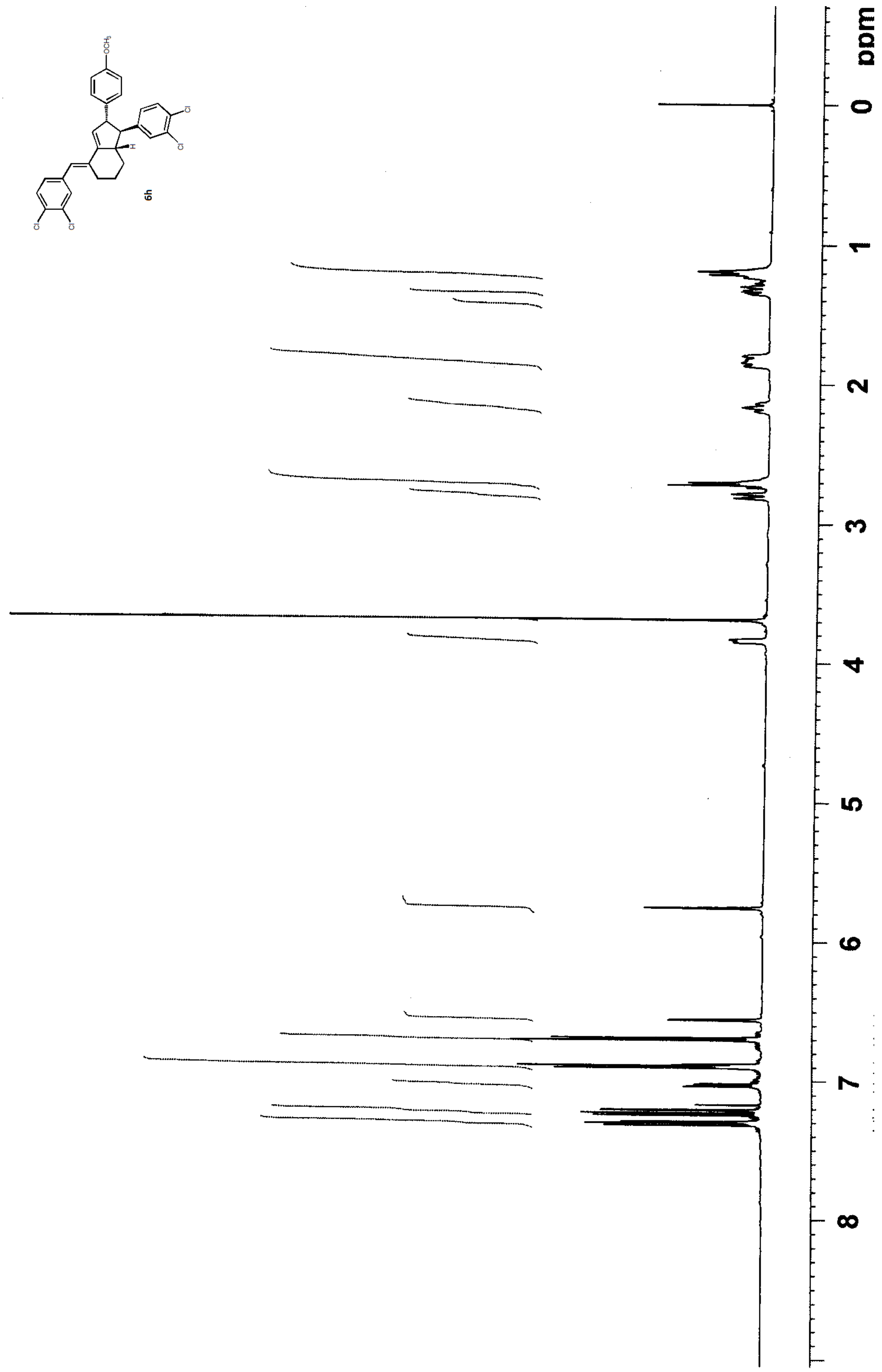
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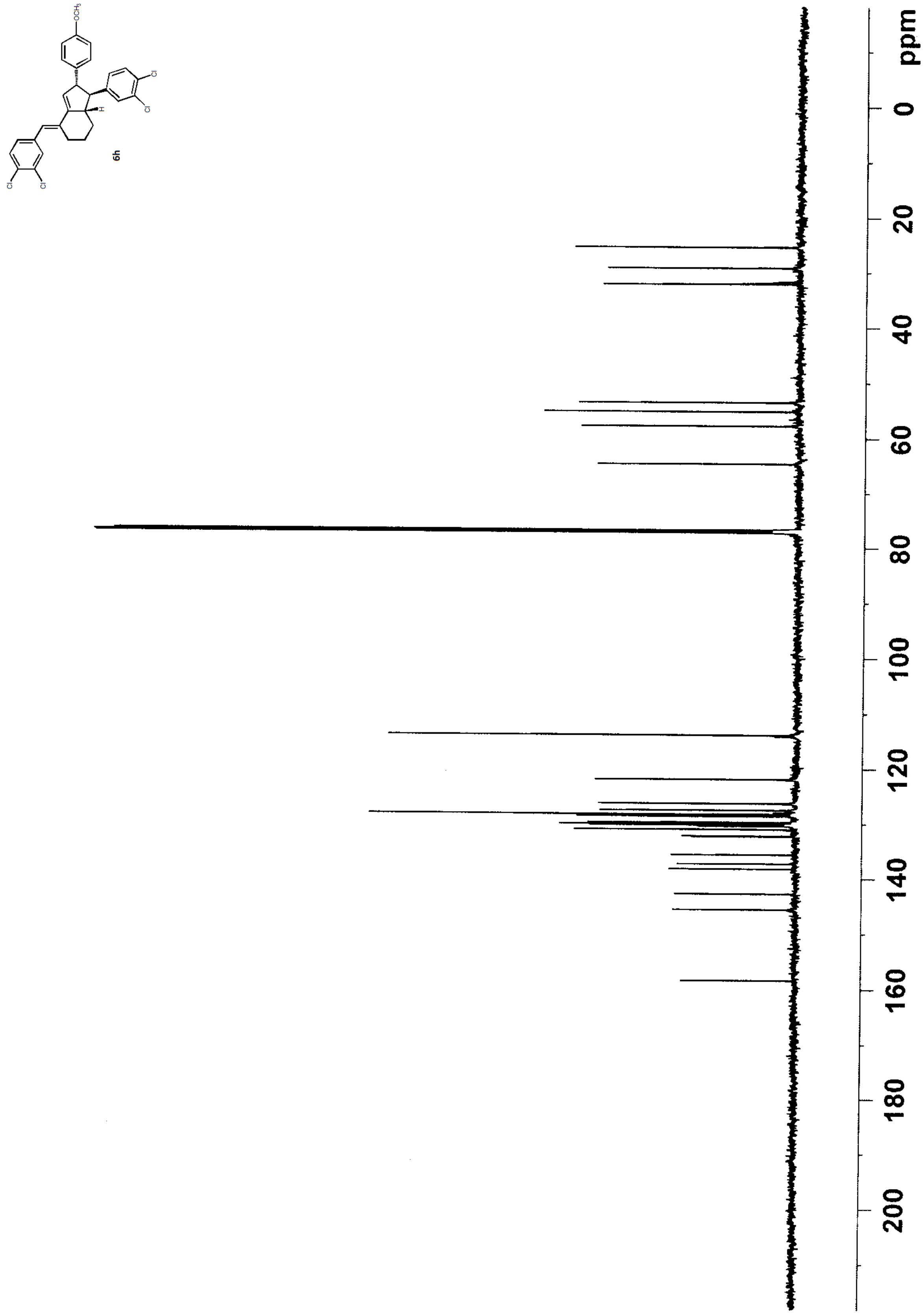

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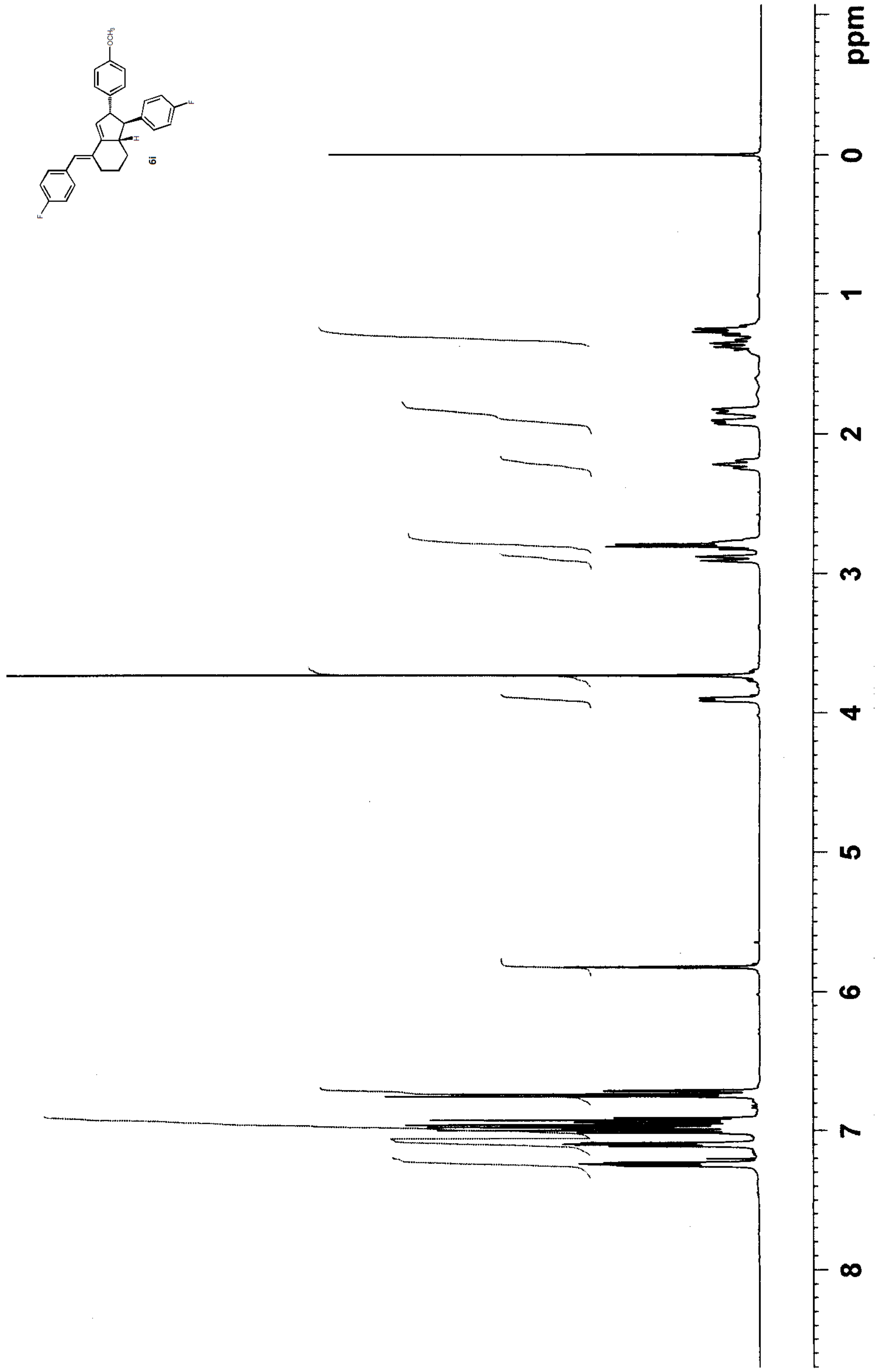

