Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C

Supporting Information

Synthesis and optical reactivity of 6,13-α-diketoprecursors of 2,3,9,10-tetraalkylpentacenes in solution, film and crystals

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Table S1 Solubility of **Et-PDK** and **PDK**.

	Toluene	CH_2Cl_2	Hexane	THF	EtOAc	Et_2O
PDK	3.6	12	1.4	8.8	2.1	1.1
Et-PDK	16	61	1.5	28	4.1	1.6

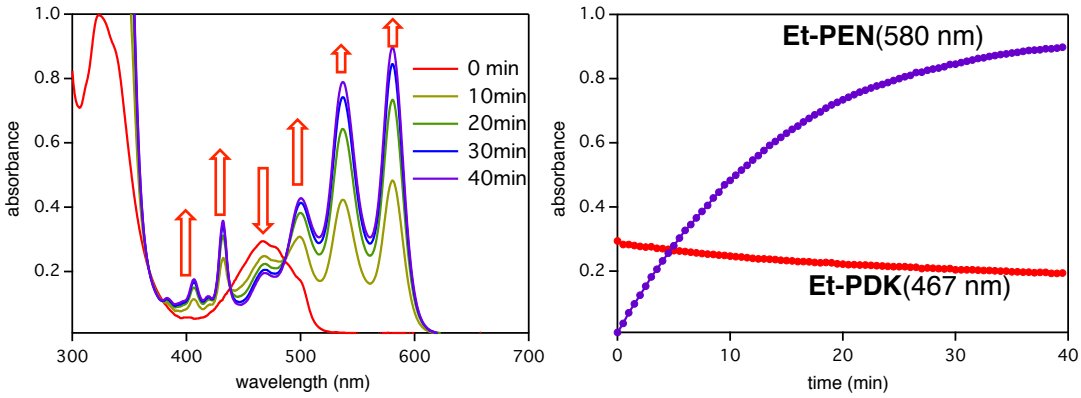


Figure S1. Photoreaction of **Et-PDK** to **Et-PEN** in toluene under Ar atmosphere.

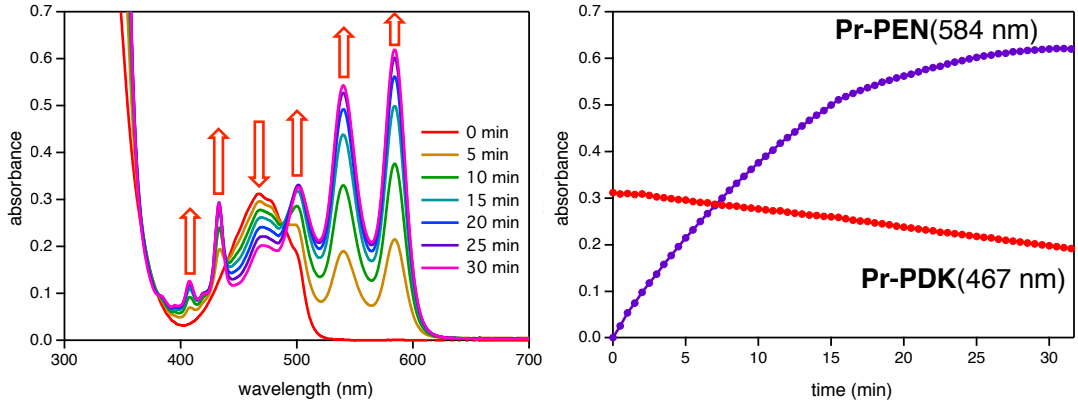


Figure S2. Photoreaction of **Pr-PDK** to **Pr-PEN** in toluene under Ar atmosphere.

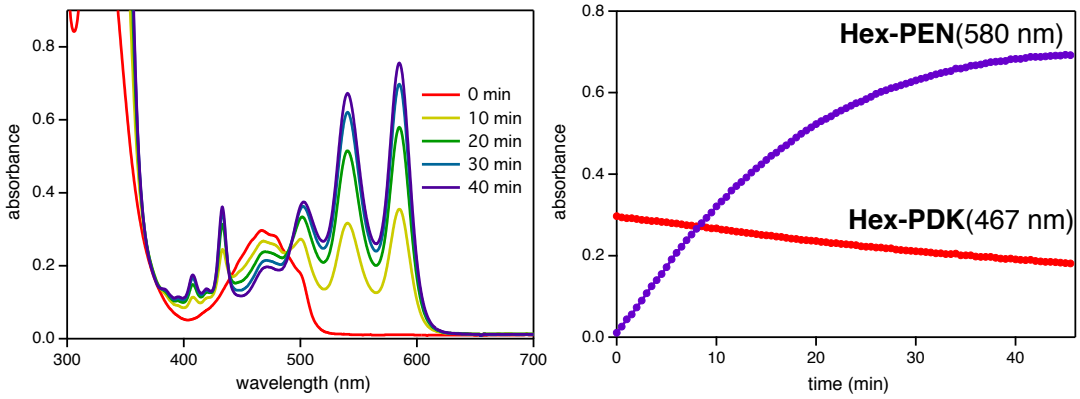


Figure S3. Photoreaction of **Hex-PDK** to **Hex-PEN** in toluene under Ar atmosphere.

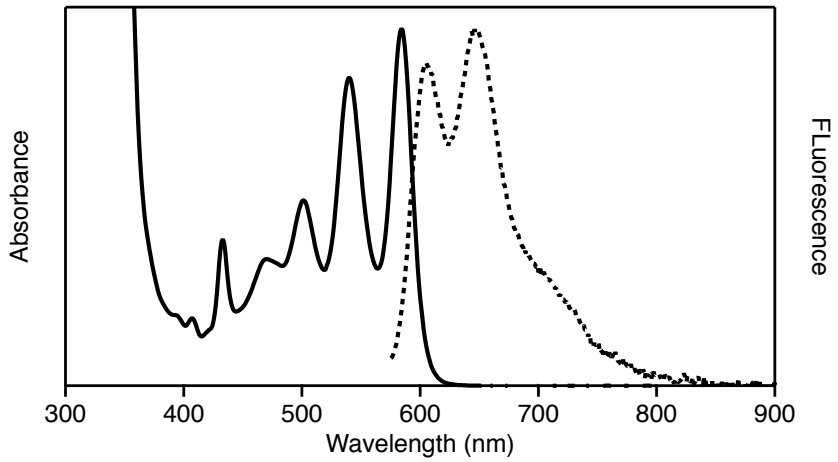


Figure S4. Absorption (black line) and fluorescent (black dotted-line, excited at 540 nm) spectra of **Pr-PEN** in toluene.

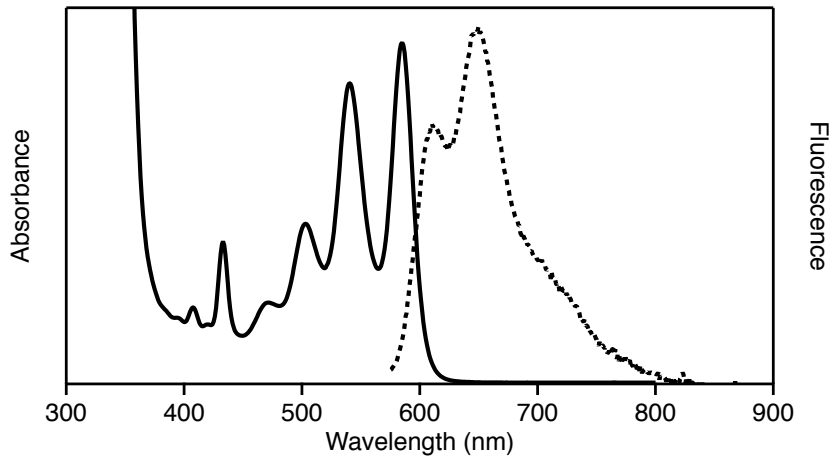


Figure S5. Absorption (black line) and fluorescent (black dotted-line, excited at 541 nm) spectra of **Hex-PEN** in toluene.

