

Supplementary Materials

Palladium-catalyzed β -C(sp³)-H bond arylation of tertiary aldehydes facilitated by 2-pyridone ligands

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I. Starting materials

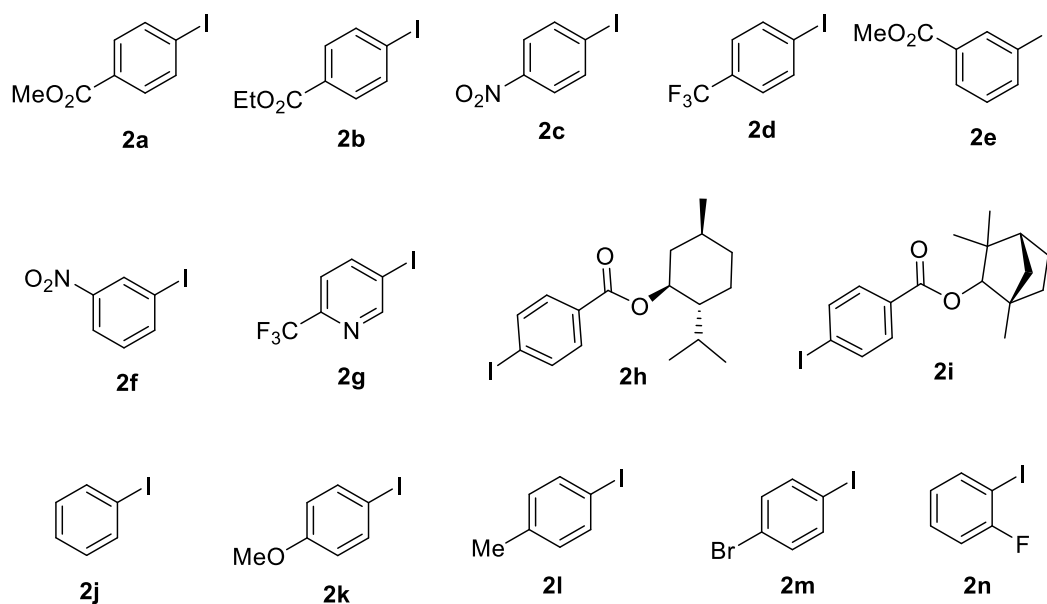
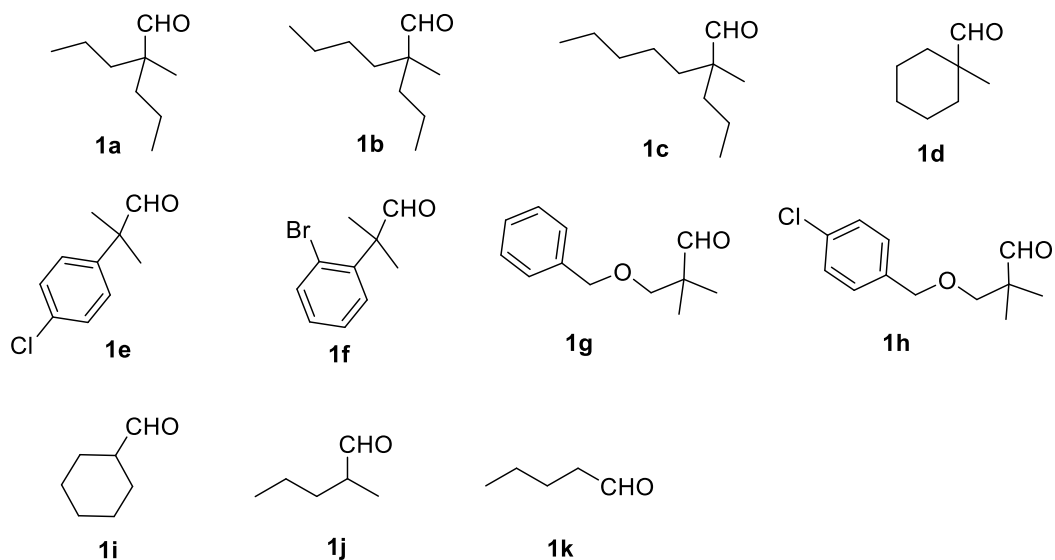