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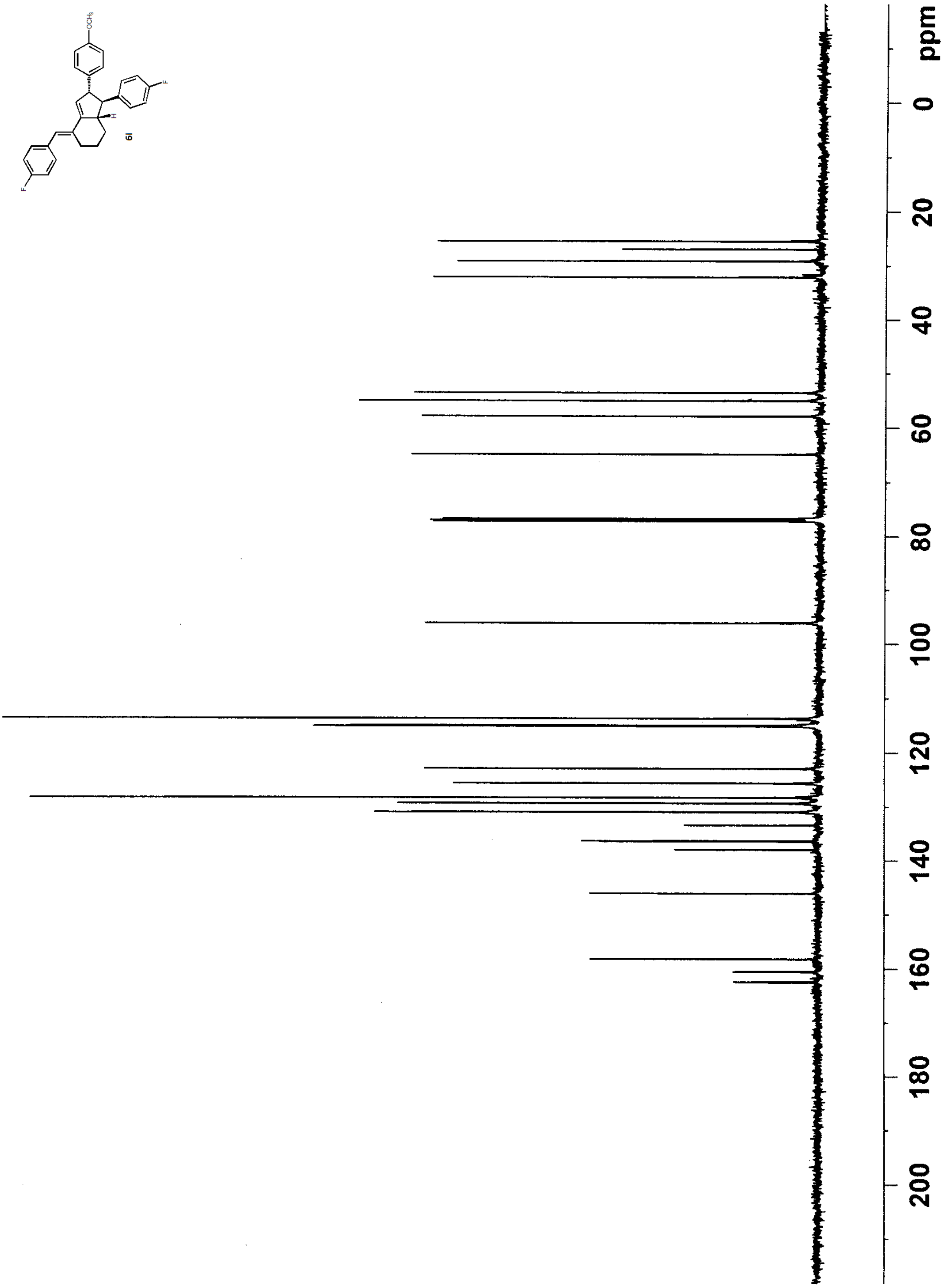
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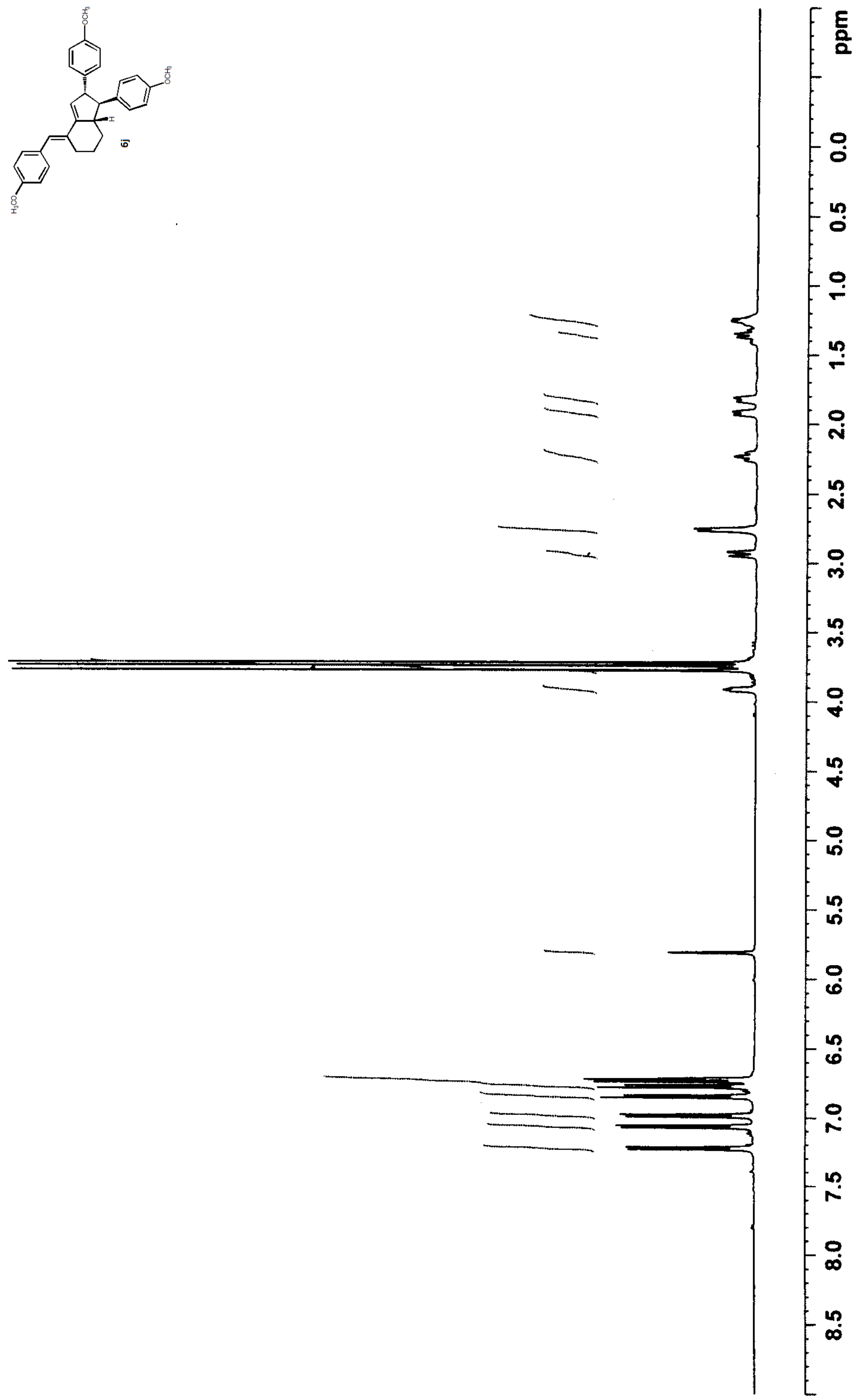

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