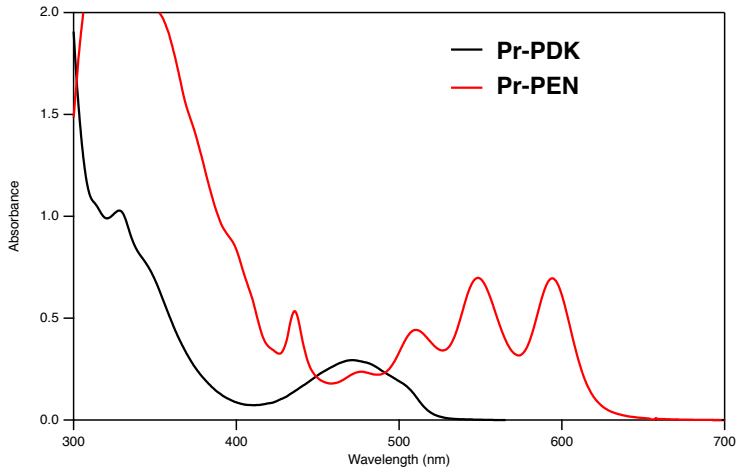


Figure S6. Change on absorption spectra before- and after-photoreaction of **Pr-PDK** in film.

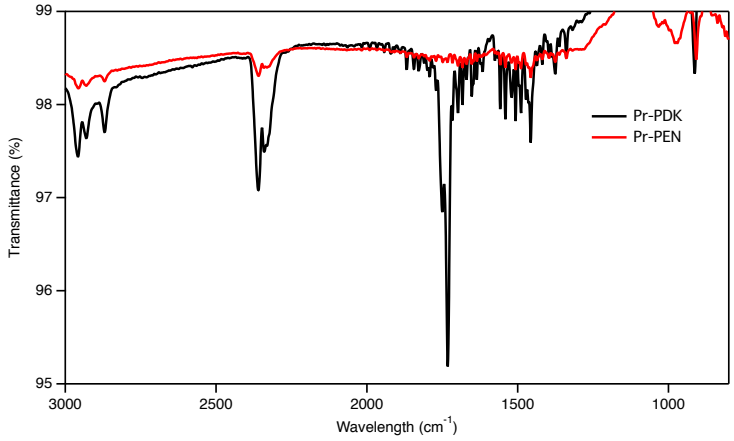


Figure S7. Change on IR spectra before- and after-photoreaction of **Pr-PDK** in film.

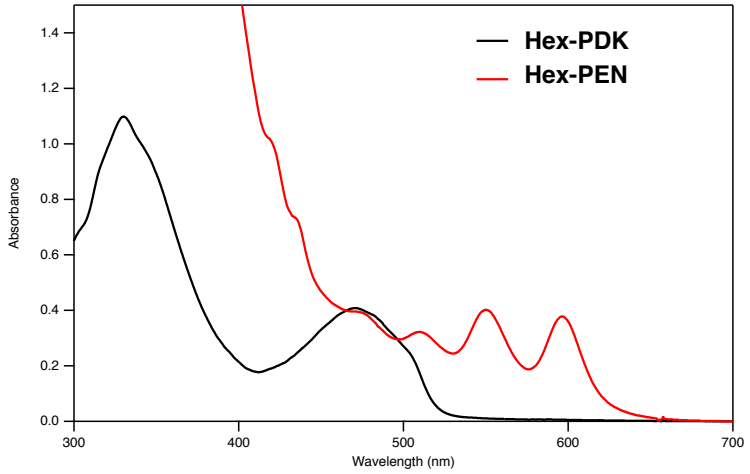


Figure S8. Change on absorption spectra before- and after-photoreaction of **Hex-PDK** in film.

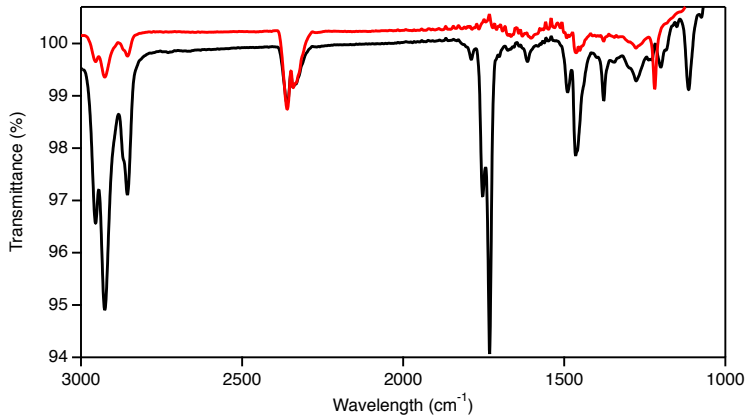


Figure S9. Change on IR spectra before- and after-photoreaction of **Hex-PDK** in film.

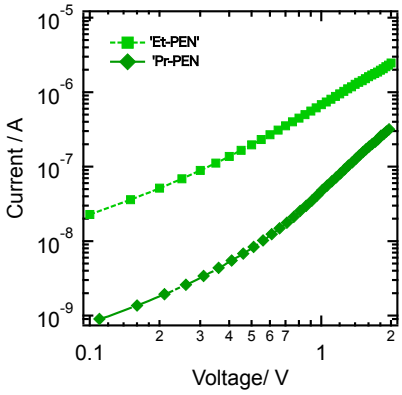
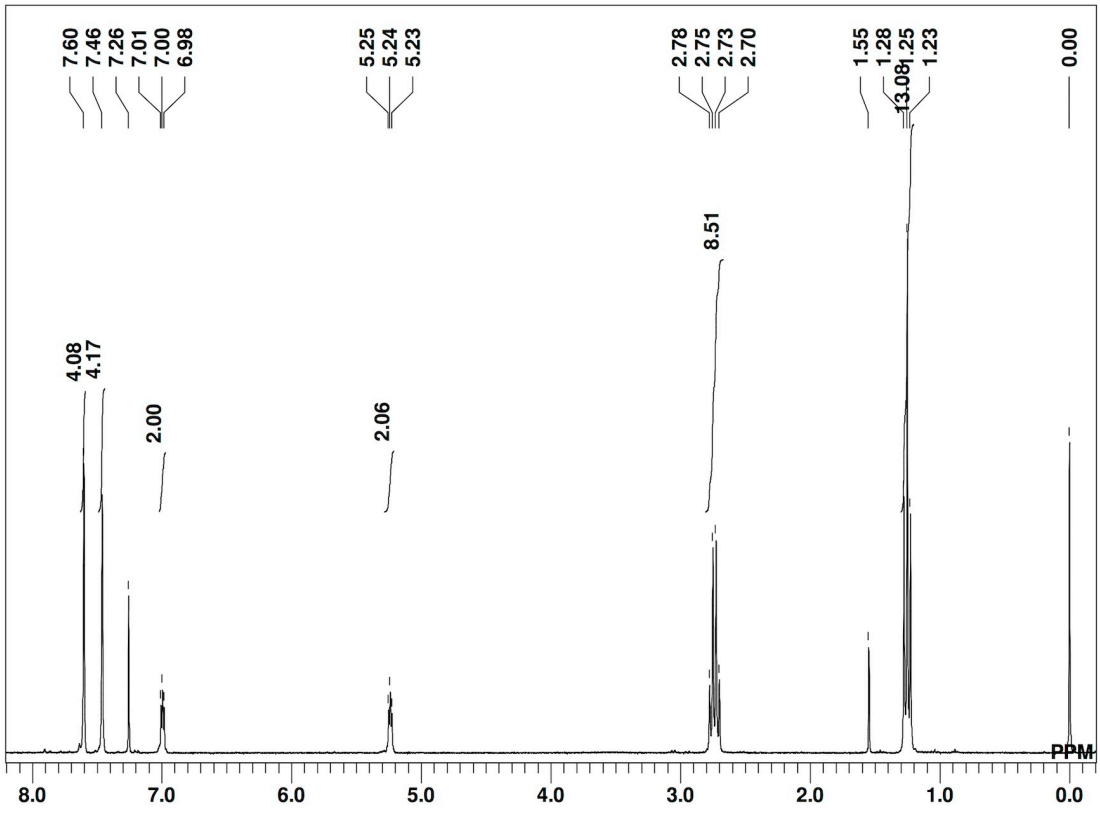
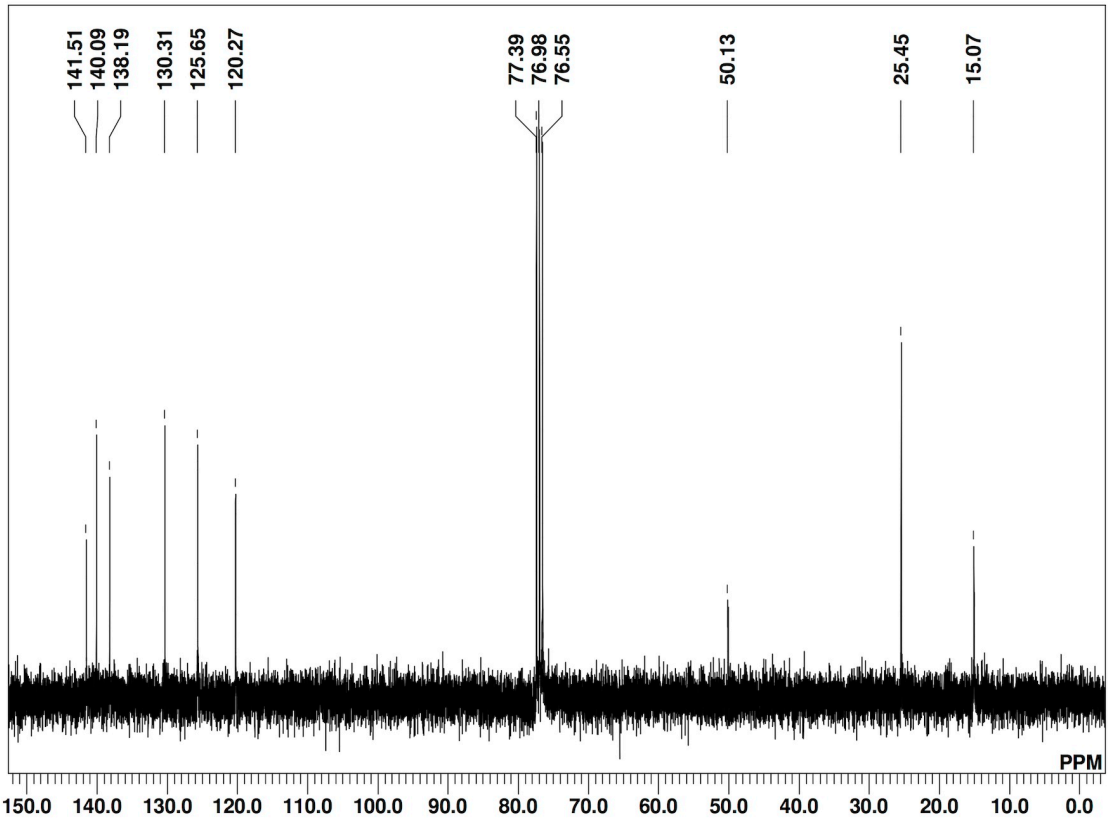