Figure S1. Aliphatic aldehydes and aryl iodides

II. ^1H and ^{13}C NMR Spectra

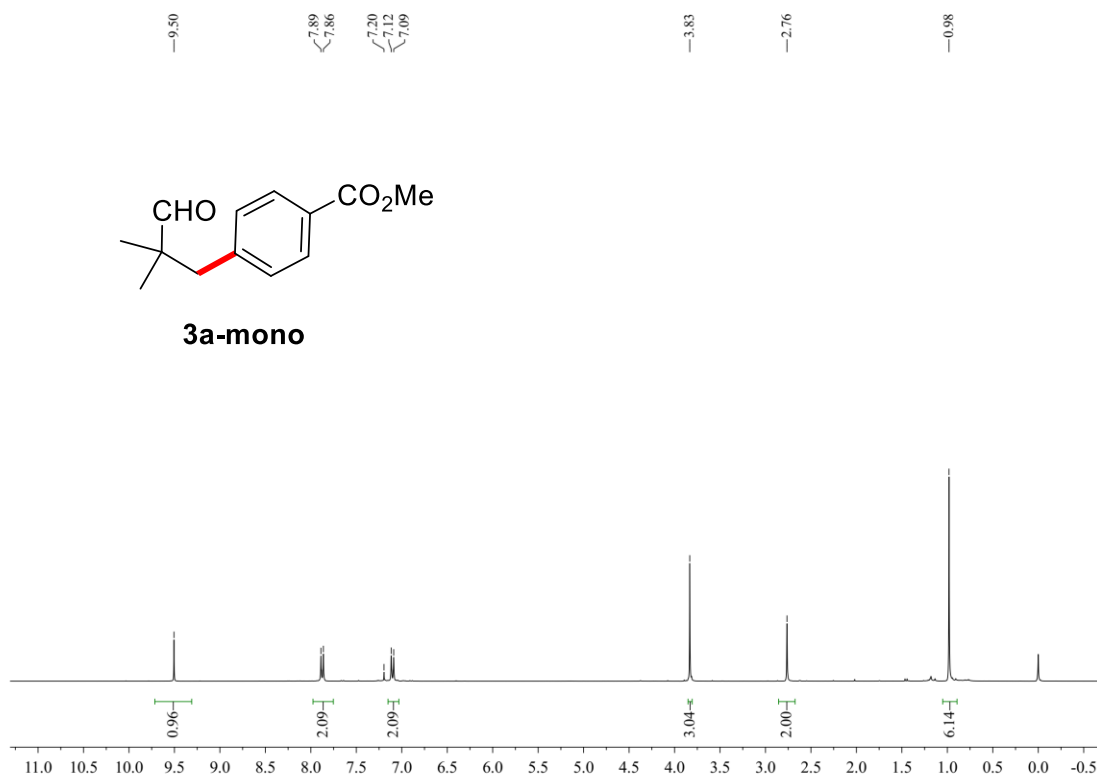


Figure S2 ¹H NMR spectrum (300MHz, CDCl₃, 298K) of **3a-mono**

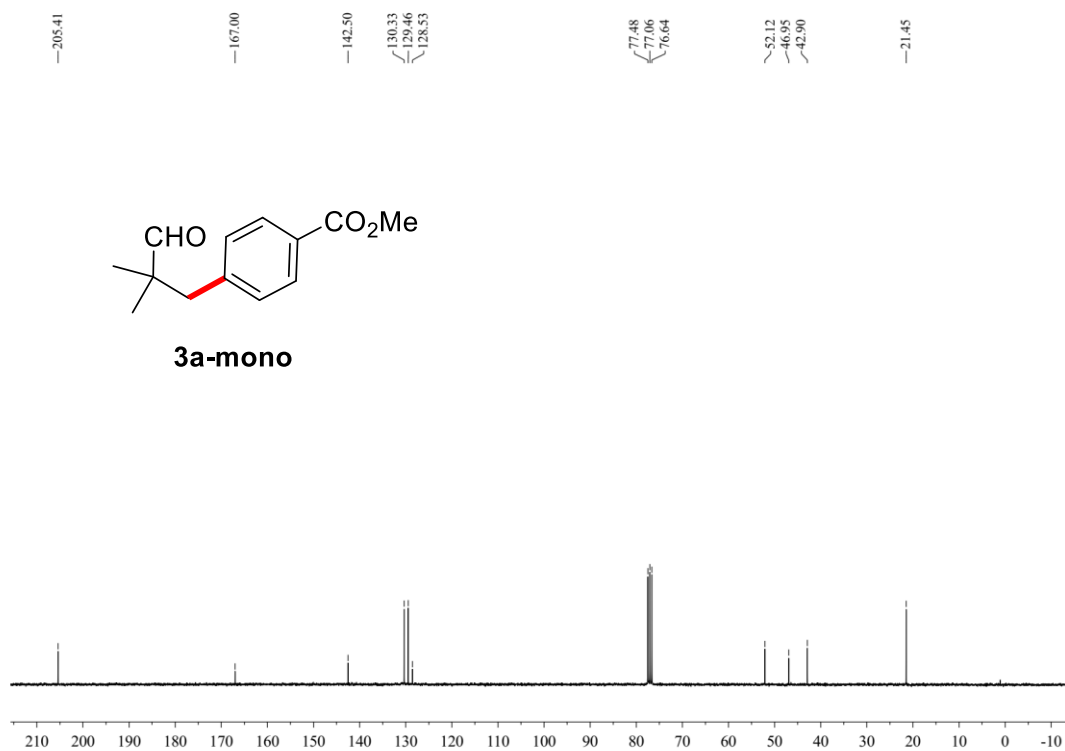


Figure S3 ¹³C NMR spectrum (75MHz, CDCl₃, 298K) of **3a-mono**

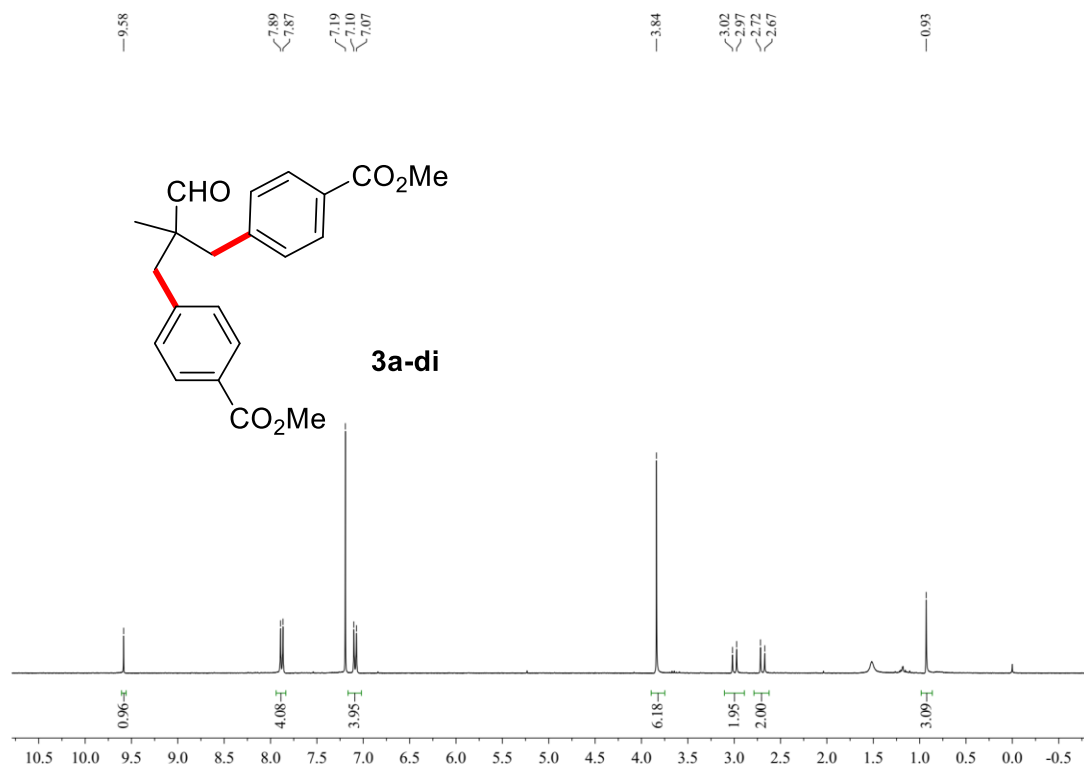


Figure S4 ¹H NMR spectrum (300MHz, CDCl₃, 298K) of **3a-di**

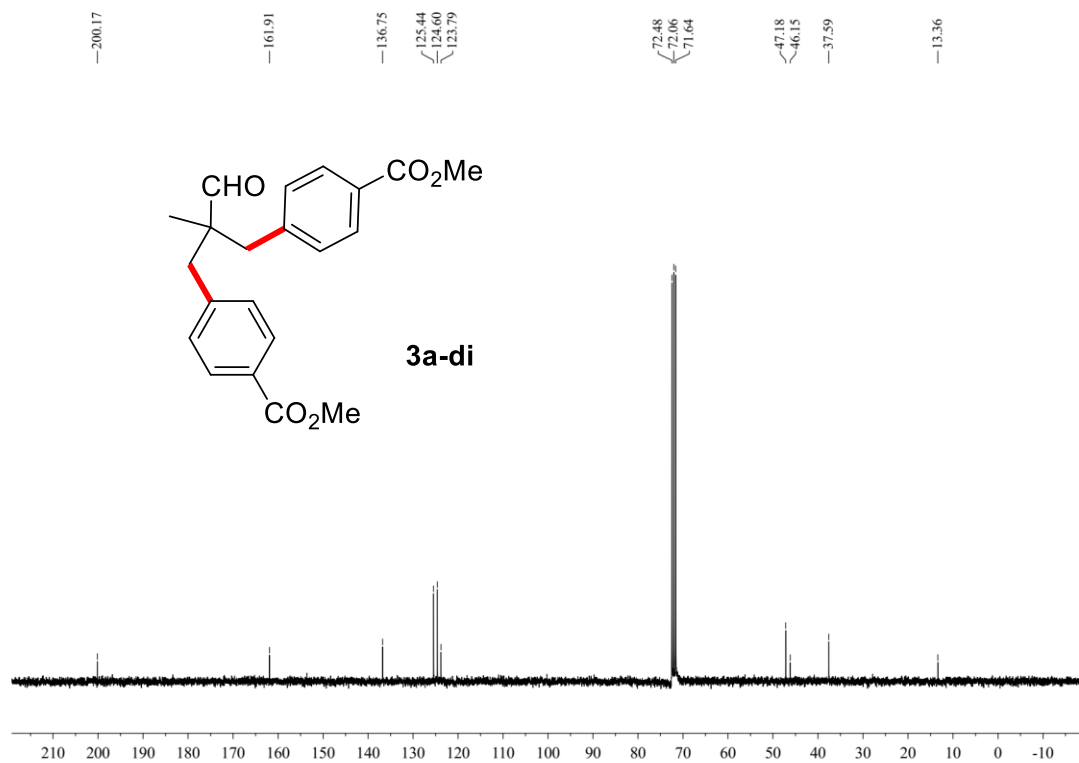