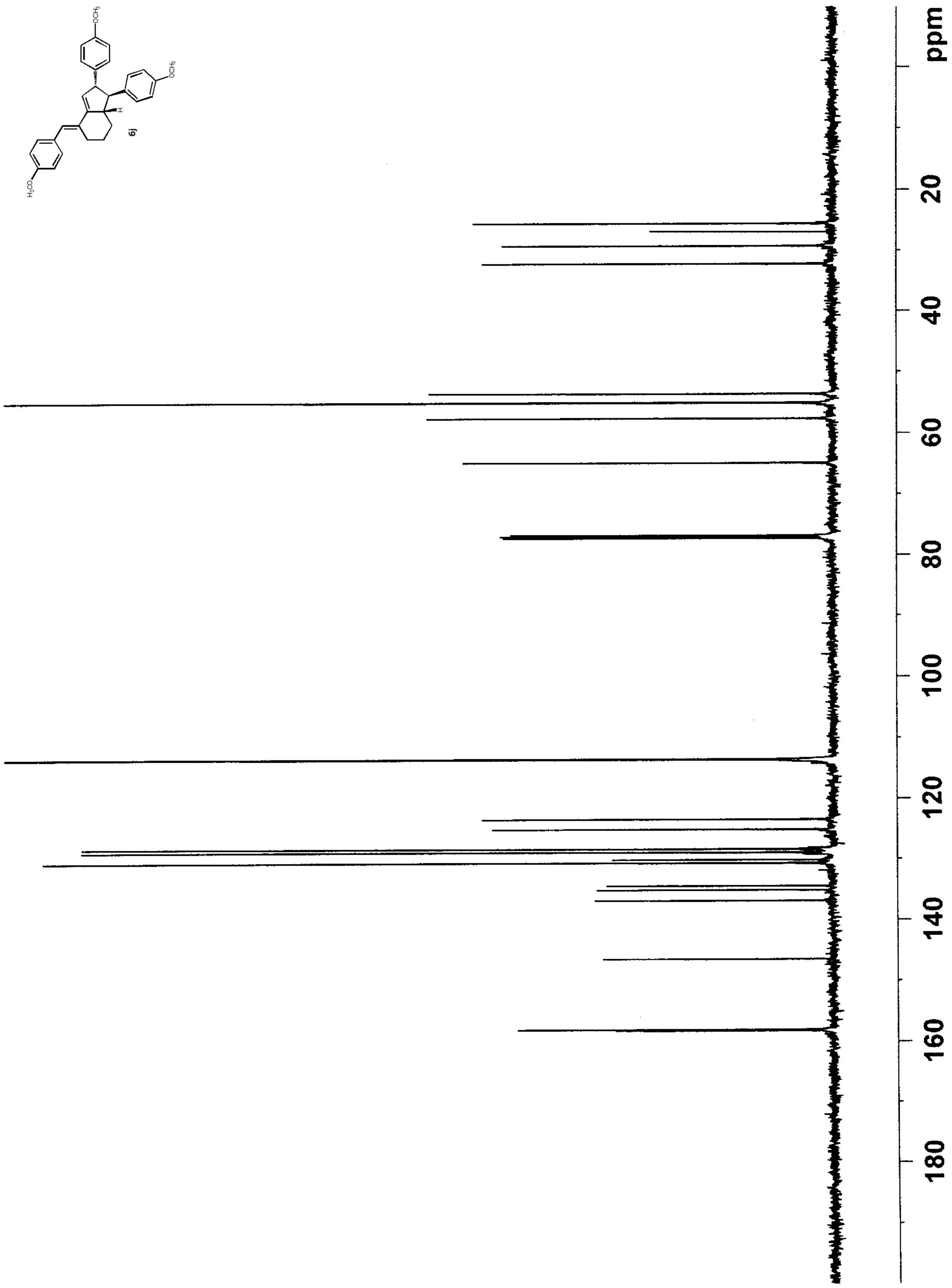
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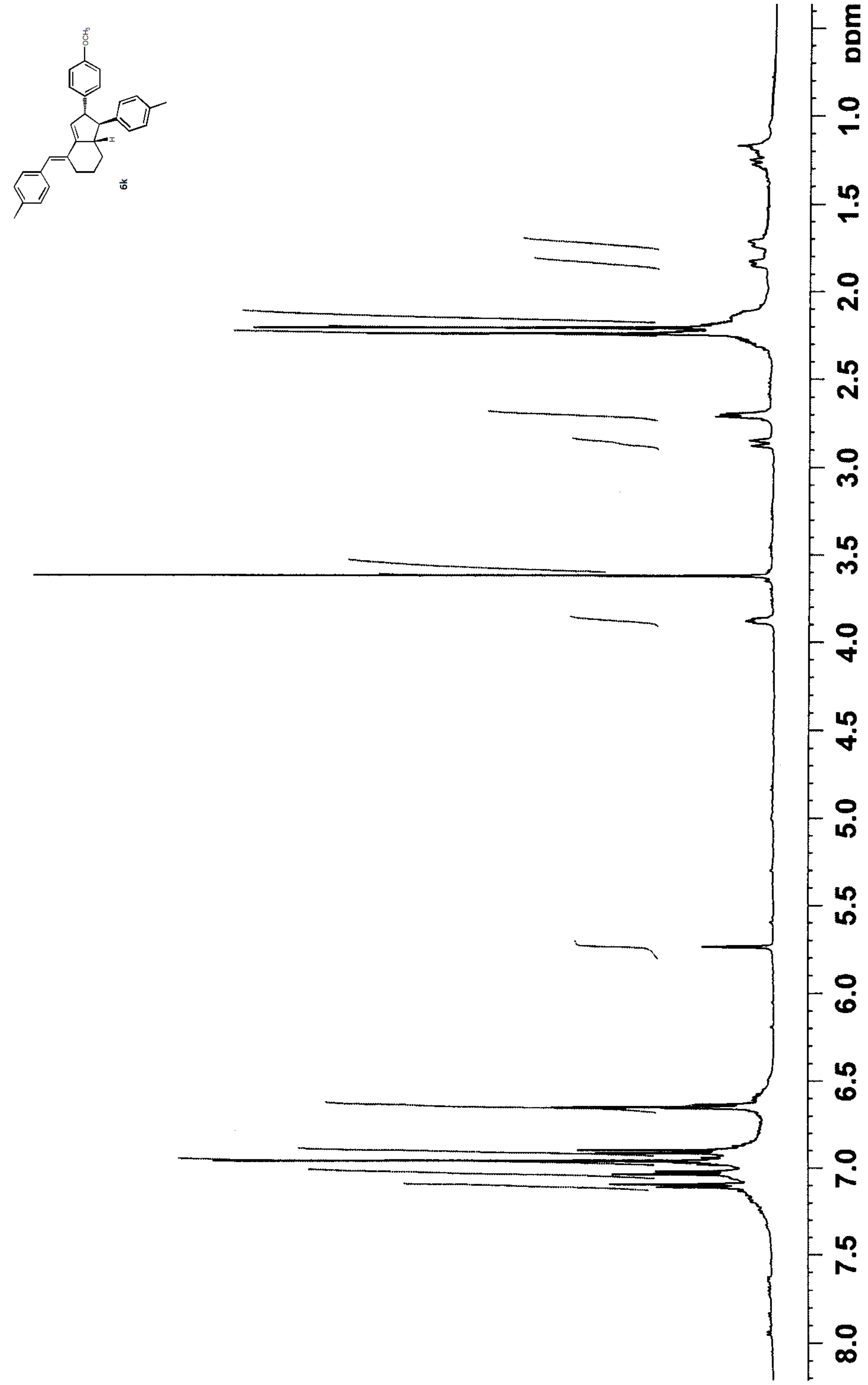
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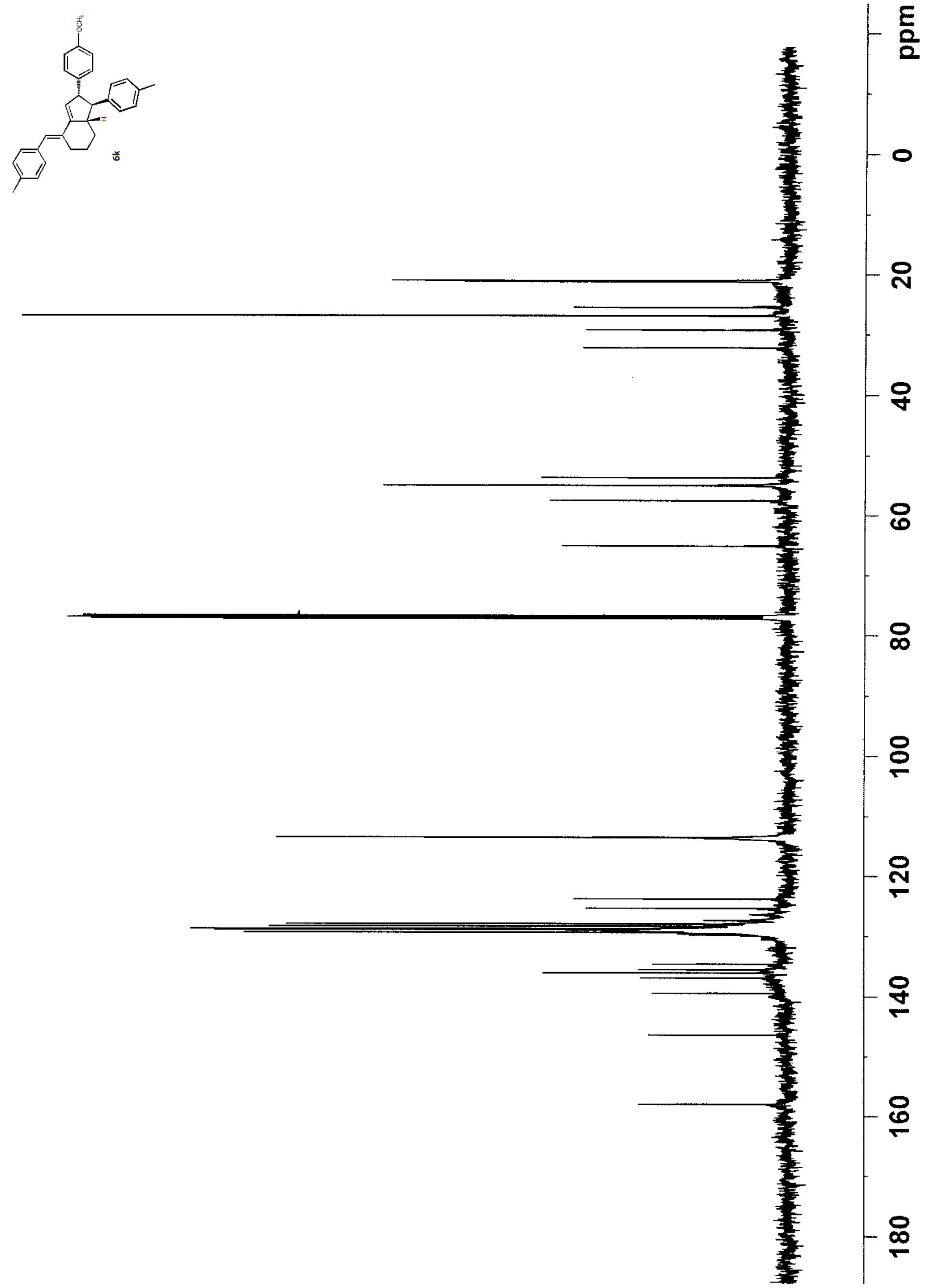