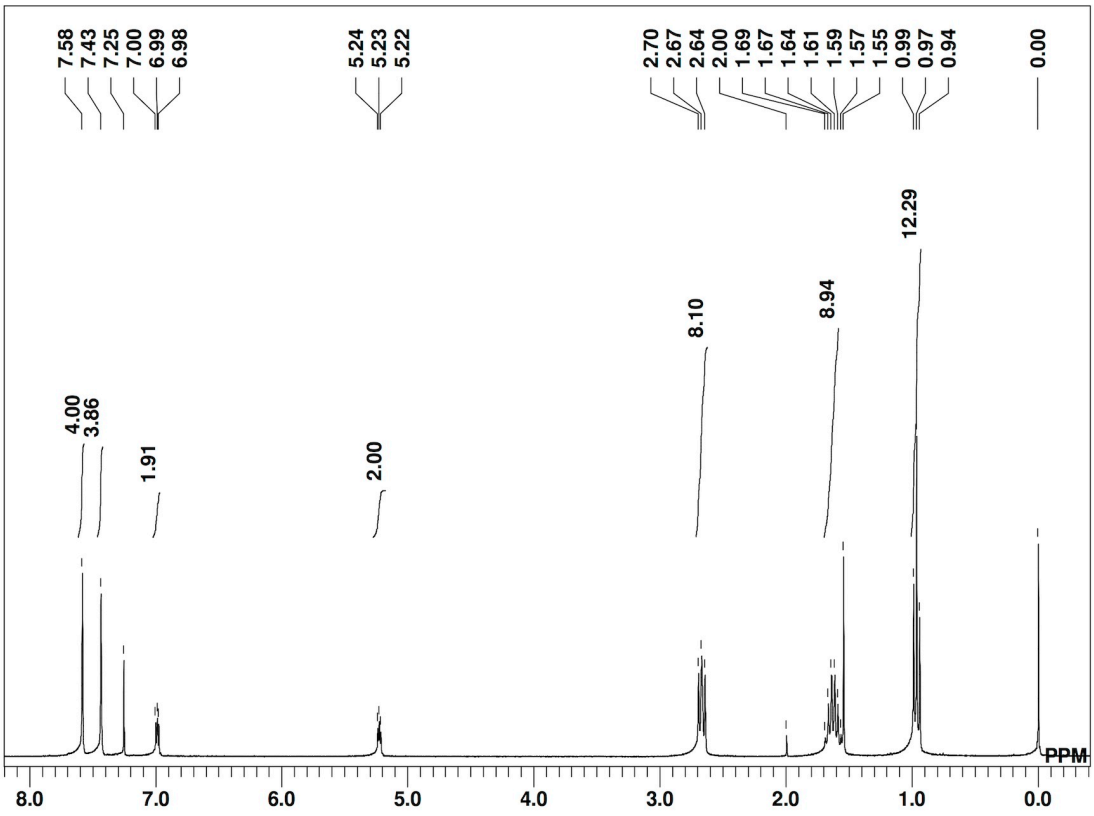
Figure S9. *I-V* curve of **Et-PEN** (light green) and **Pr-PEN** (dark green) measured by SCLC method.



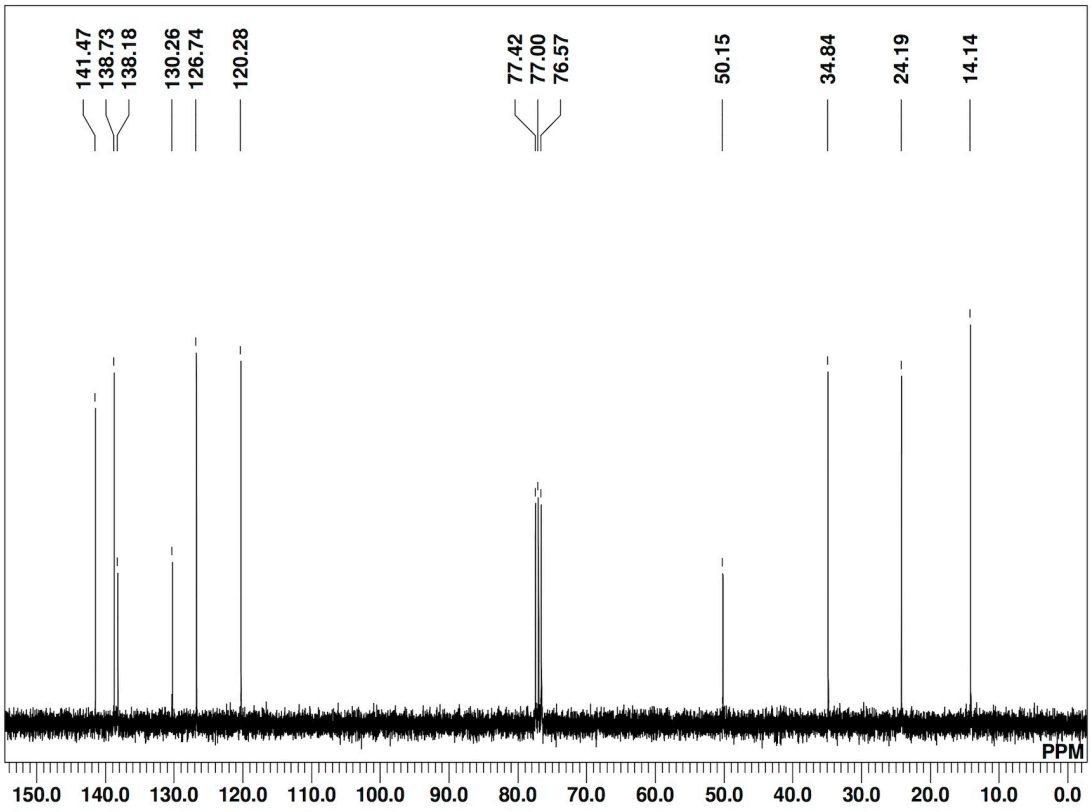
^{1}H-NMR spectrum of **6a** in $CDCl_3$.