Figure S5 ¹³C NMR spectrum (75MHz, CDCl₃, 298K) of **3a-di**

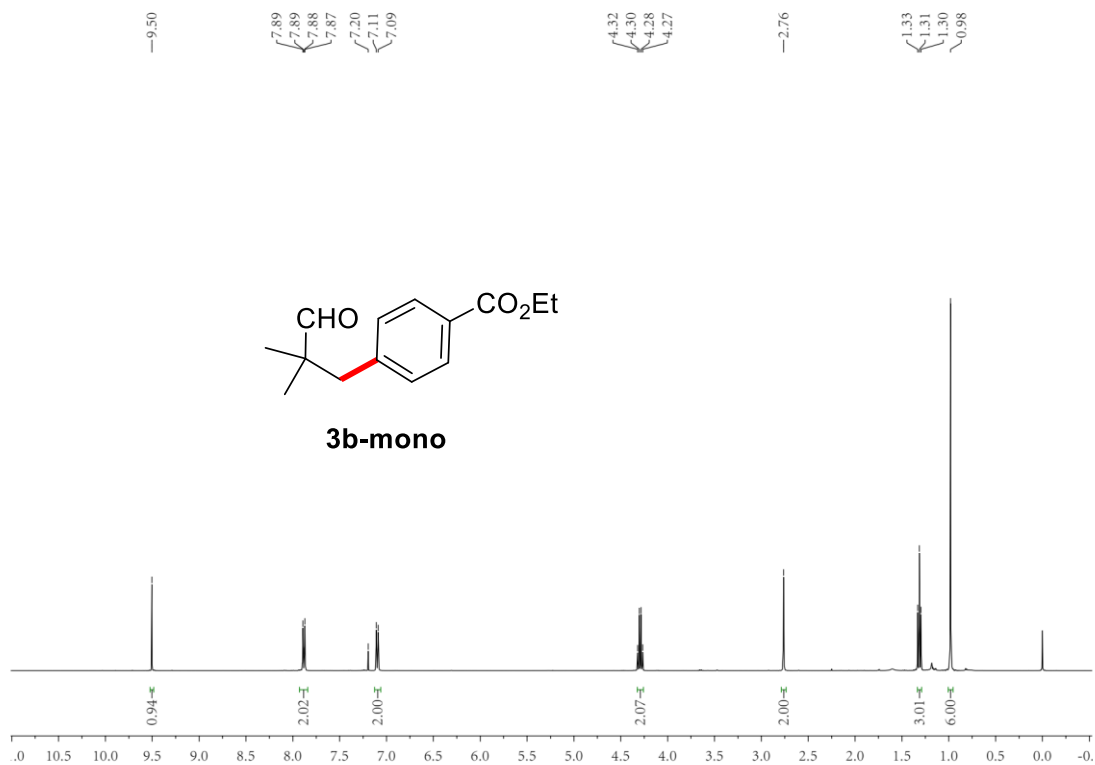


Figure S6 ¹H NMR spectrum (400MHz, CDCl₃, 298K) of **3b-mono**

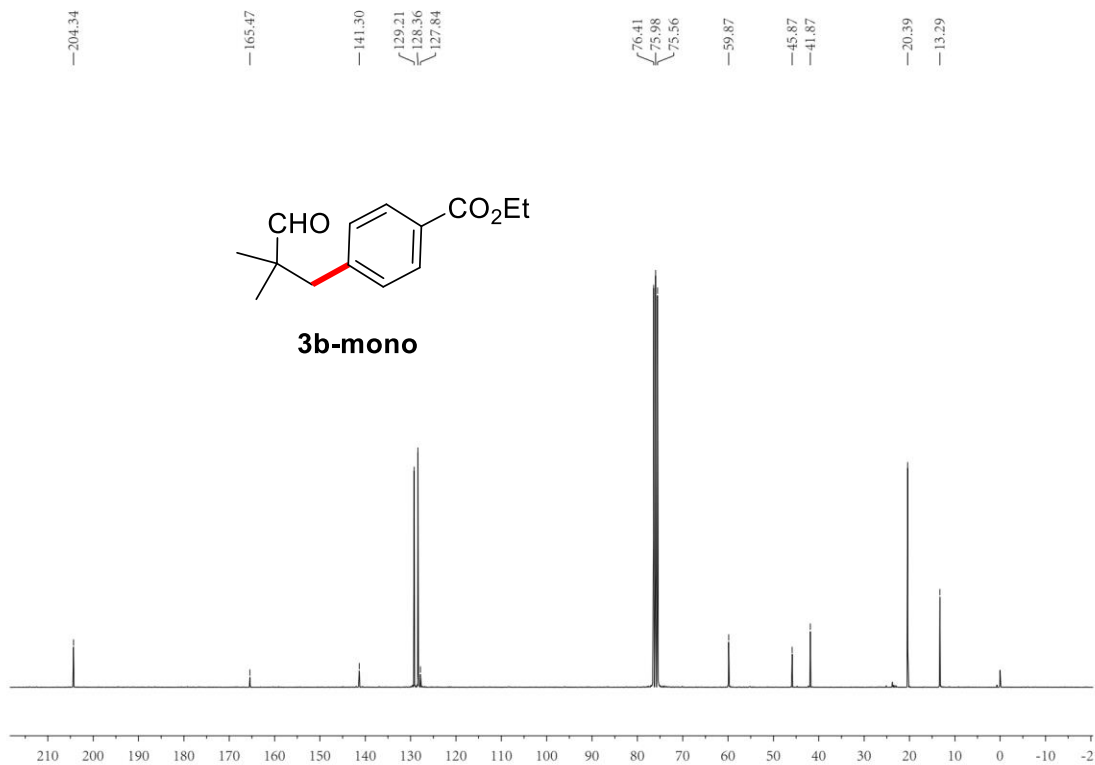


Figure S7 ¹³C NMR spectrum (75MHz, CDCl₃, 298K) of **3b-mono**

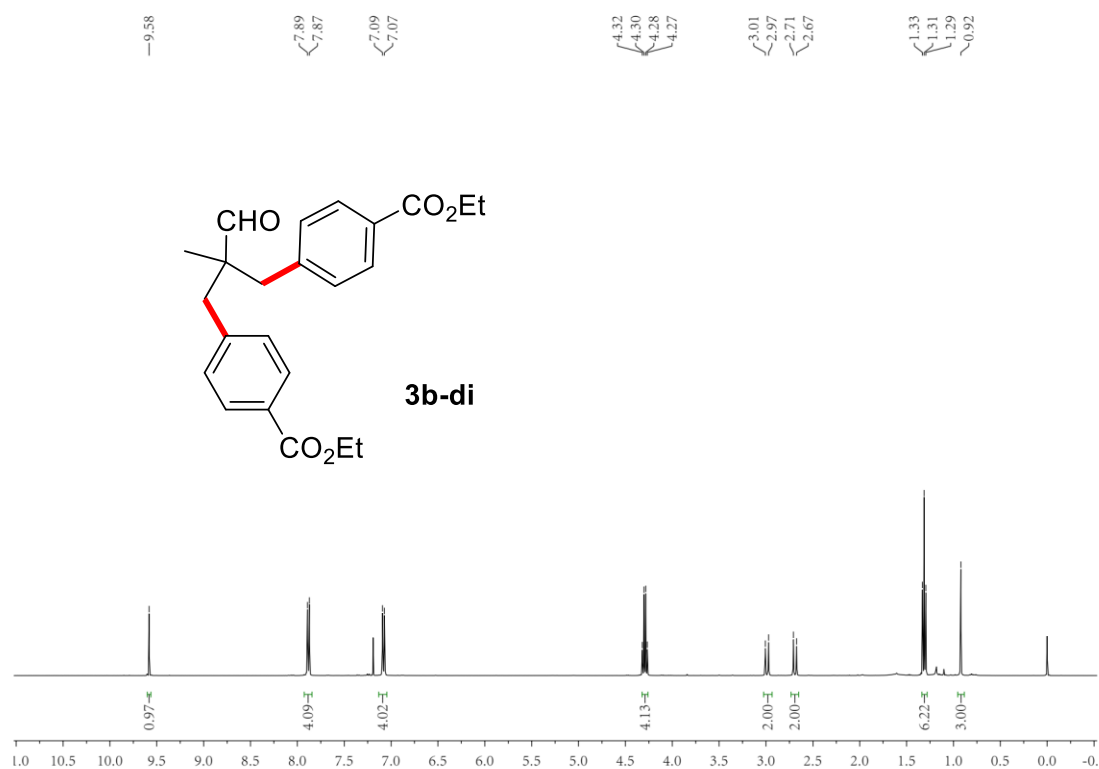


Figure S8 ^1H NMR spectrum (400MHz, CDCl_3 , 298K) of **3b-di**

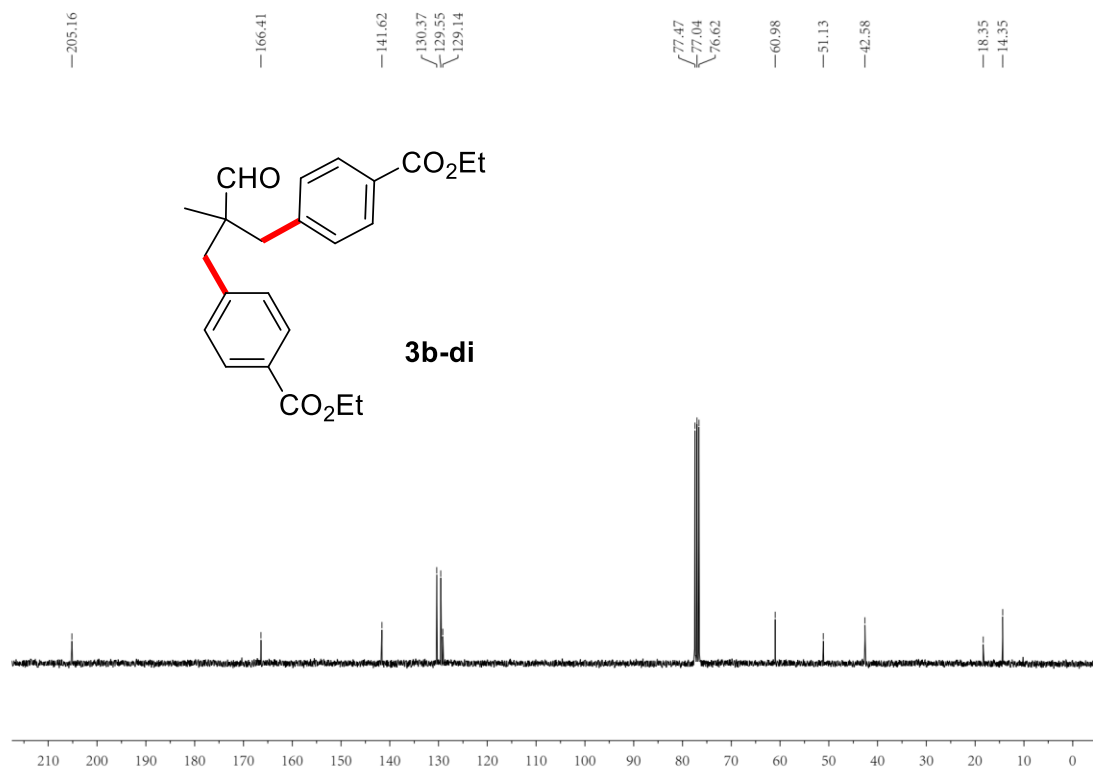


Figure S9 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3b-di**