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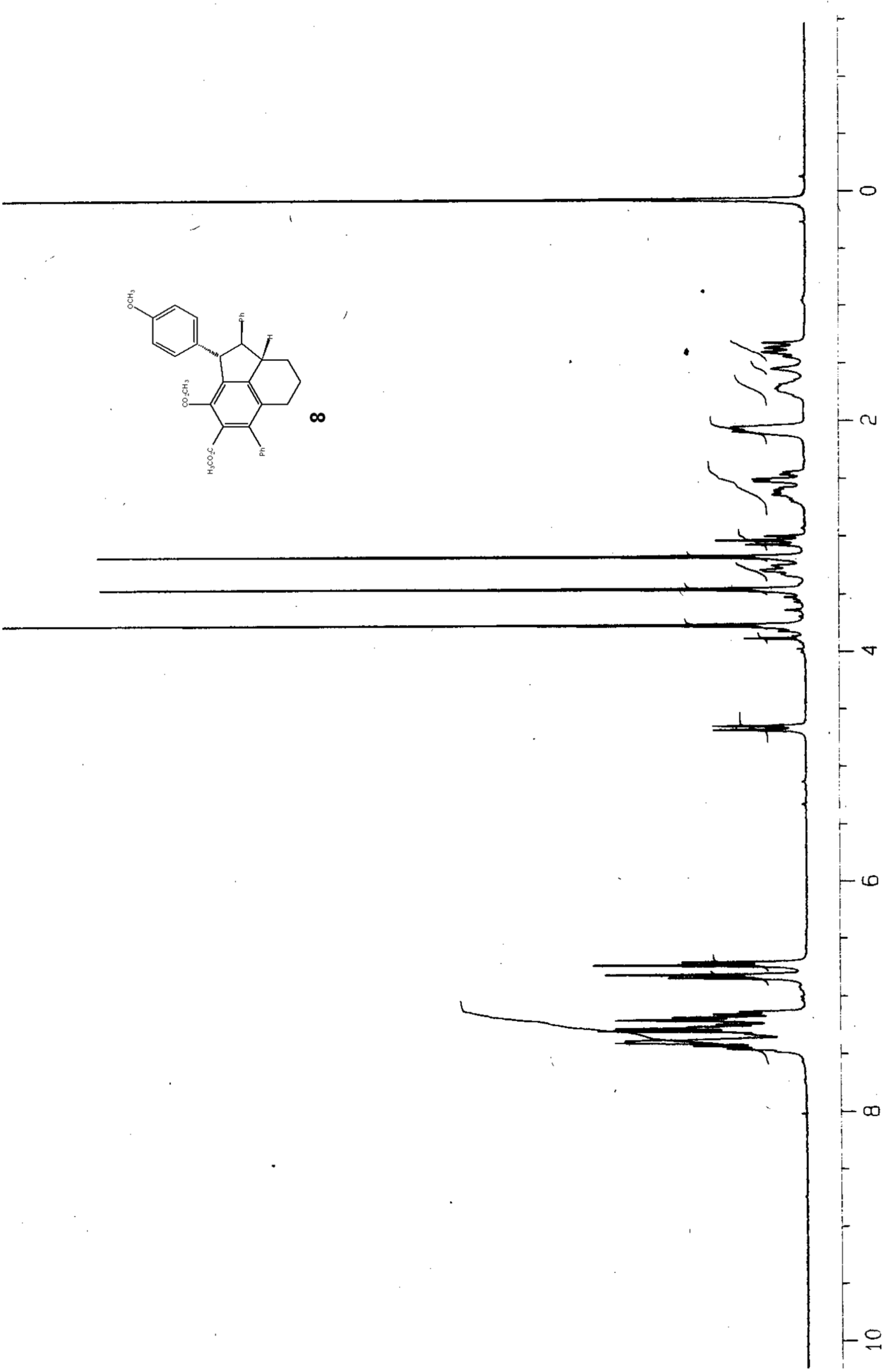

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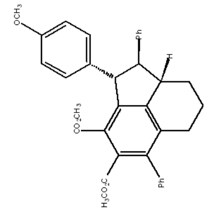

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