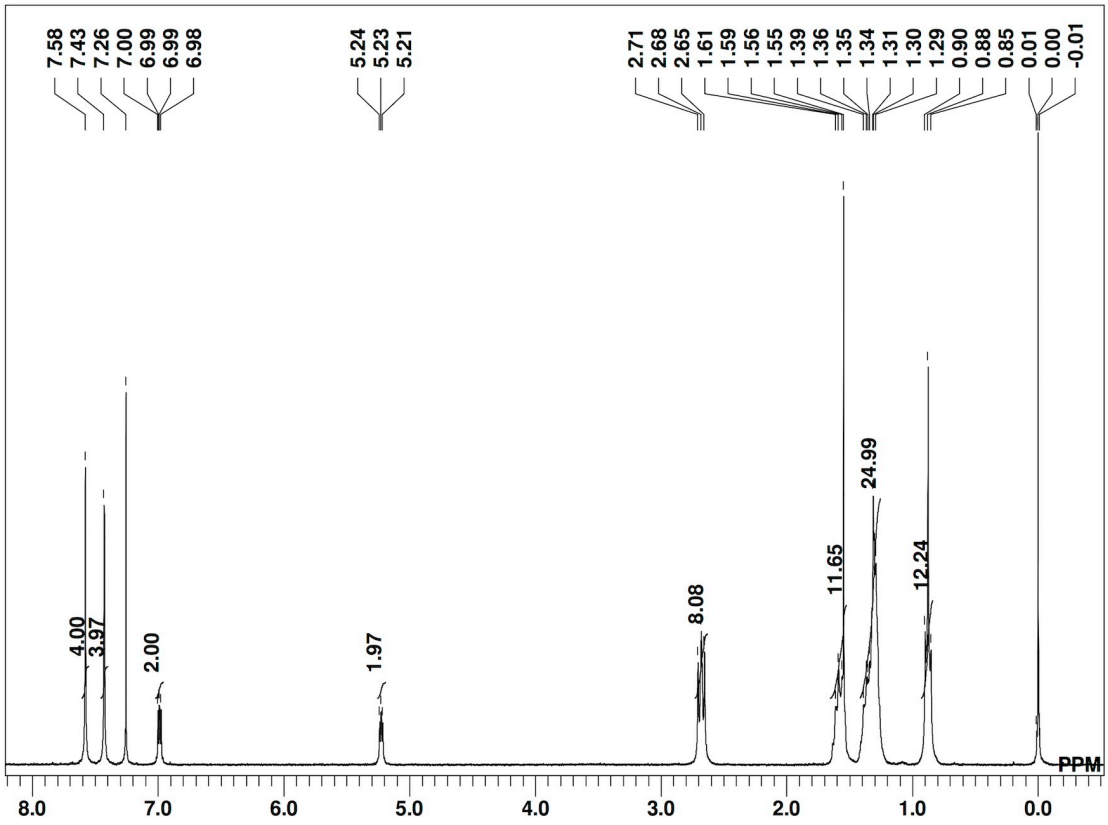
^{13}C-NMR spectrum of **6a** in $CDCl_3$.



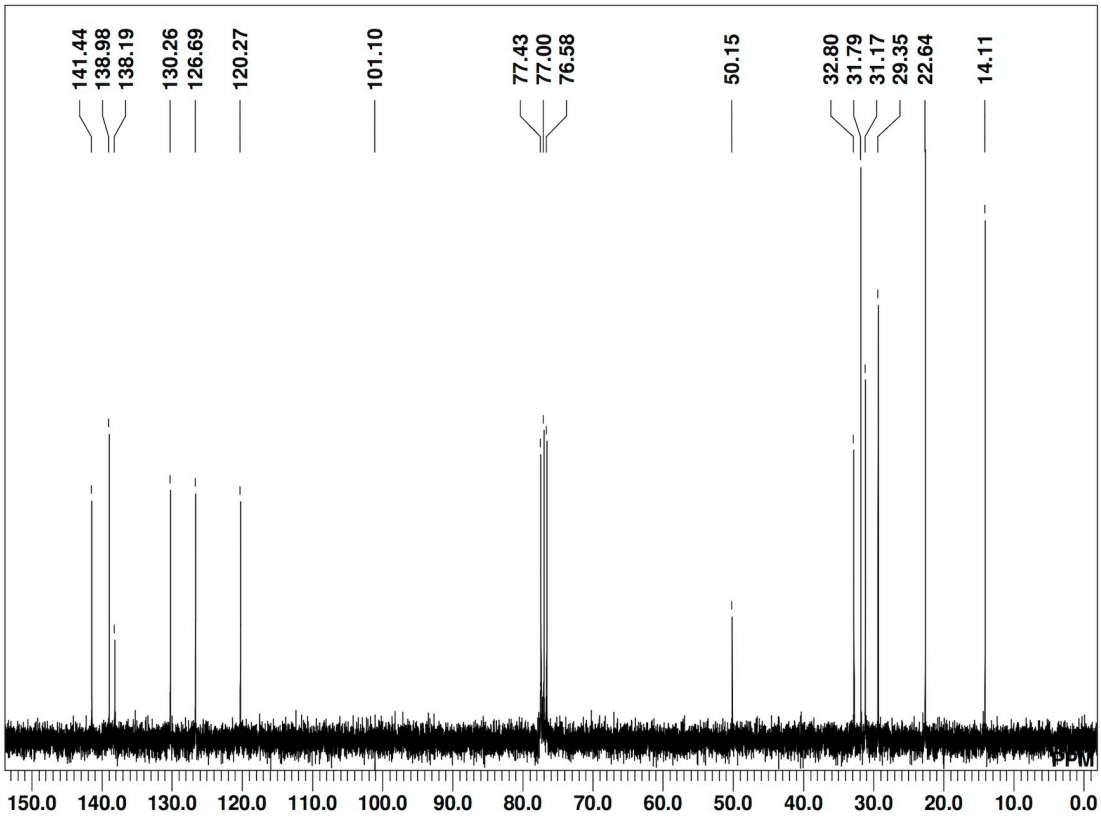
^{1}H-NMR spectrum of **6b** in $CDCl_3$.



^{13}C-NMR spectrum of **6b** in $CDCl_3$.



^{1}H-NMR spectrum of **6c** in $CDCl_3$.



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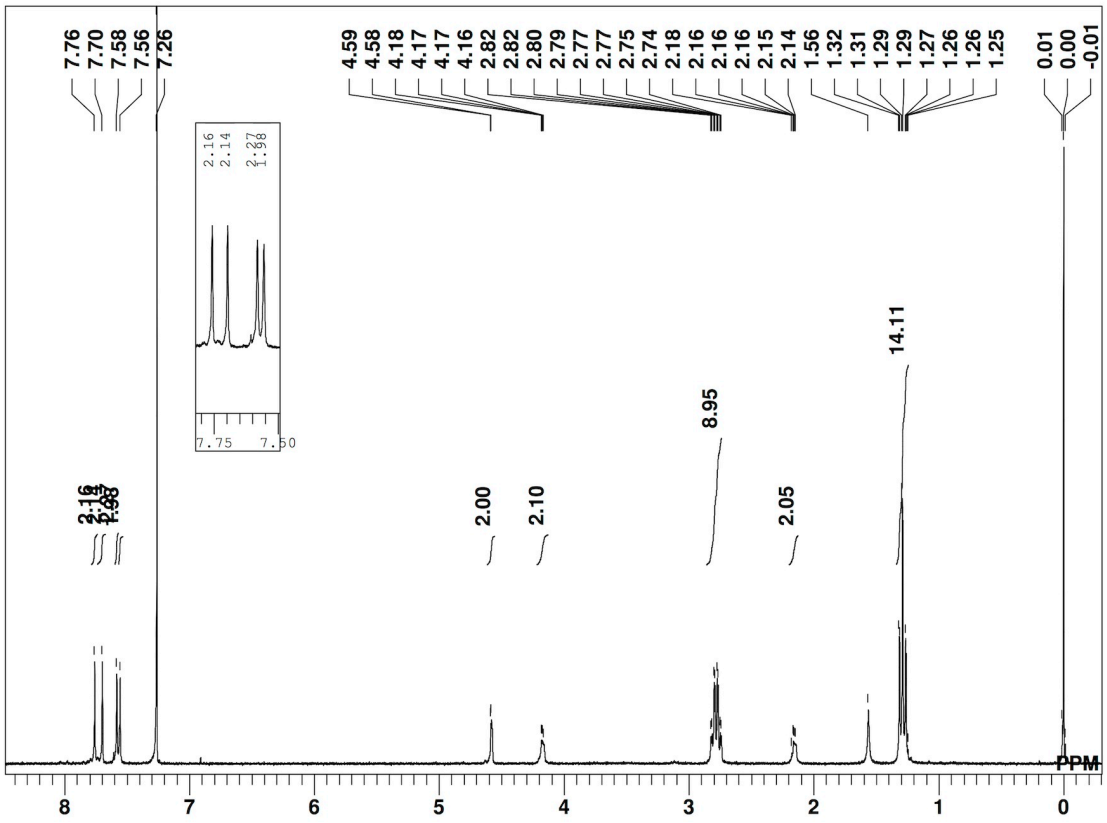