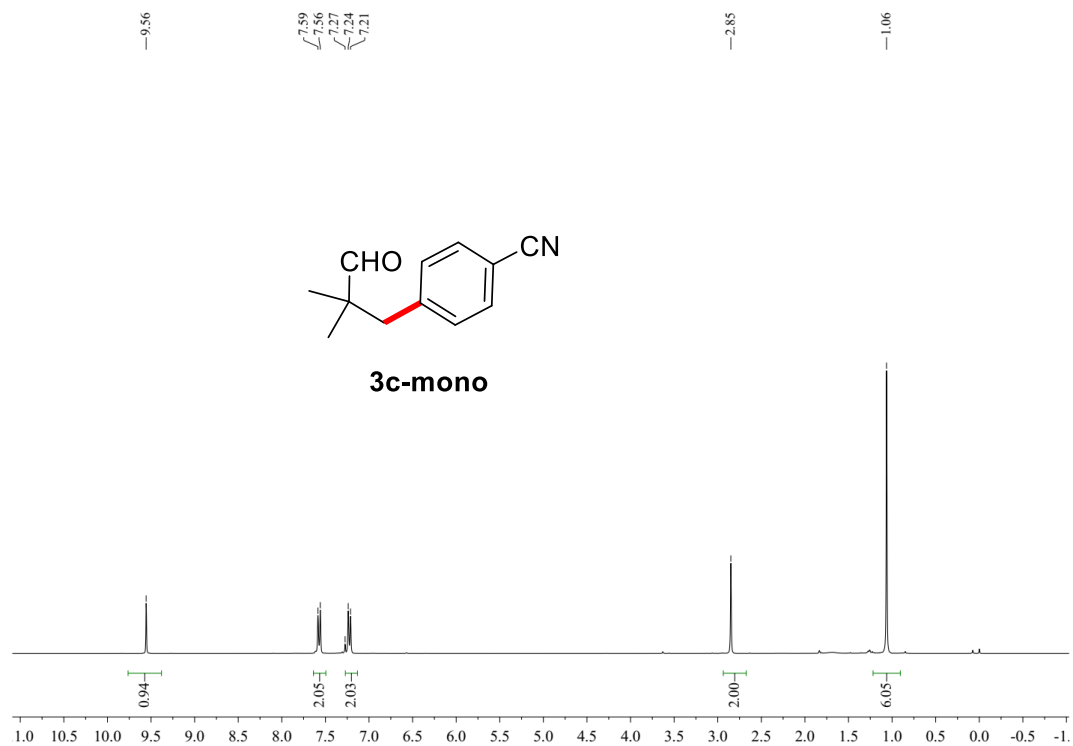


Figure S10 ^1H NMR spectrum (300MHz, CDCl_3 , 298K) of **3c-mono**

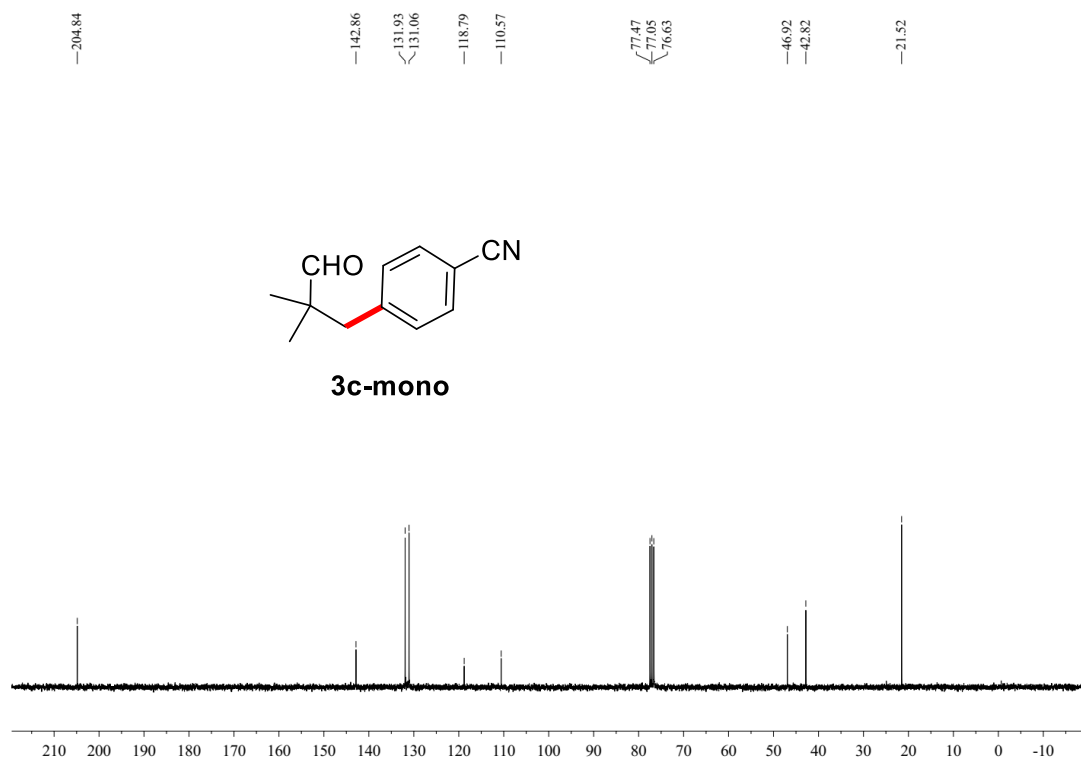


Figure S11 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3c-mono**

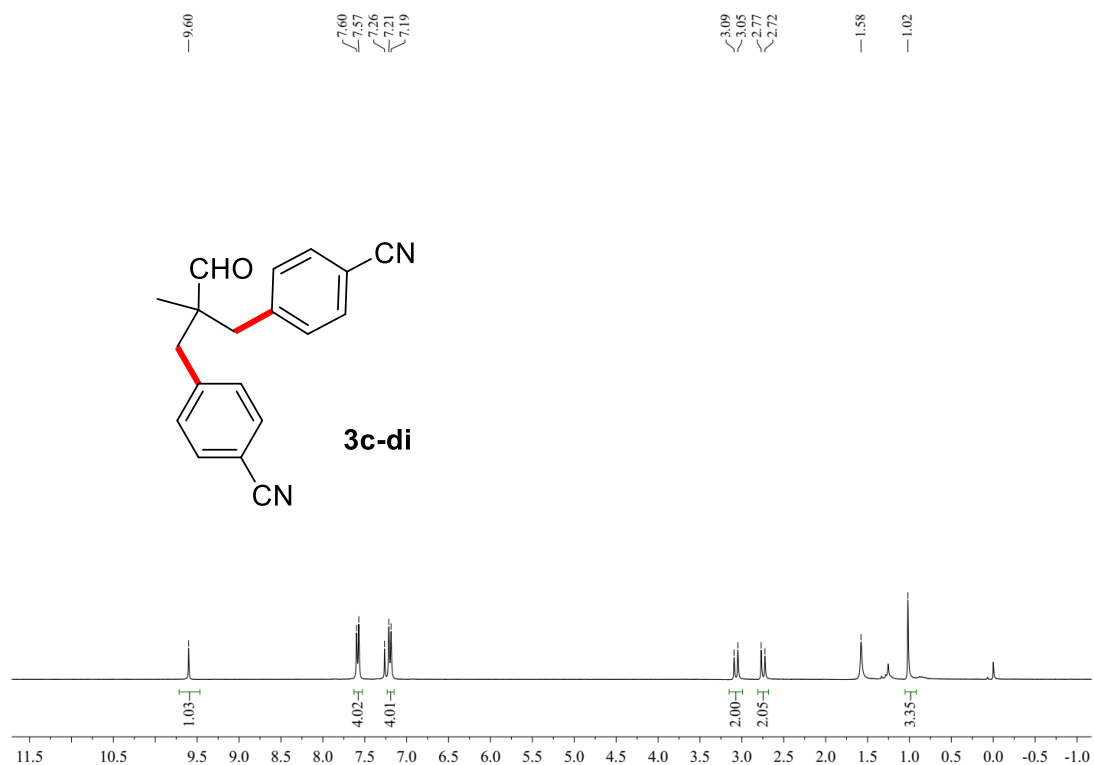


Figure S12 ^1H NMR spectrum (300MHz, CDCl_3 , 298K) of **3c-di**

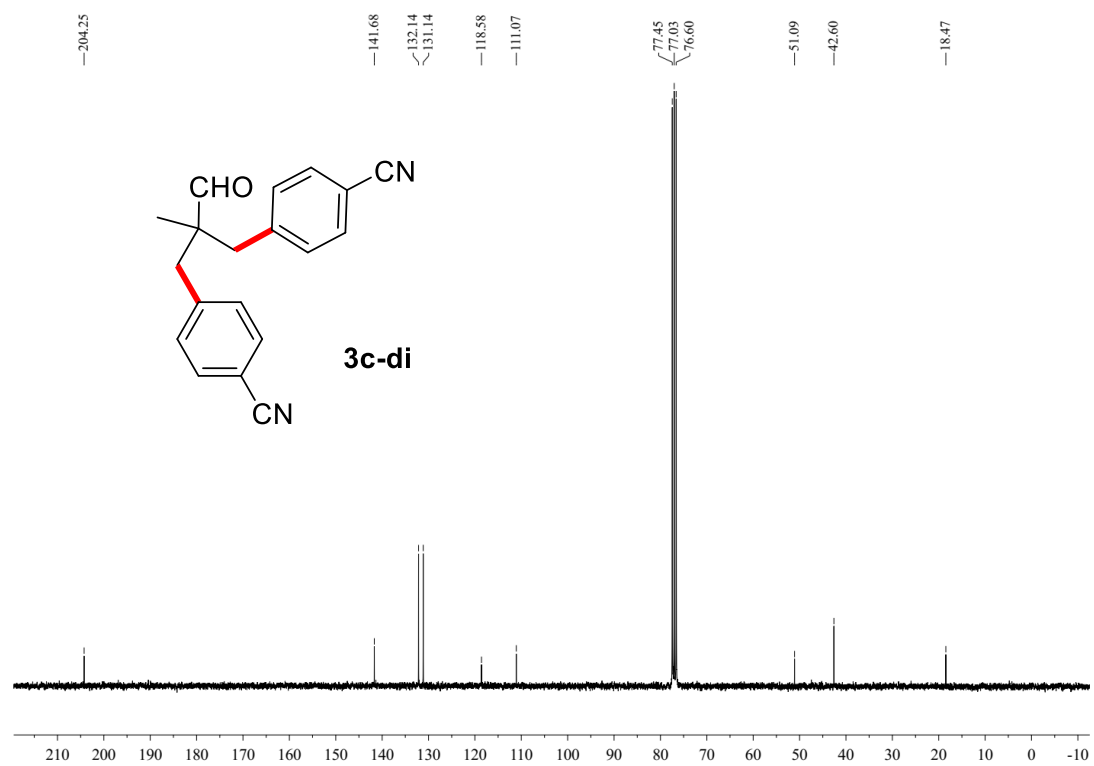


Figure S13 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3c-di**