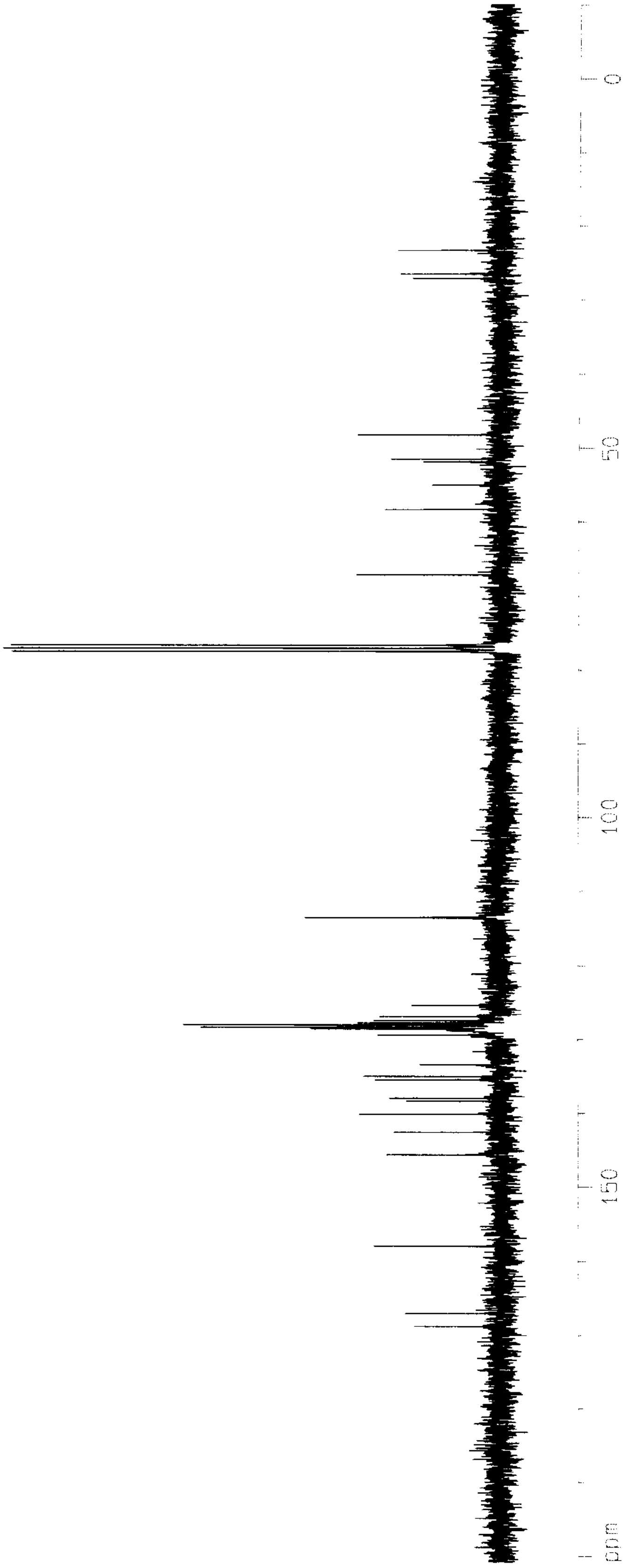

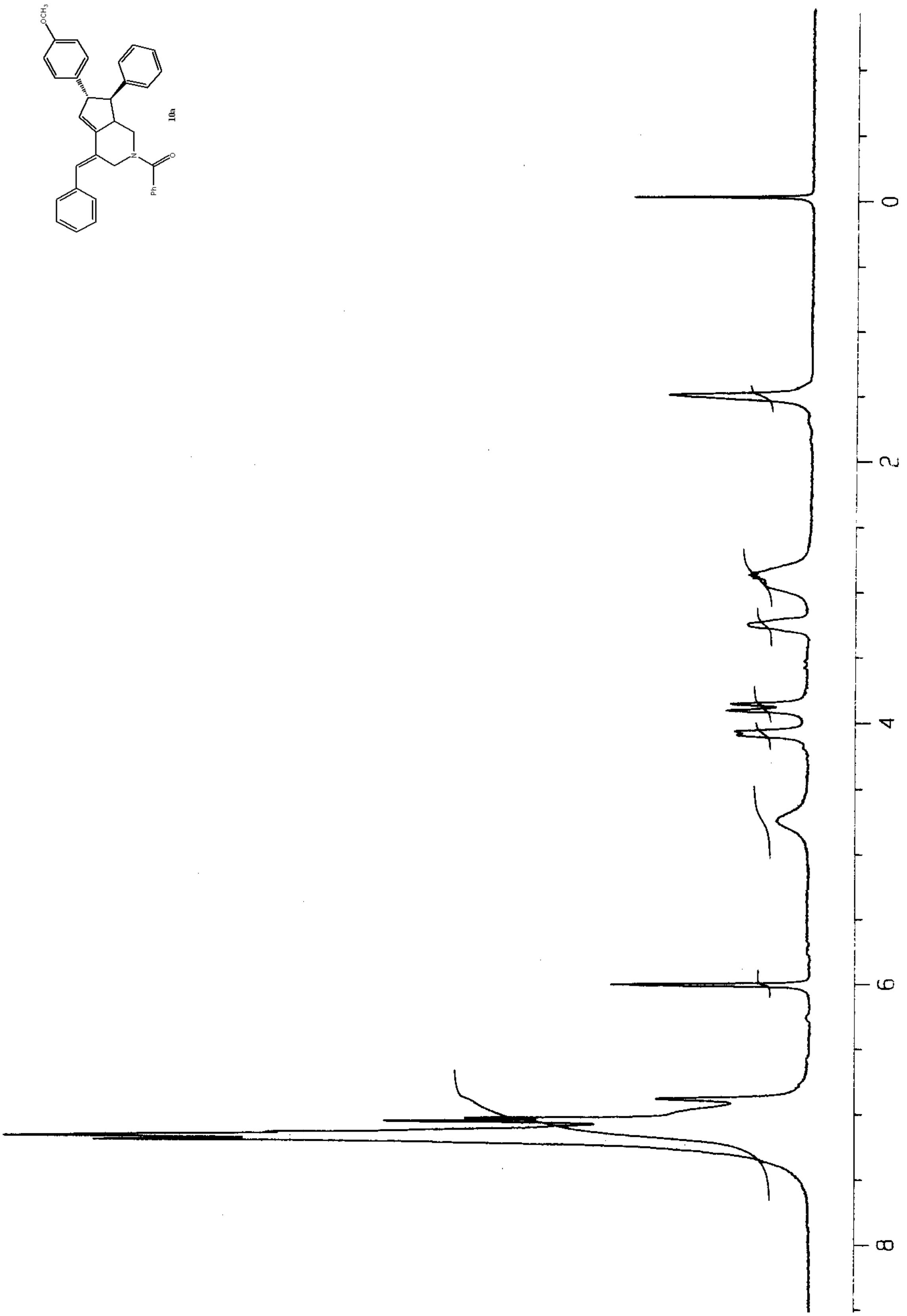
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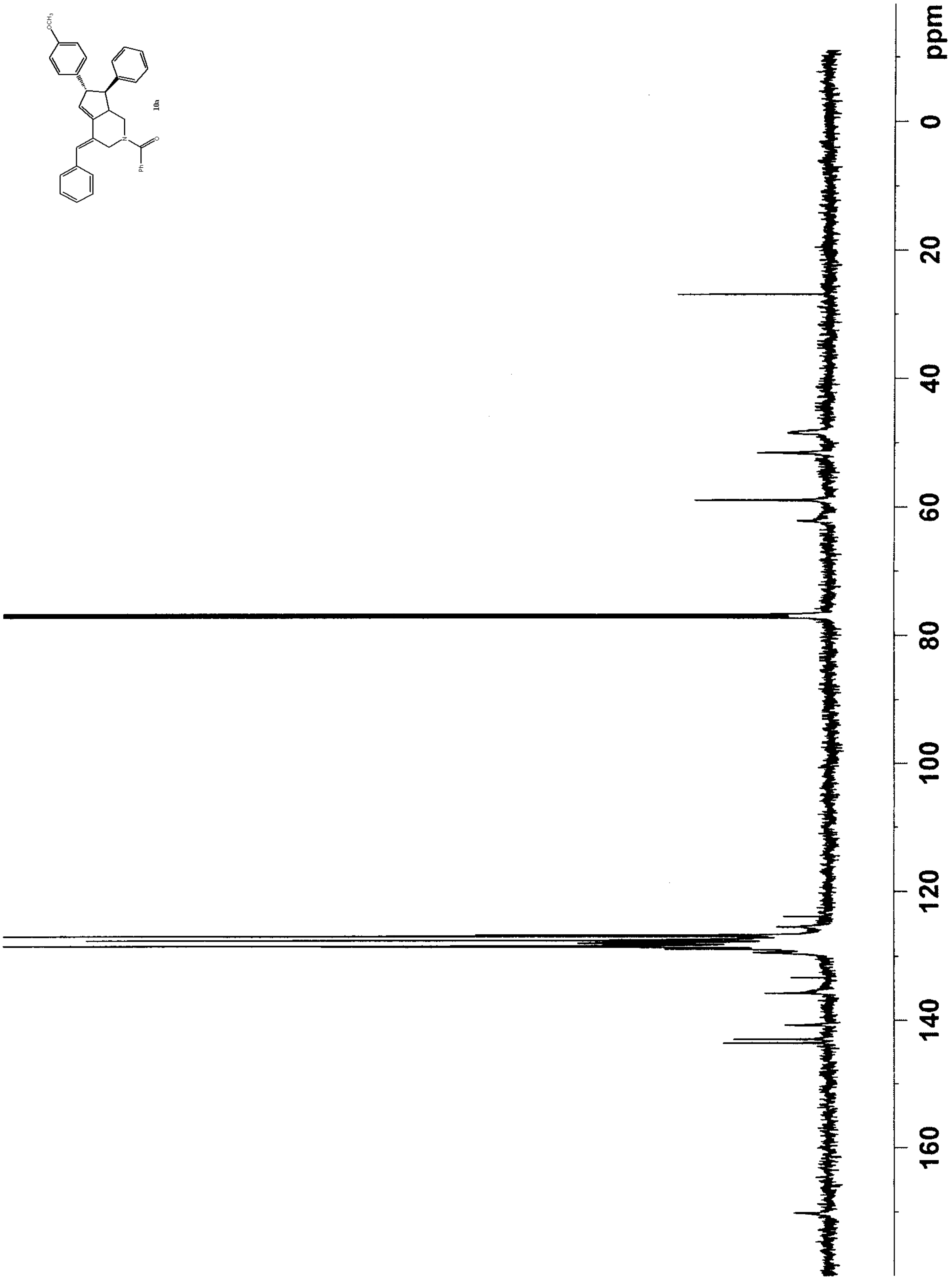

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