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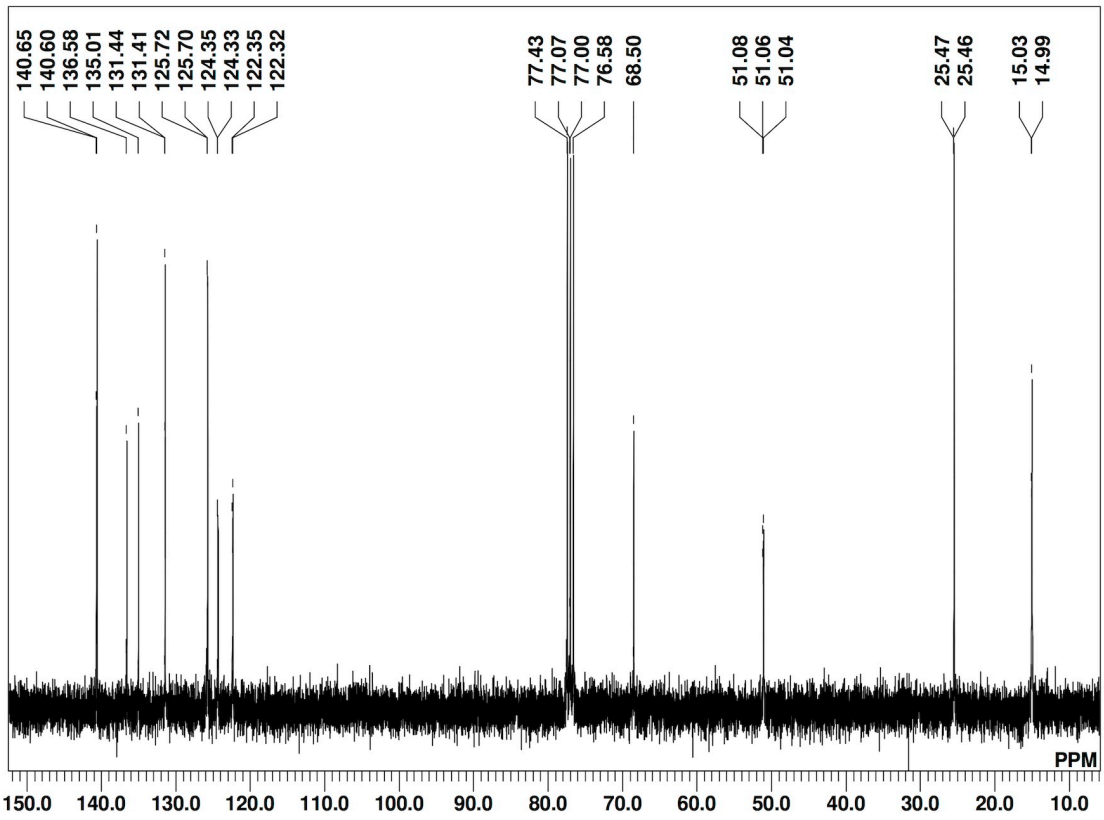

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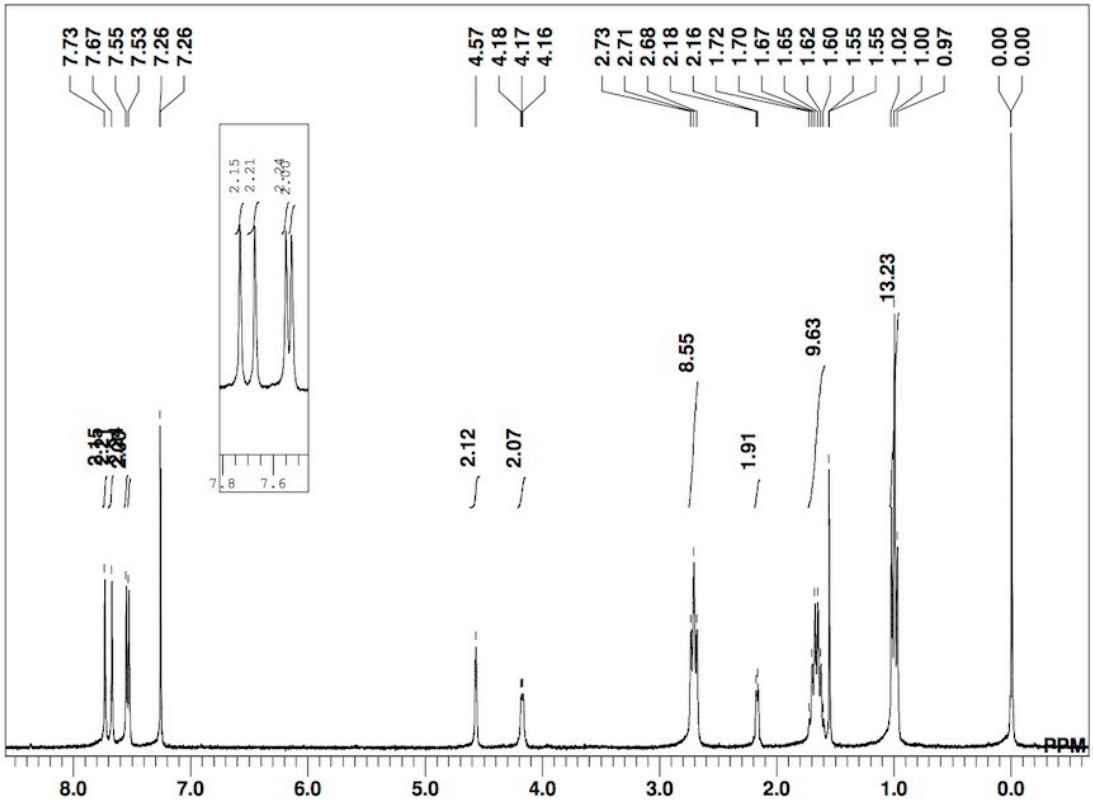

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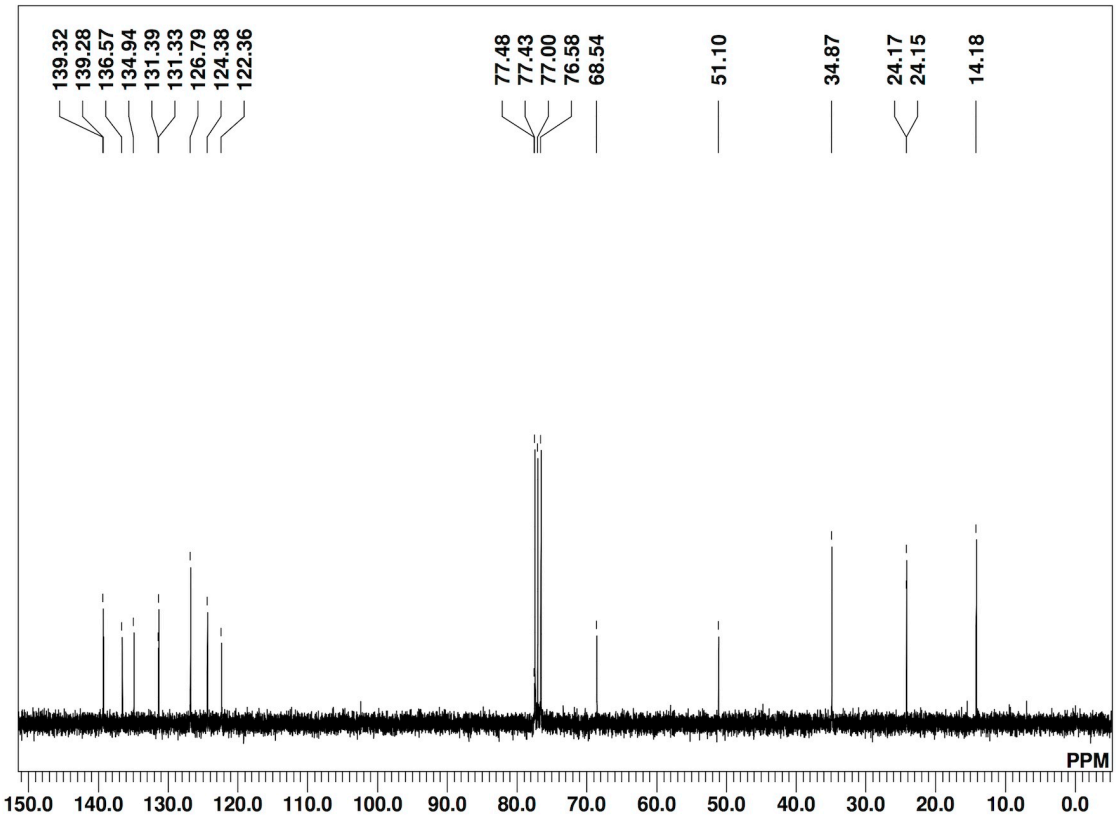