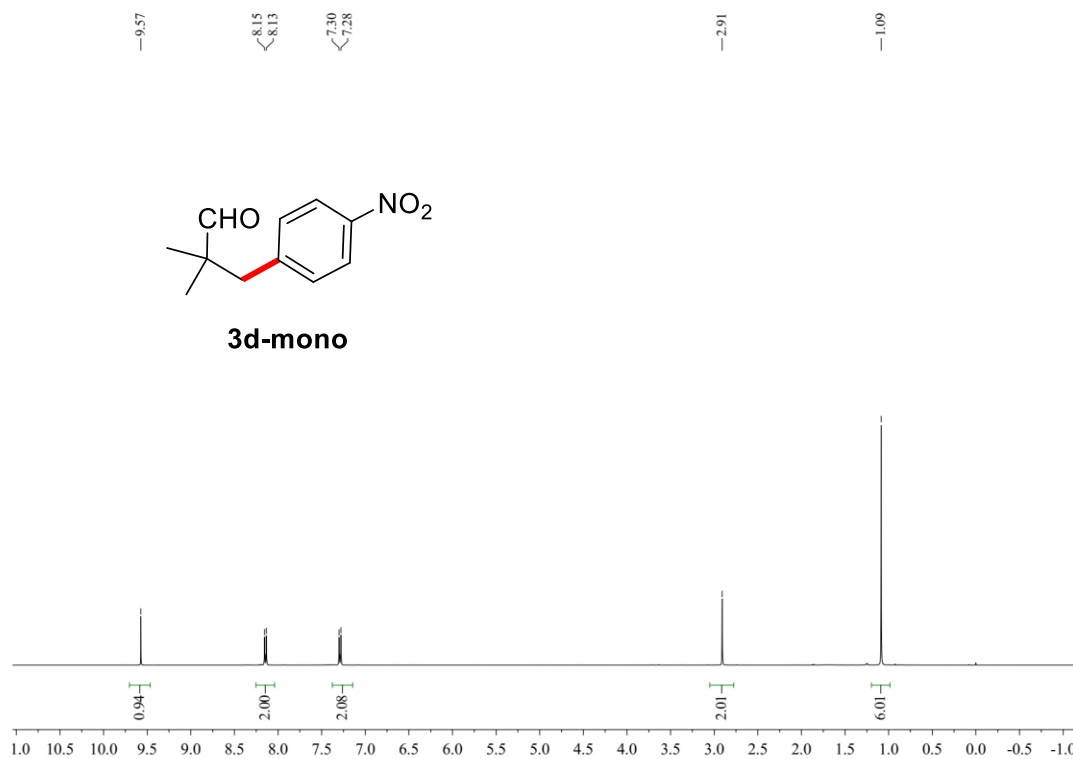


Figure S14 ^1H NMR spectrum (300MHz, CDCl_3 , 298K) of **3d-mono**

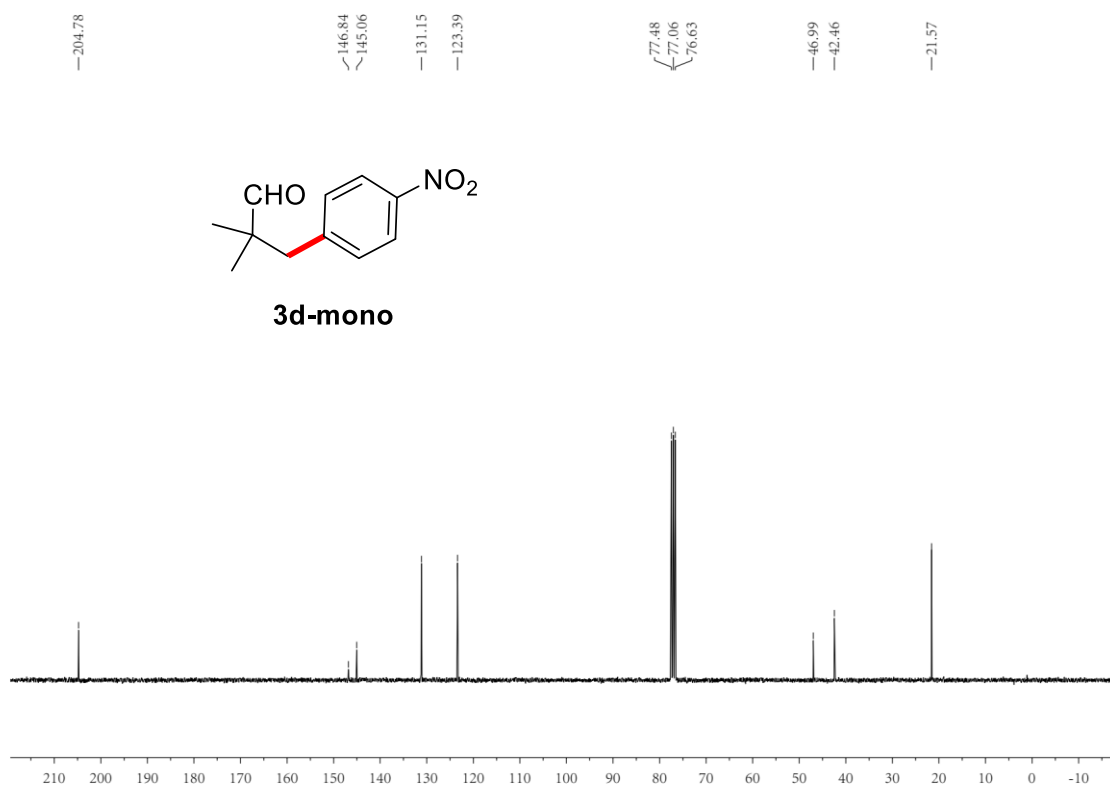


Figure S15 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3d-mono**

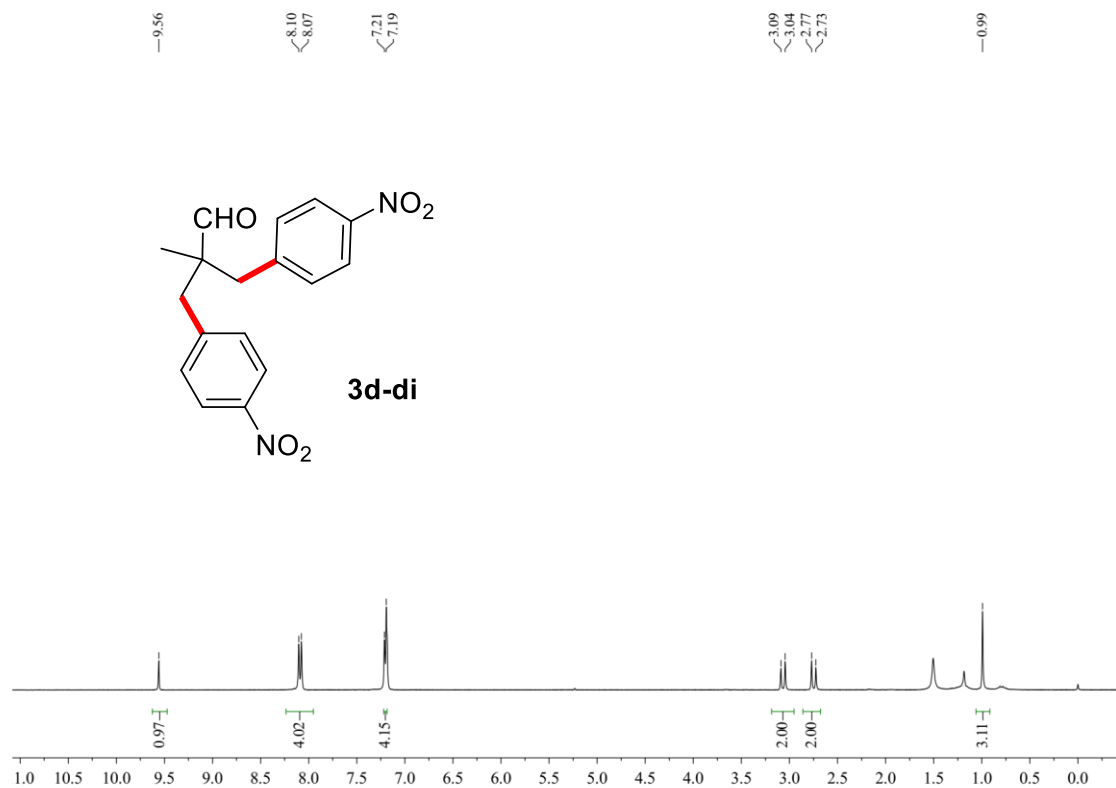


Figure S16 ¹H NMR spectrum (300MHz, CDCl₃, 298K) of **3d-di**

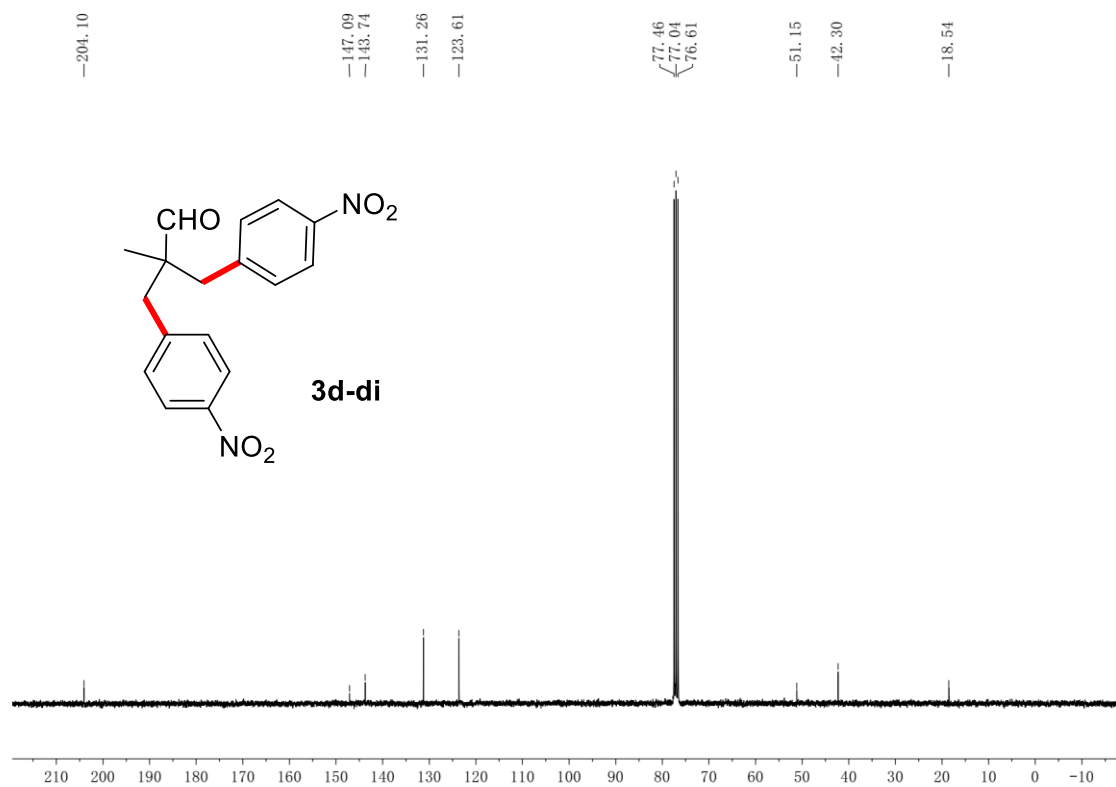


Figure S17 ¹³C NMR spectrum (75MHz, CDCl₃, 298K) of **3d-di**