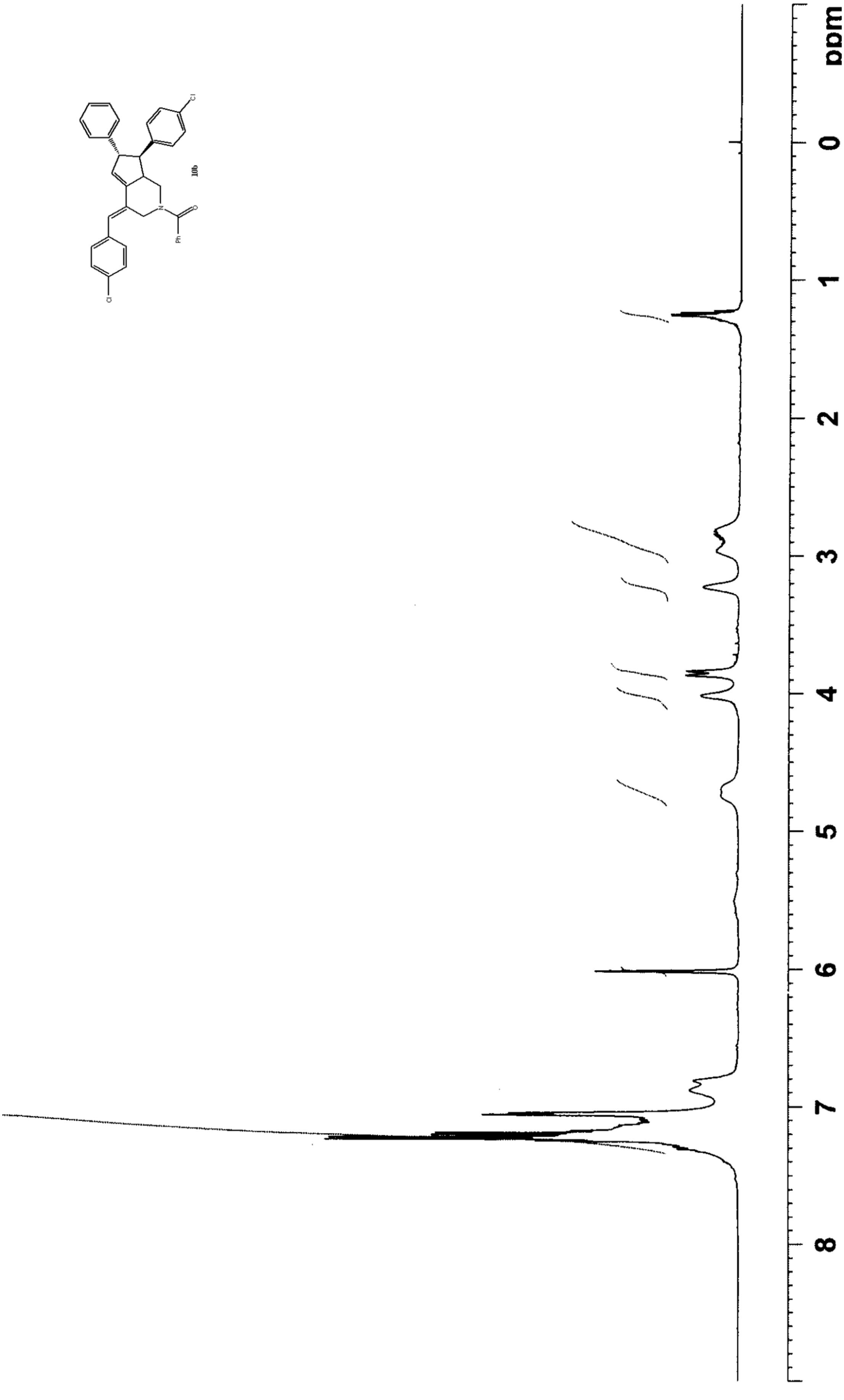
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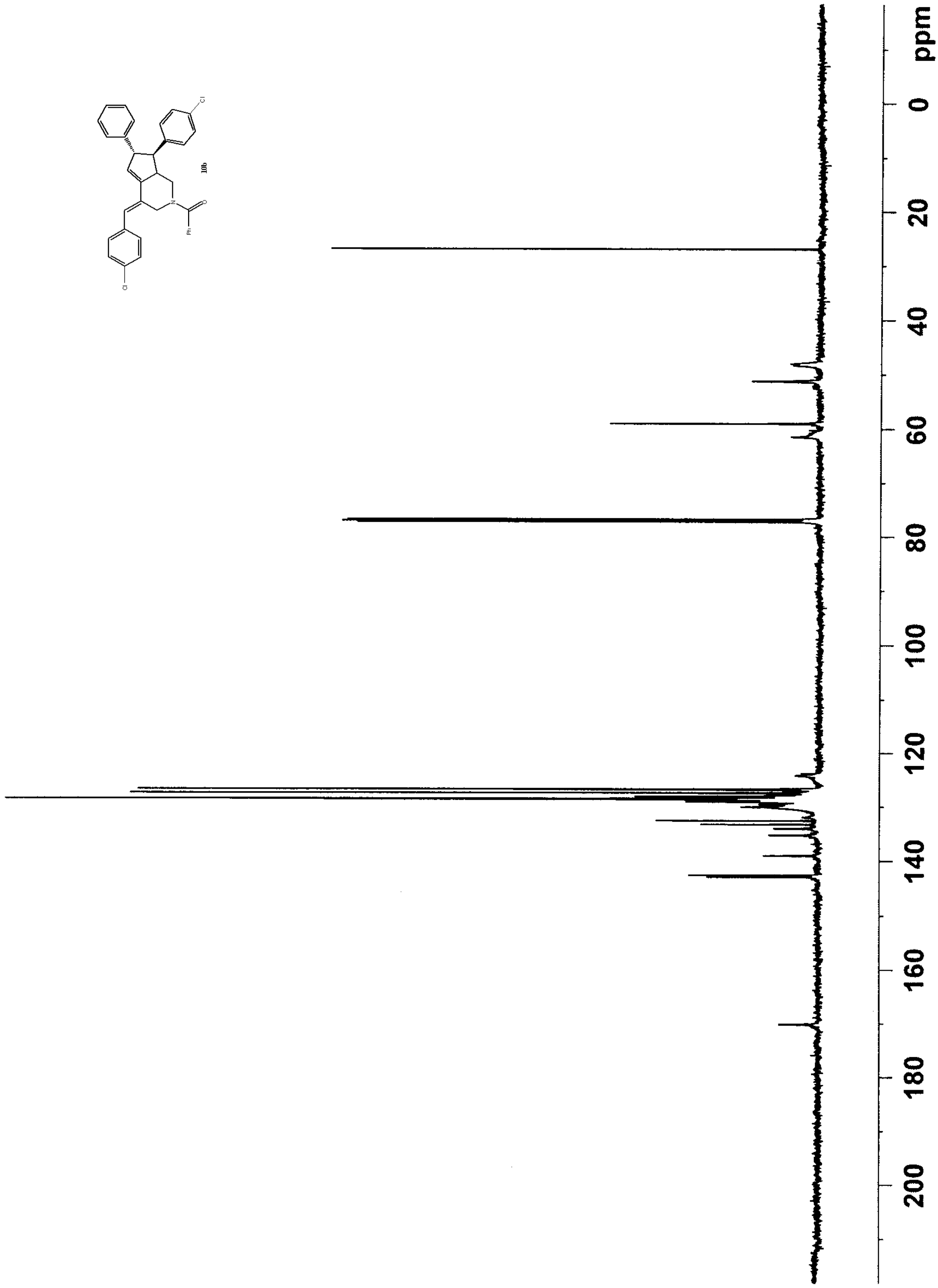

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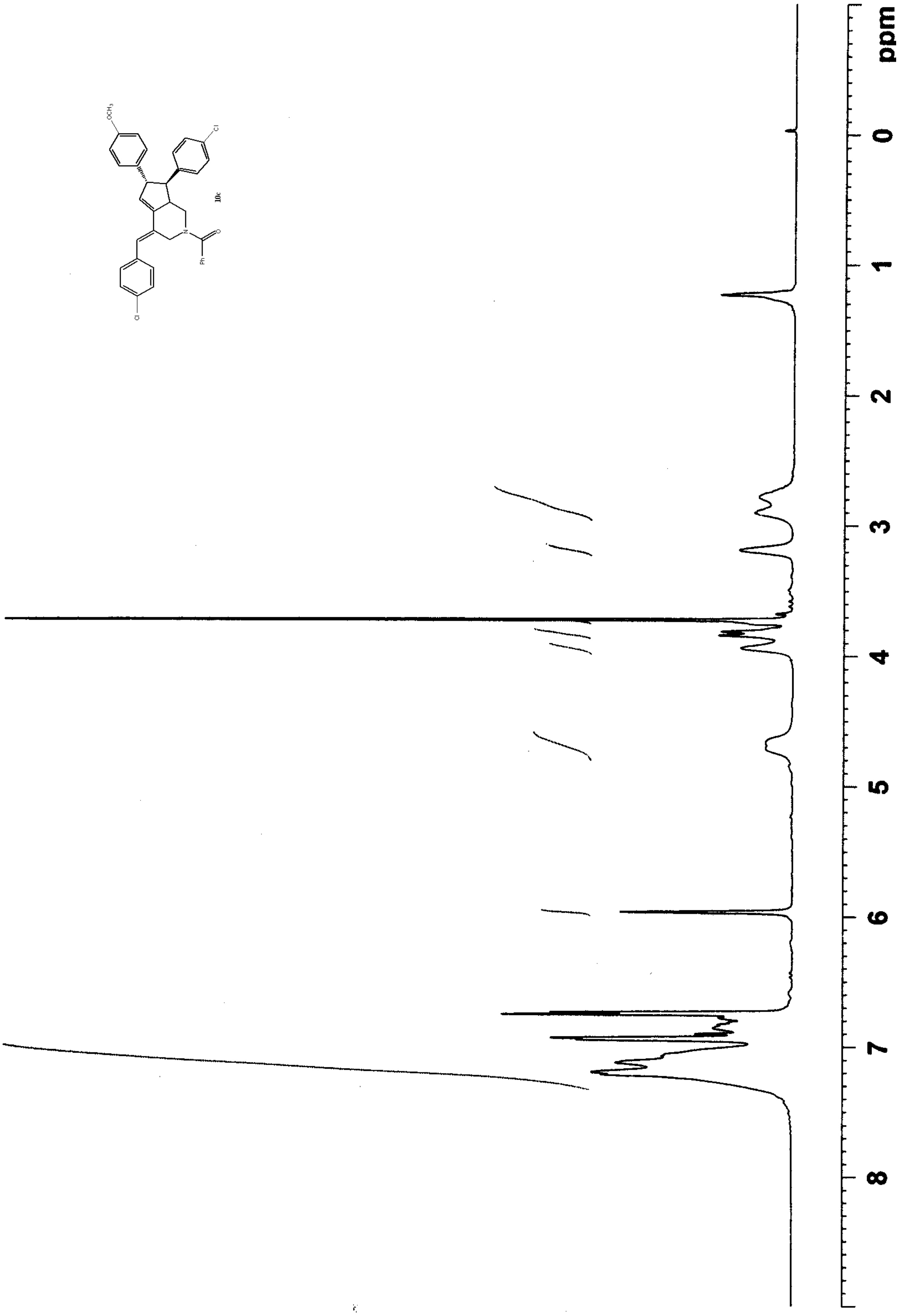