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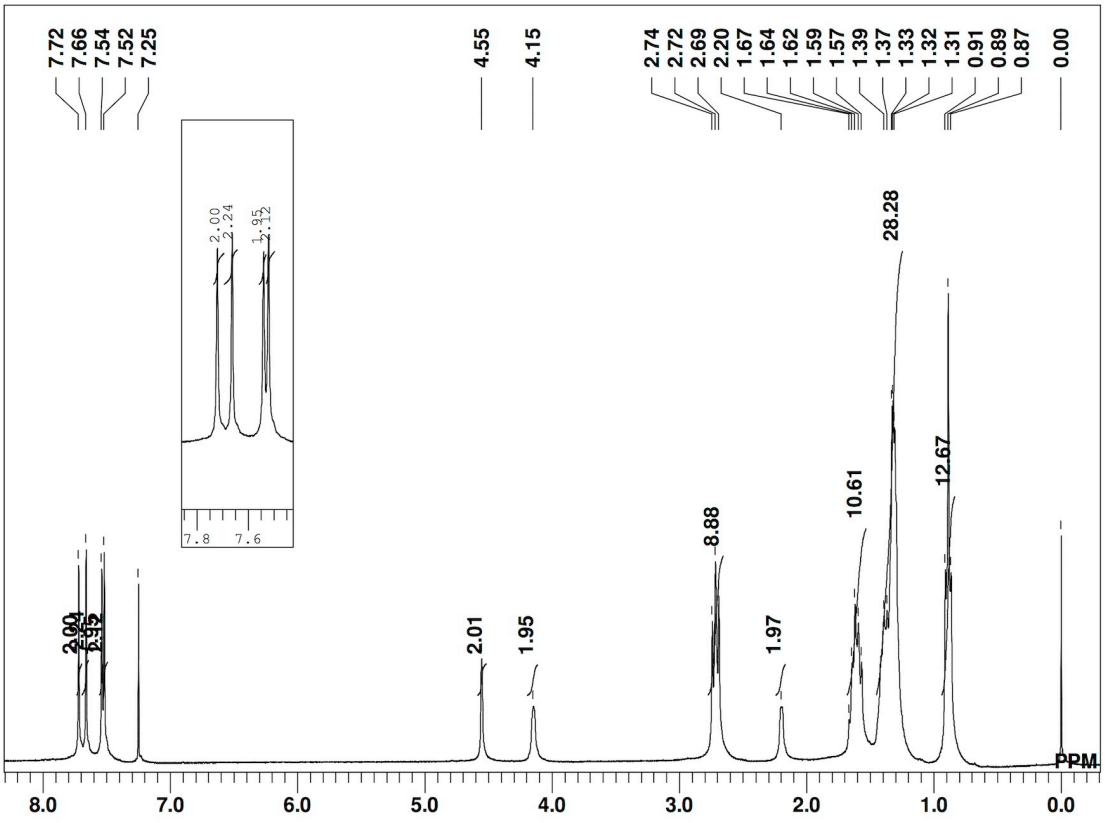