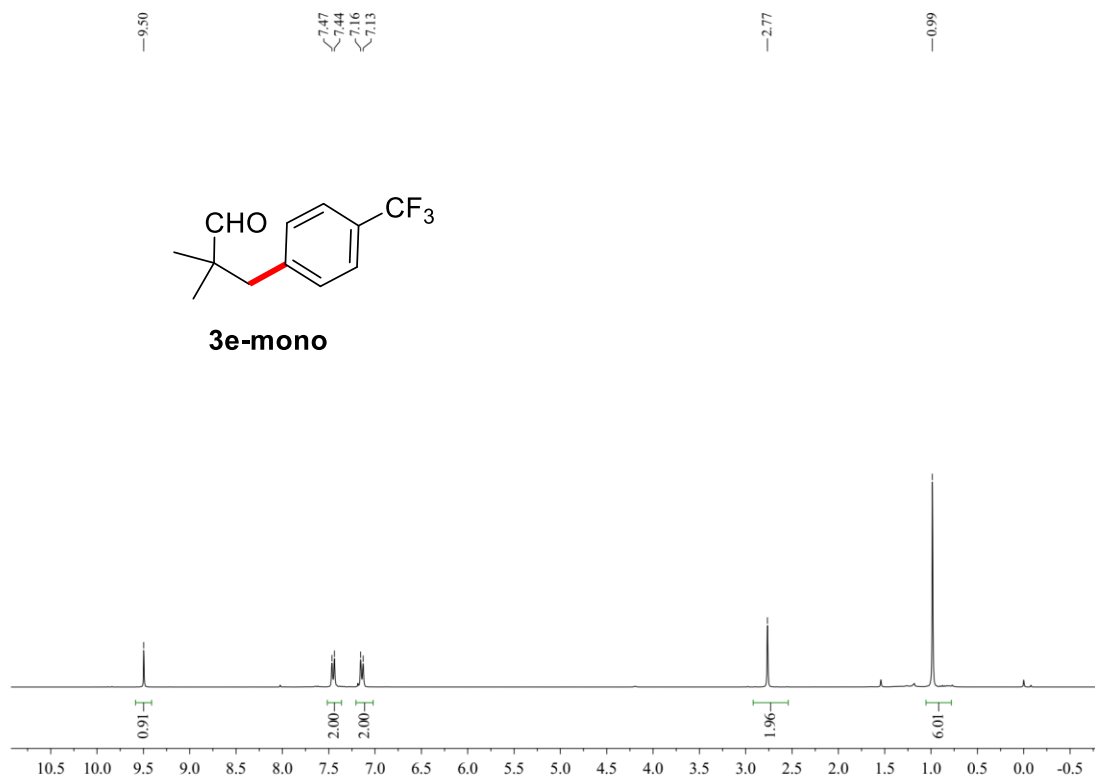


Figure S18 ^1H NMR spectrum (300MHz, CDCl_3 , 298K) of **3e-mono**

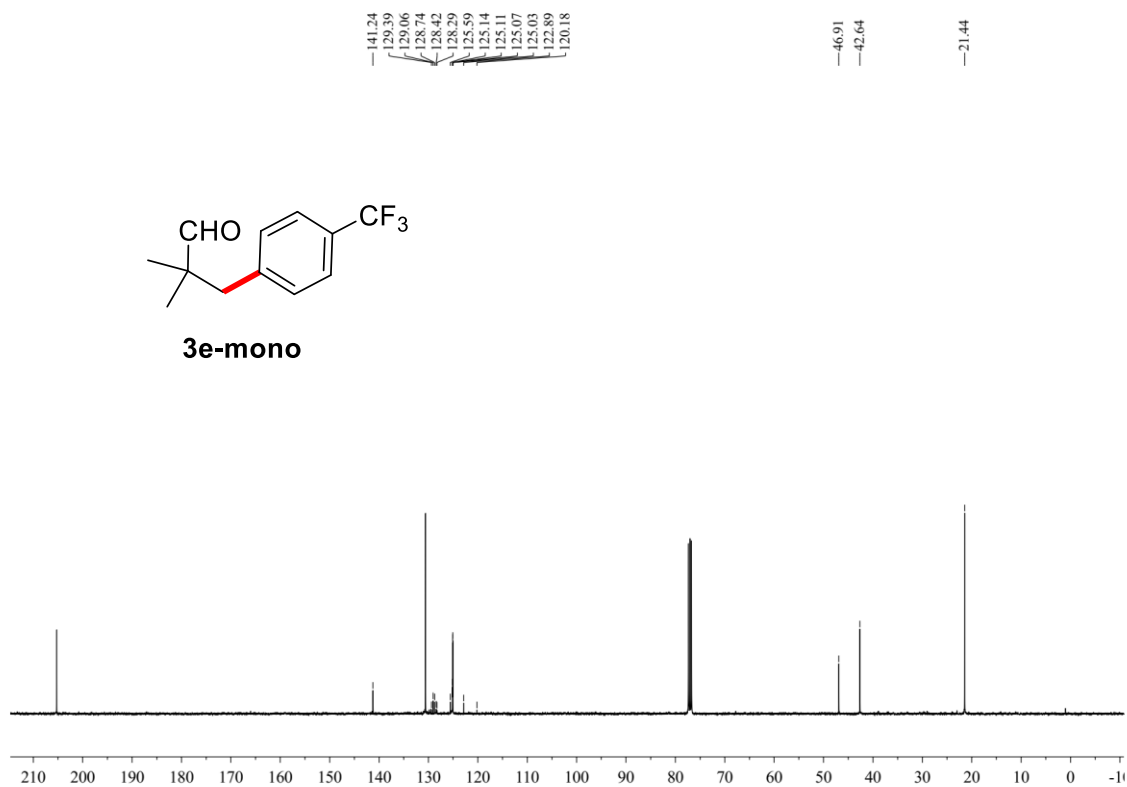


Figure S19 ^{13}C NMR spectrum (101MHz, CDCl_3 , 298K) of **3e-mono**

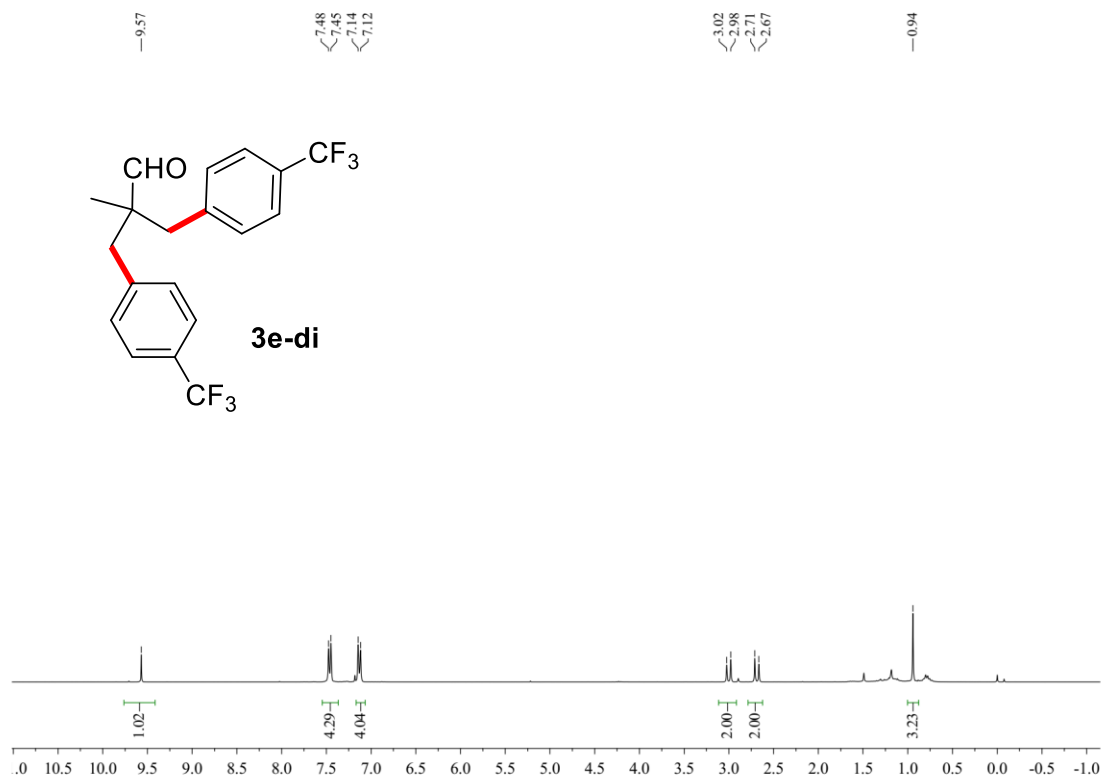


Figure S20 ^1H NMR spectrum (300MHz, CDCl_3 , 298K) of **3e-di**

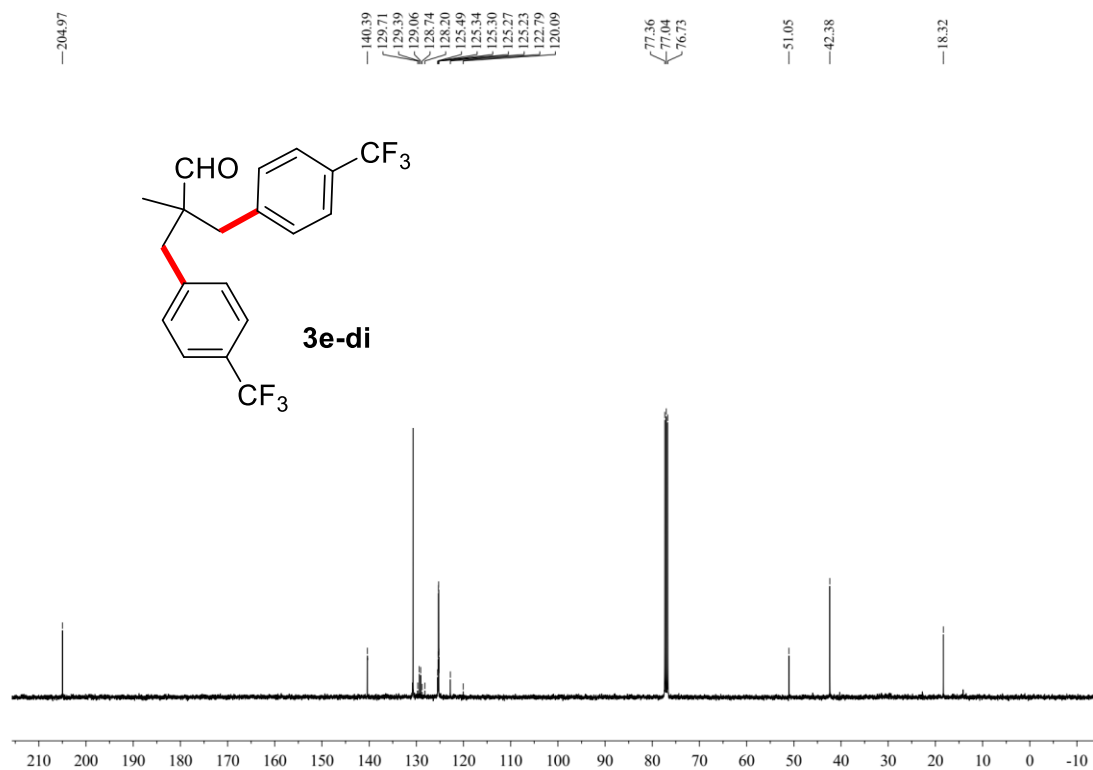


Figure S21 ^{13}C NMR spectrum (101MHz, CDCl_3 , 298K) of **3e-di**