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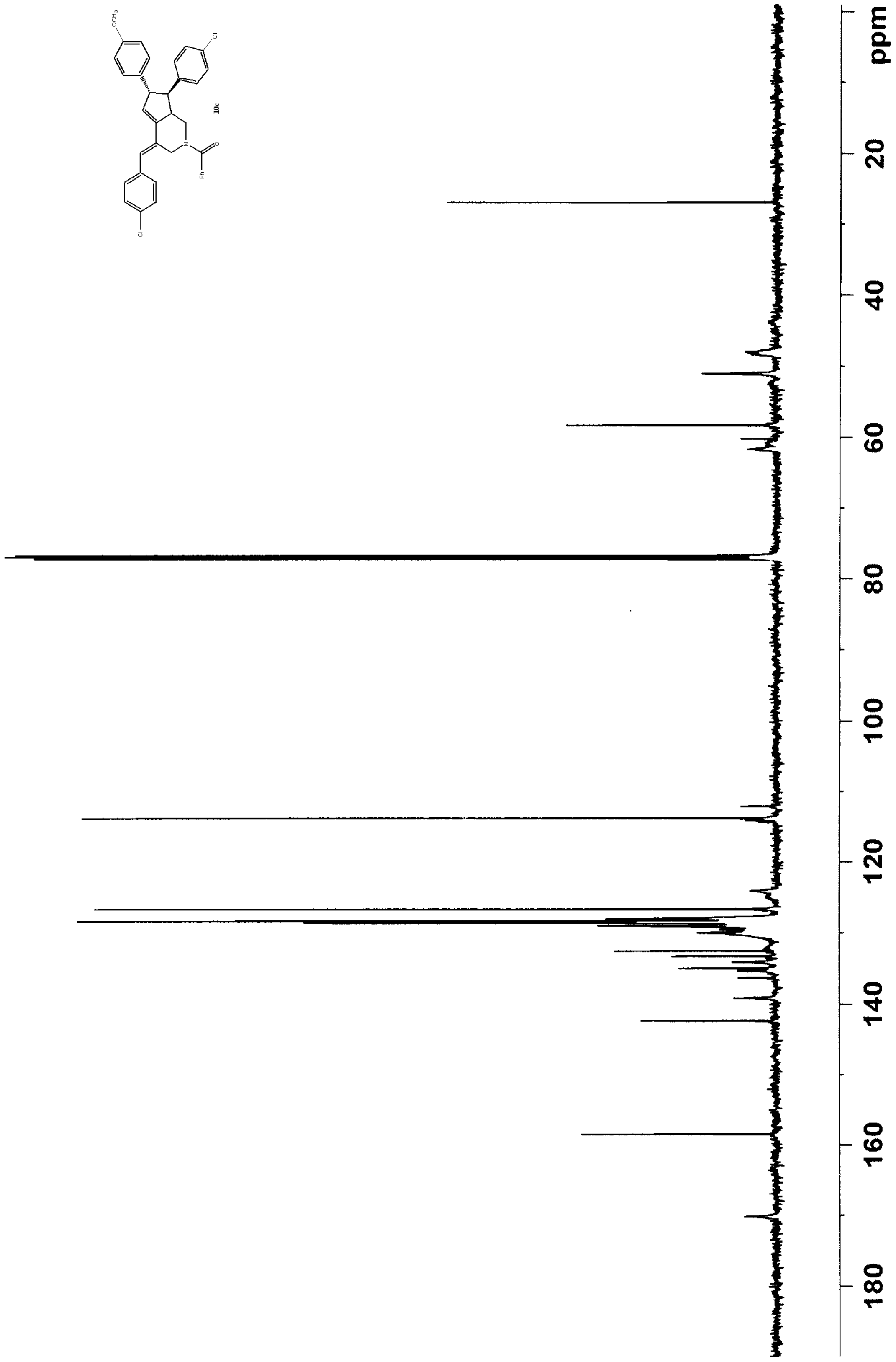
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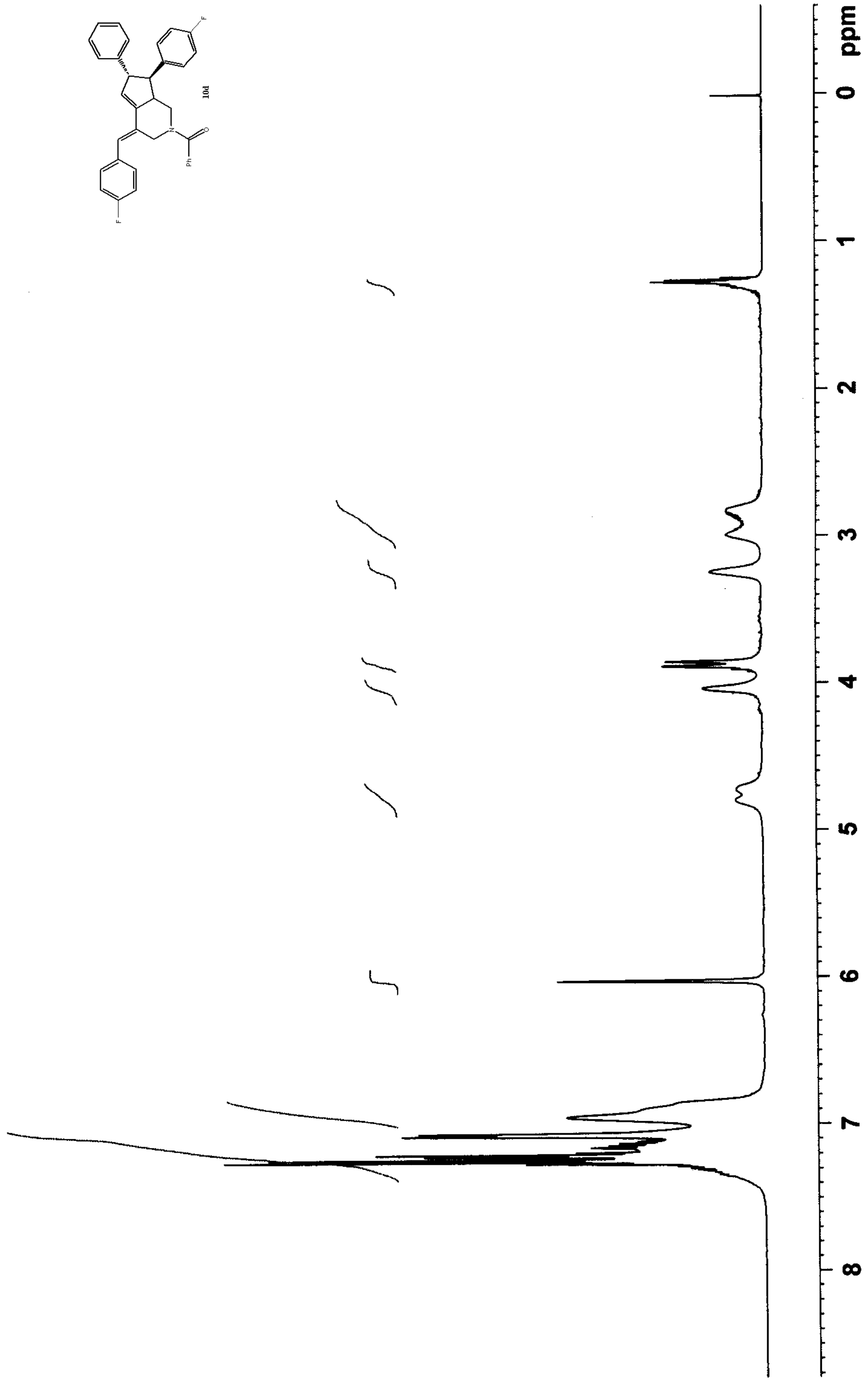

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