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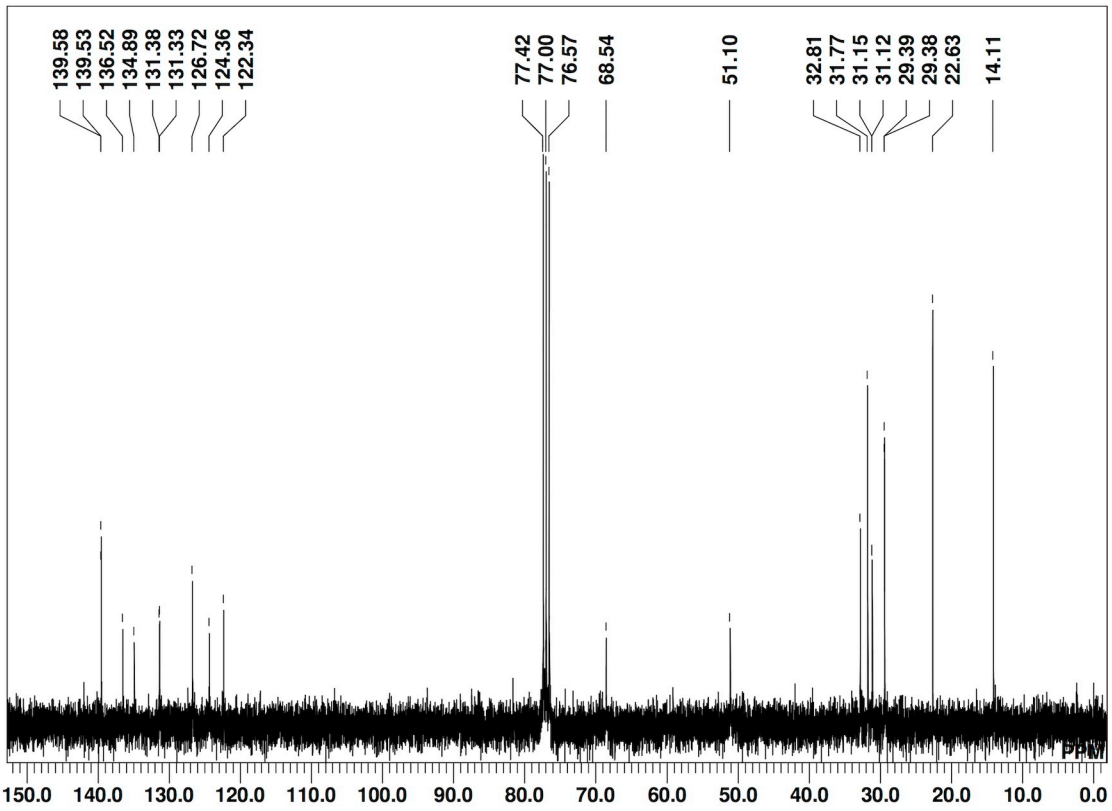
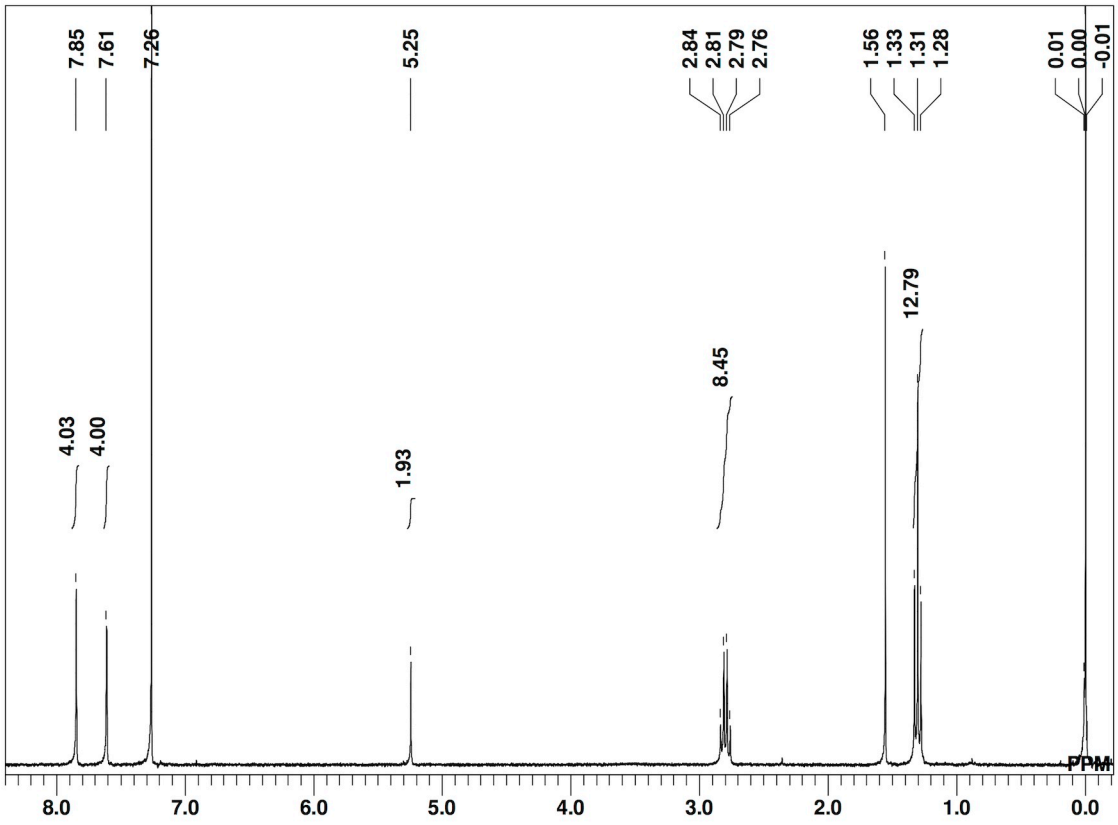
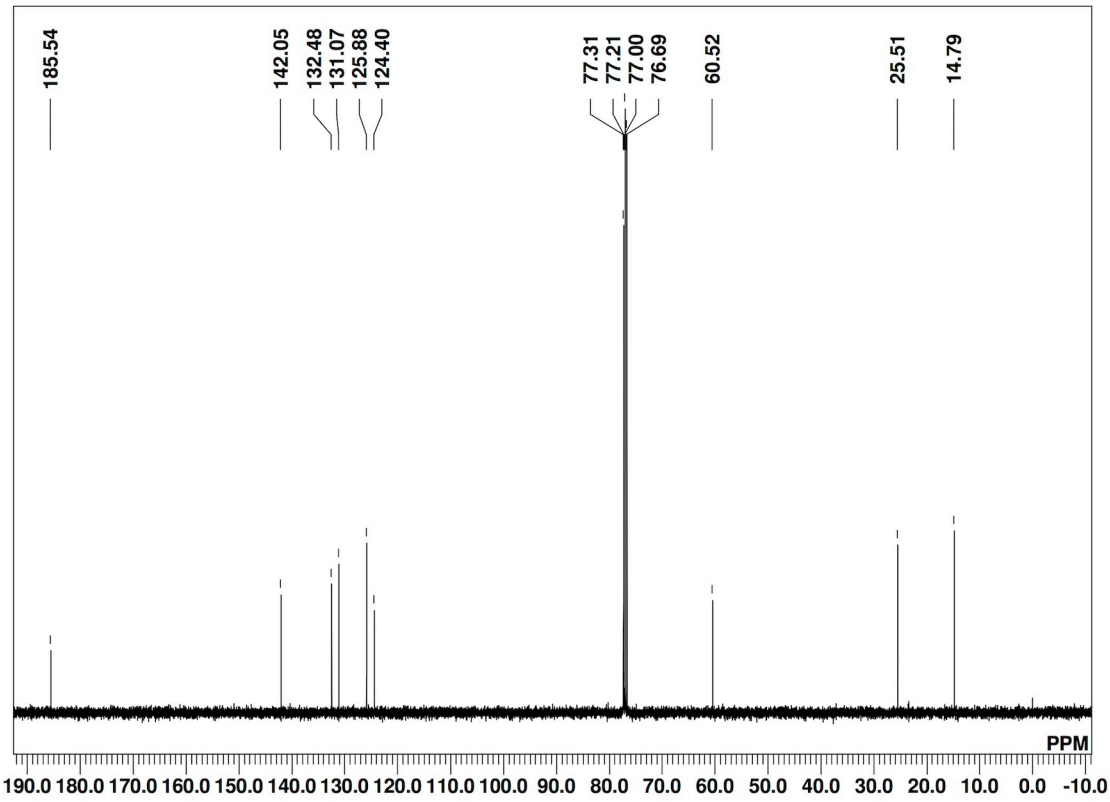


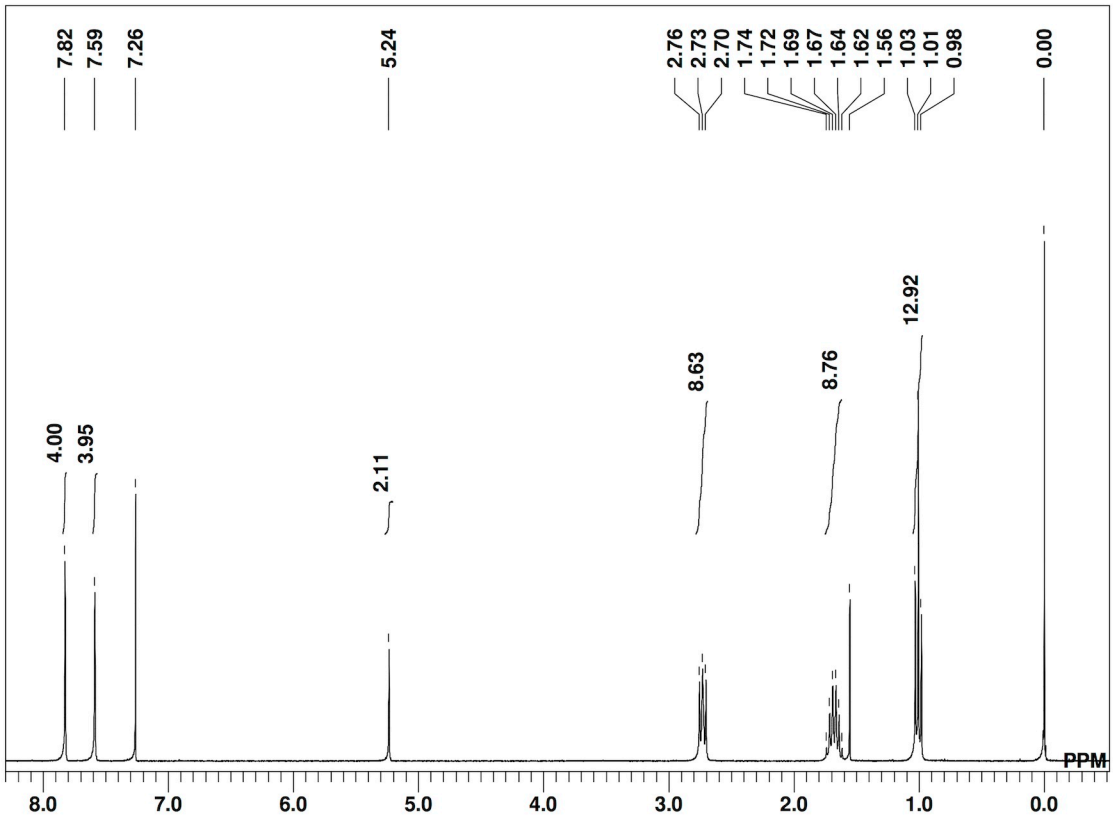
^{13}C-NMR spectrum of **7c** in $CDCl_3$.