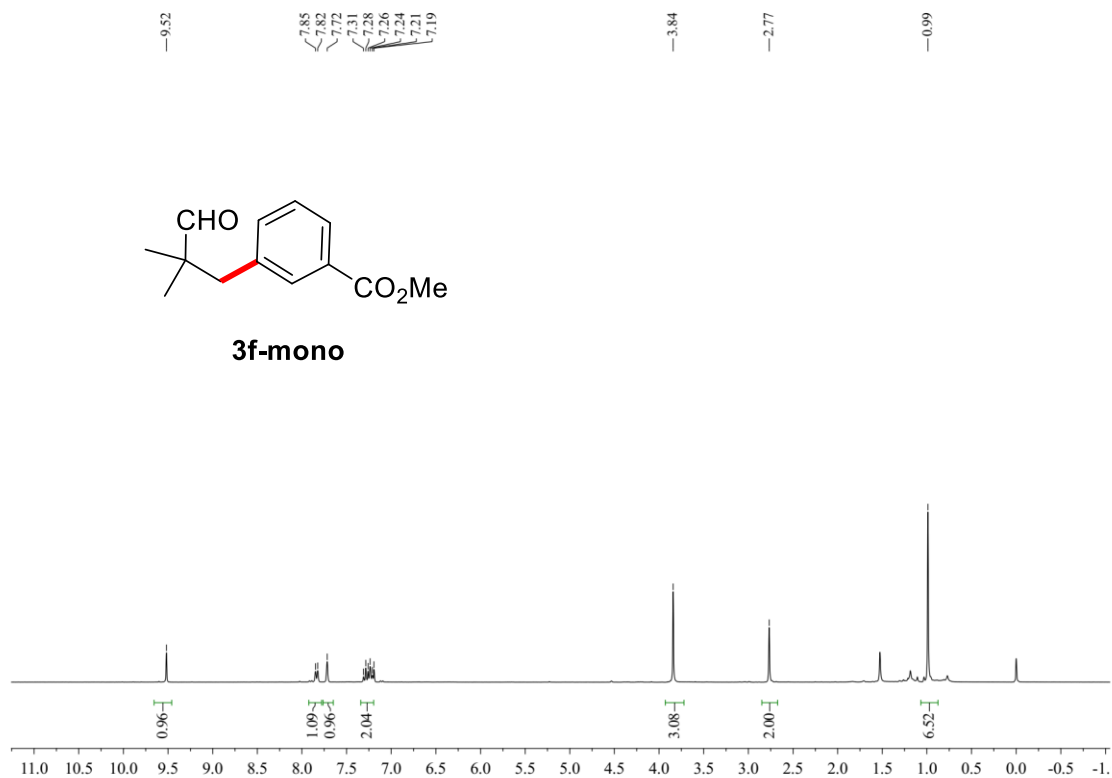


Figure S22 ¹H NMR spectrum (300MHz, CDCl₃, 298K) of **3f-mono**

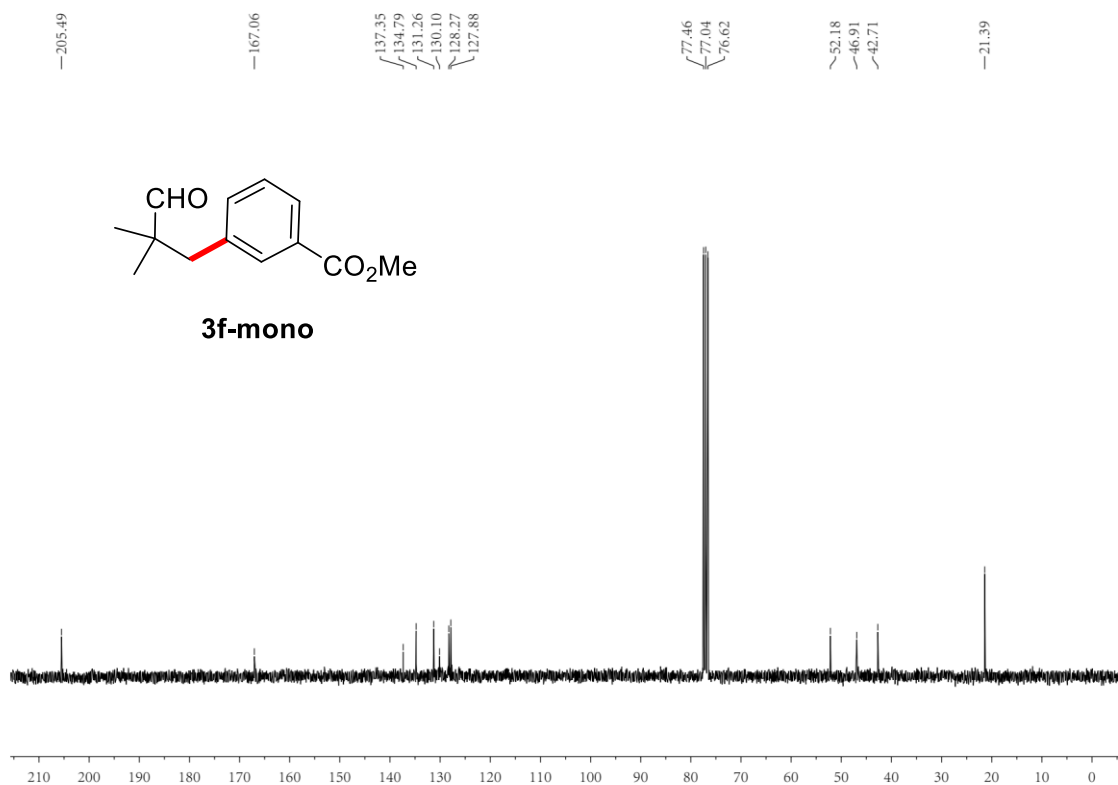


Figure S23 ¹³C NMR spectrum (75MHz, CDCl₃, 298K) of **3f-mono**

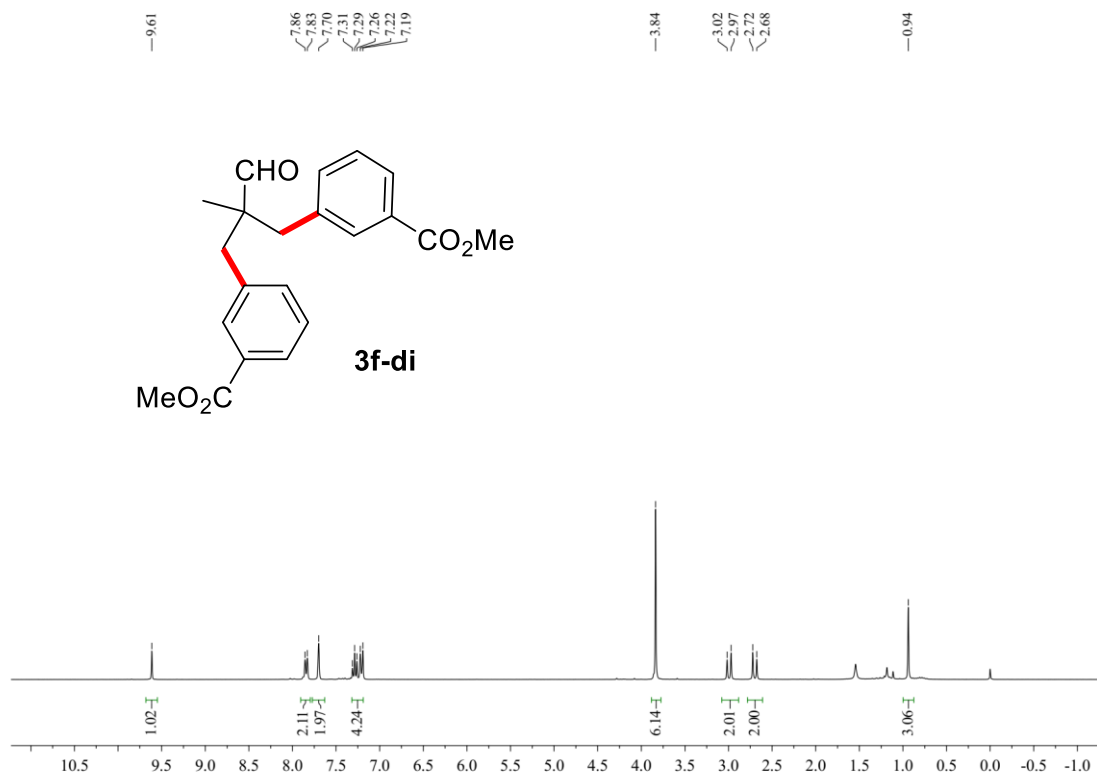


Figure S24 ^1H NMR spectrum (300MHz, CDCl_3 , 298K) of **3f-di**

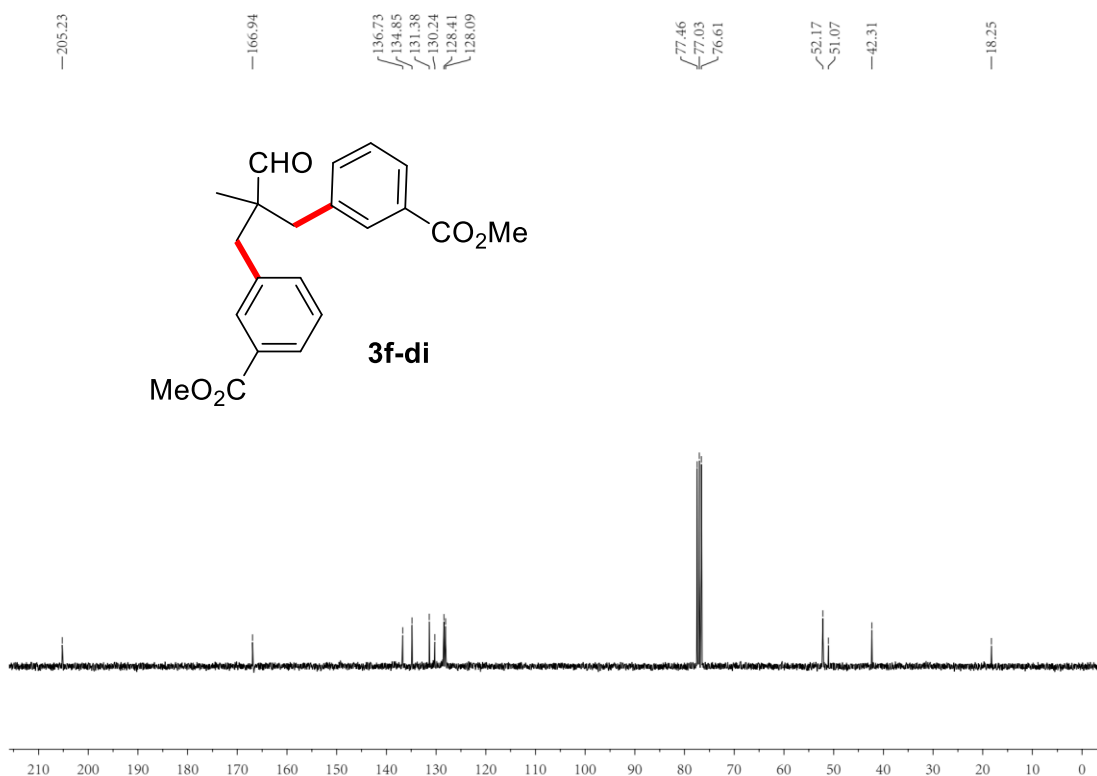
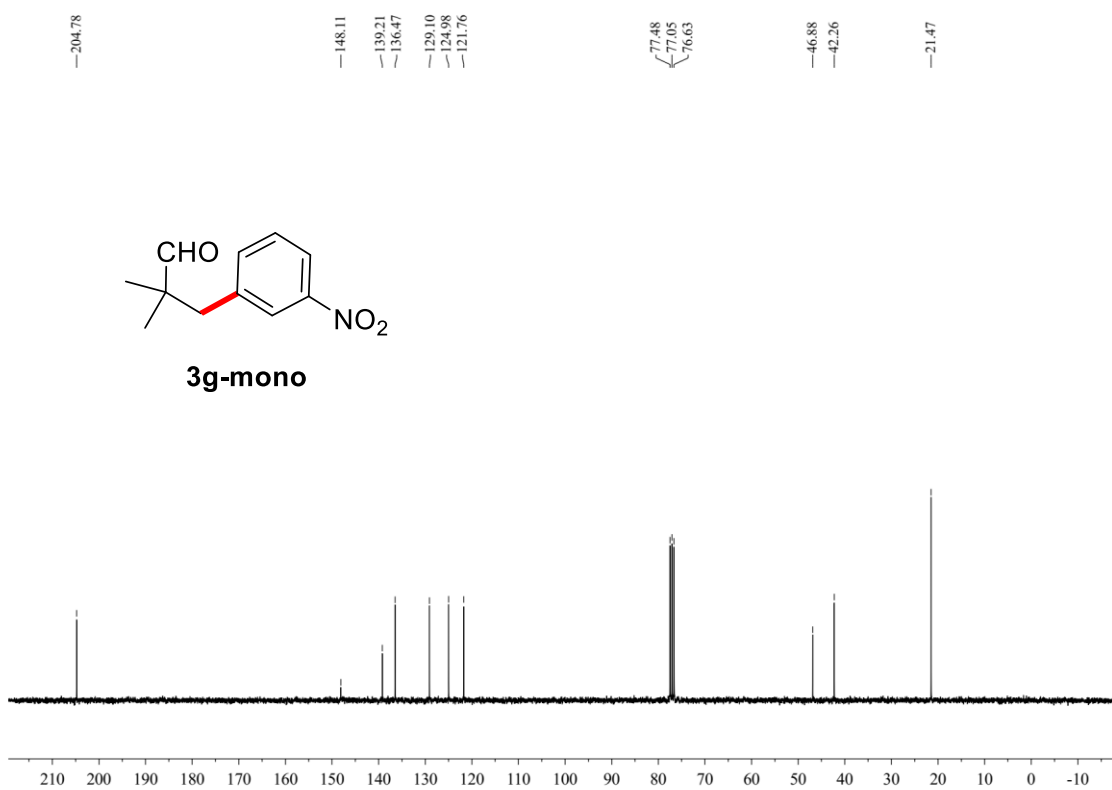
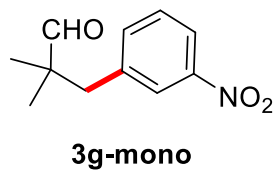