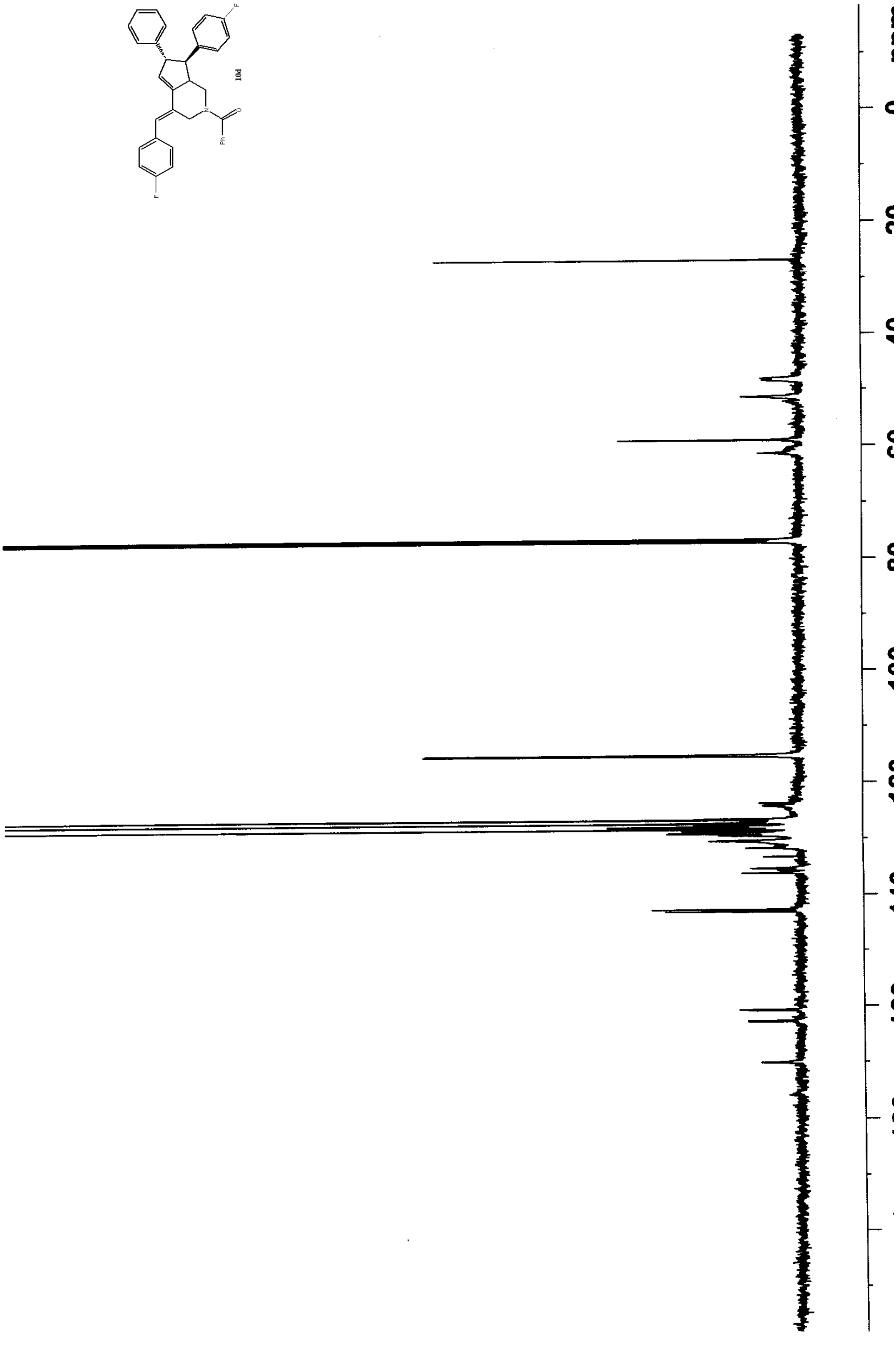

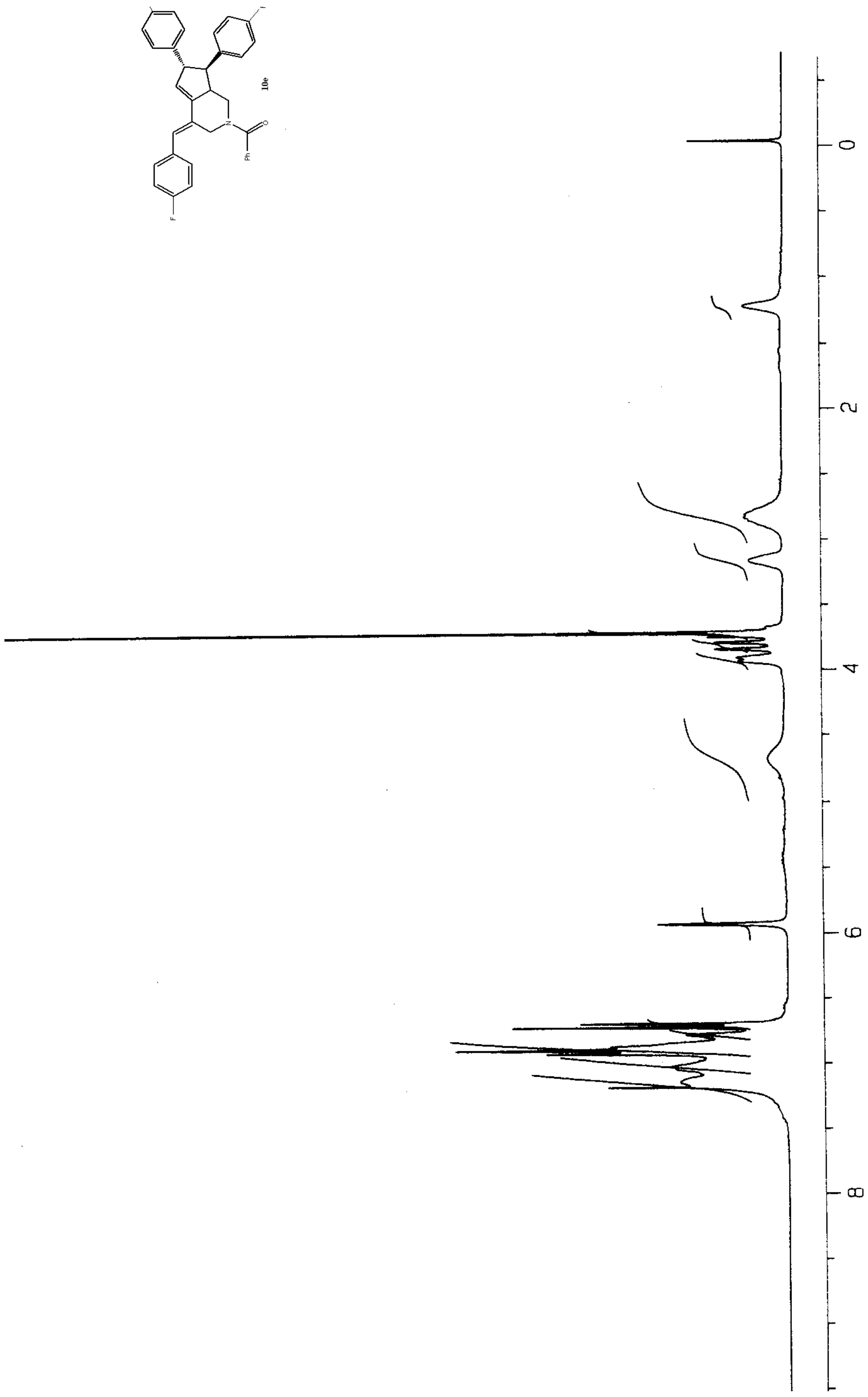

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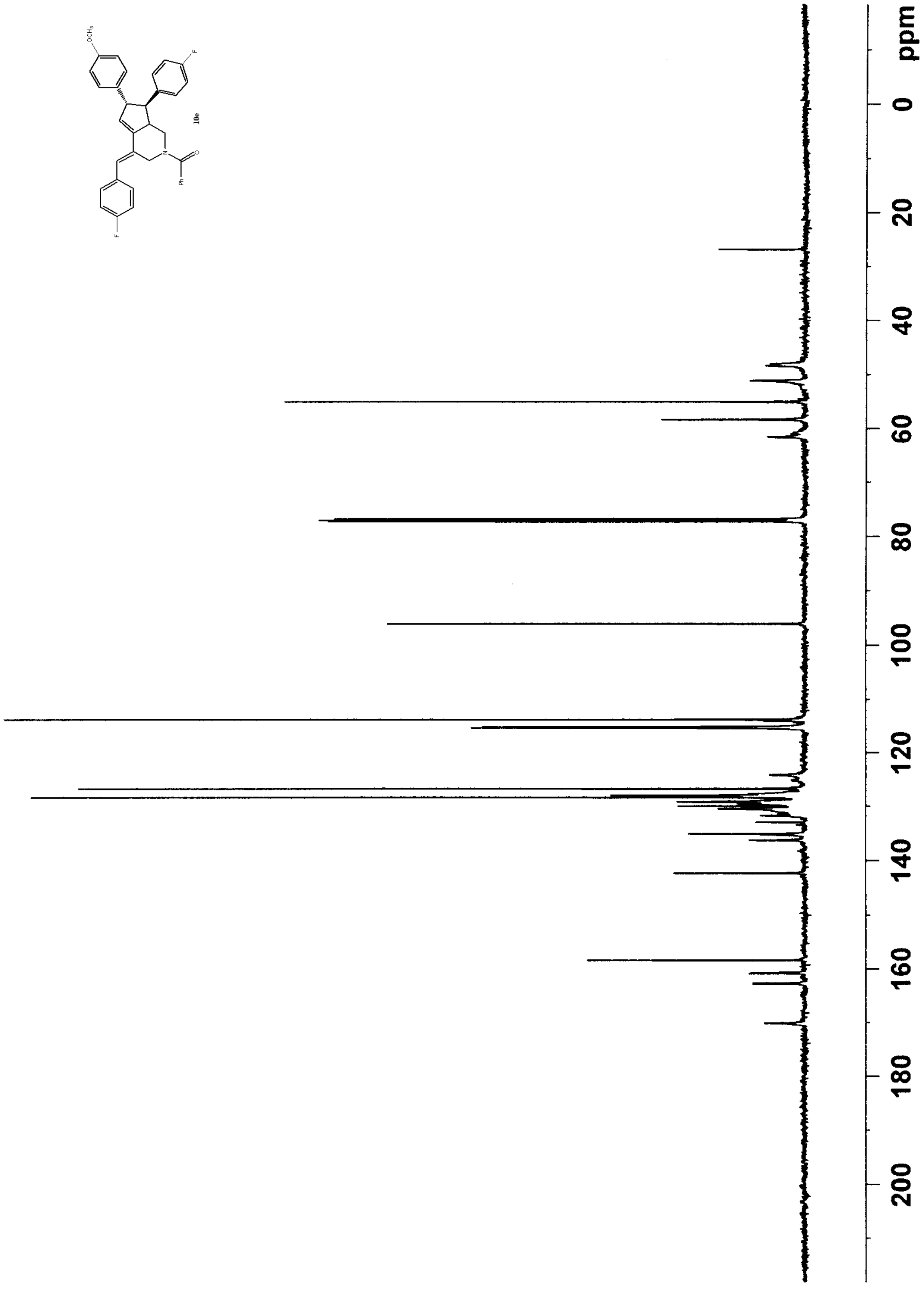
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