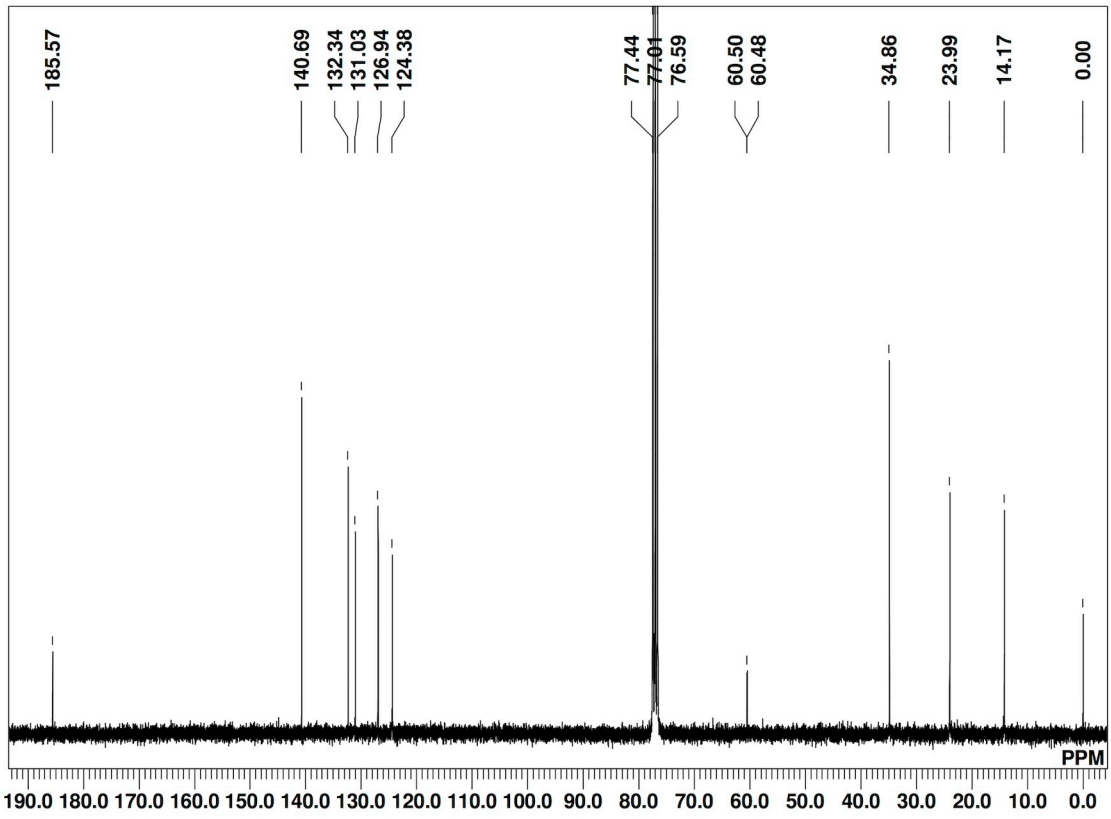
^{1}H-NMR spectrum of **Et-PDK** in $CDCl_3$.



^{13}C-NMR spectrum of **Et-PDK** in $CDCl_3$.



^{1}H-NMR spectrum of **Pr-PDK** in $CDCl_3$.



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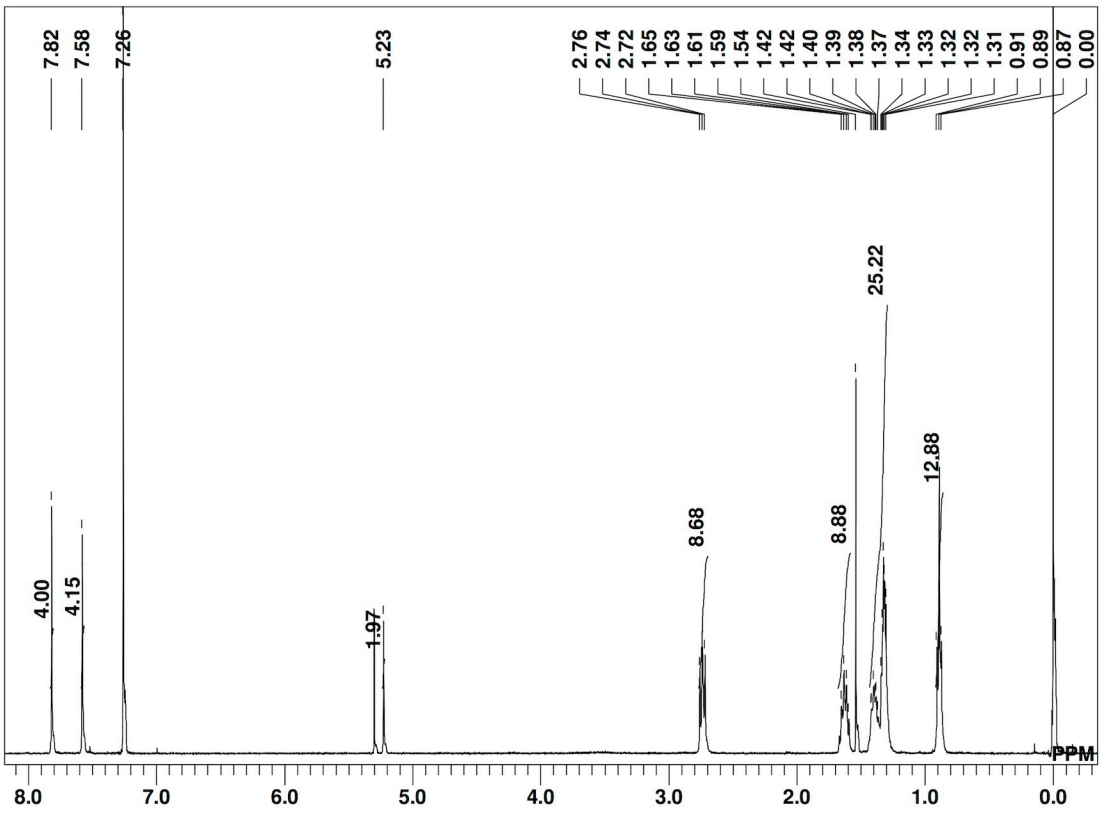

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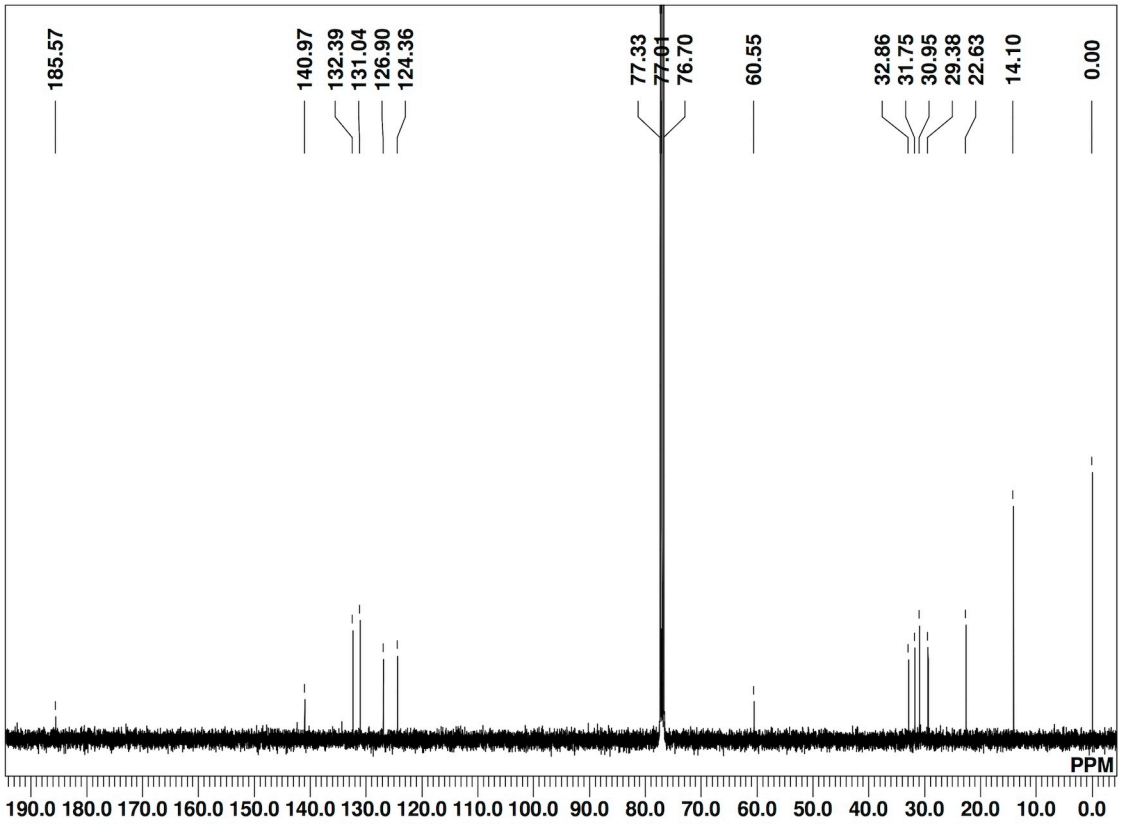

^{13}C-NMR spectrum of **Hex-PDK** in $CDCl_3$.