Figure S25 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3f-di**



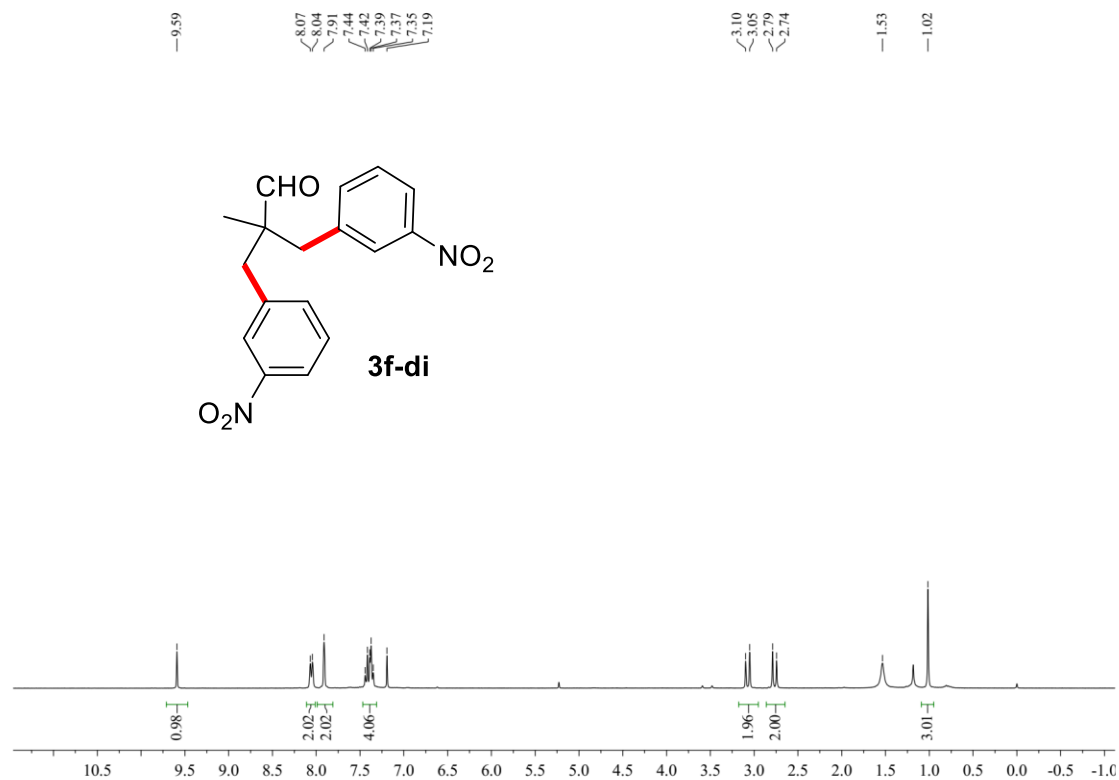


Figure S28 ^1H NMR spectrum (300MHz, CDCl_3 , 298K) of **3g-di**

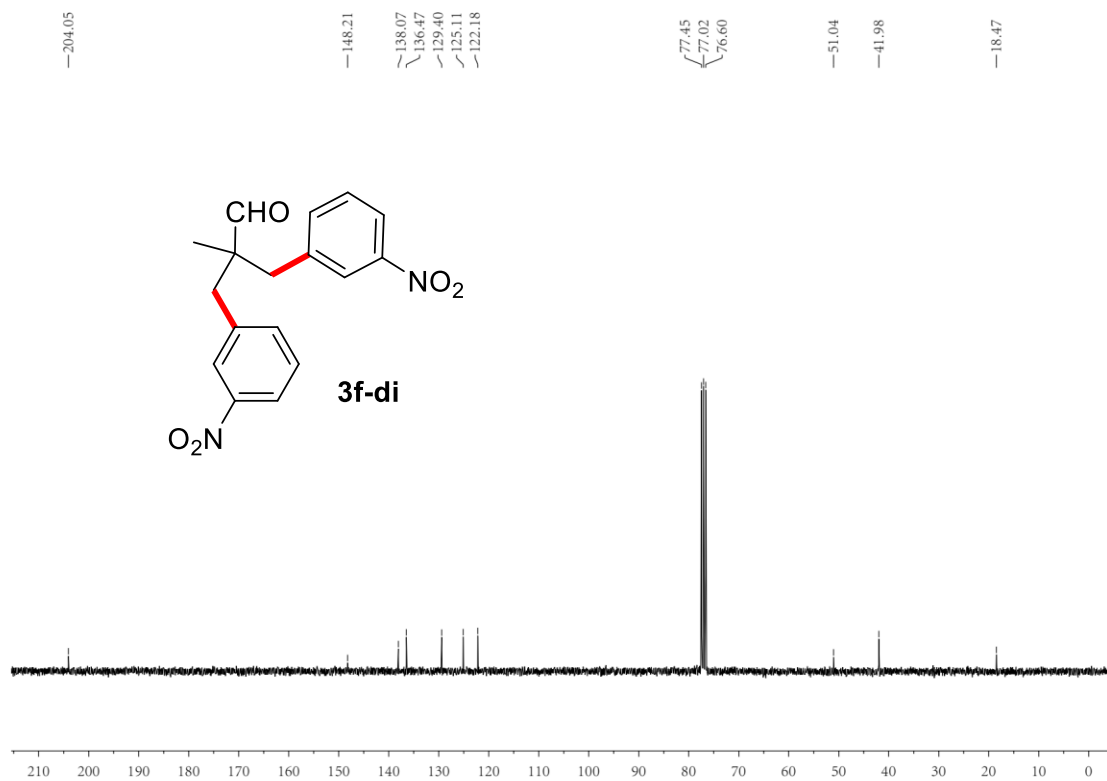


Figure S29 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3g-di**

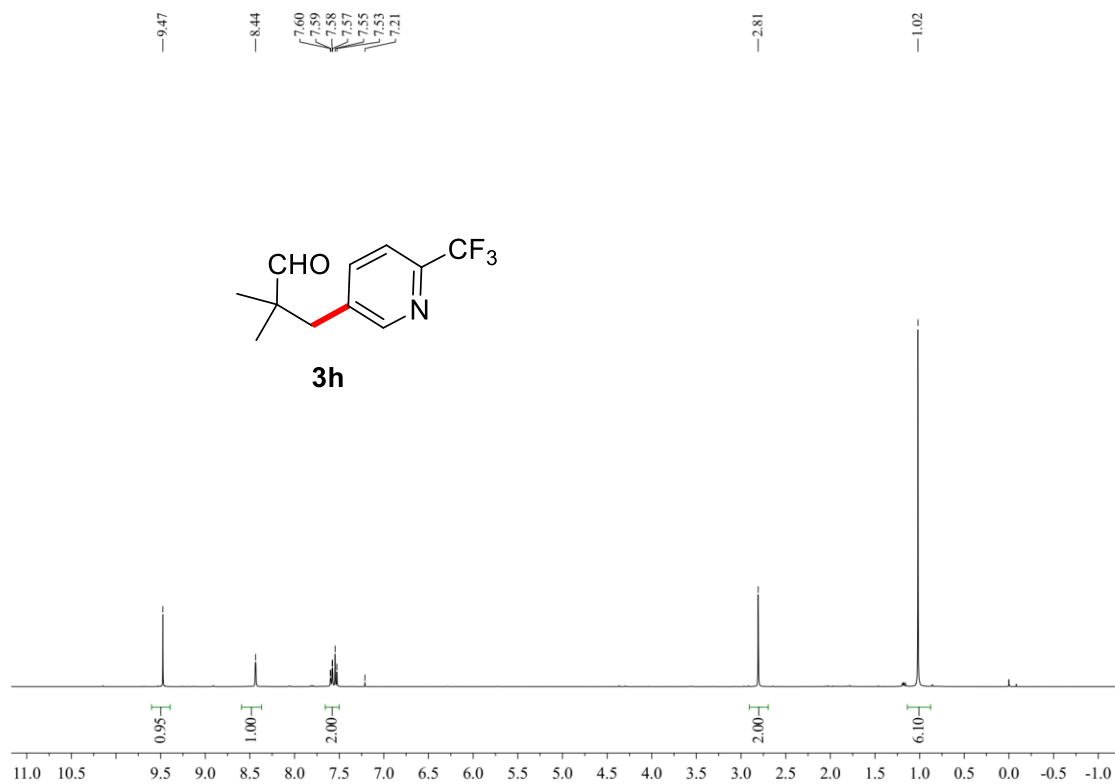


Figure S30 ^1H NMR spectrum (400MHz, CDCl_3 , 298K) of **3h**

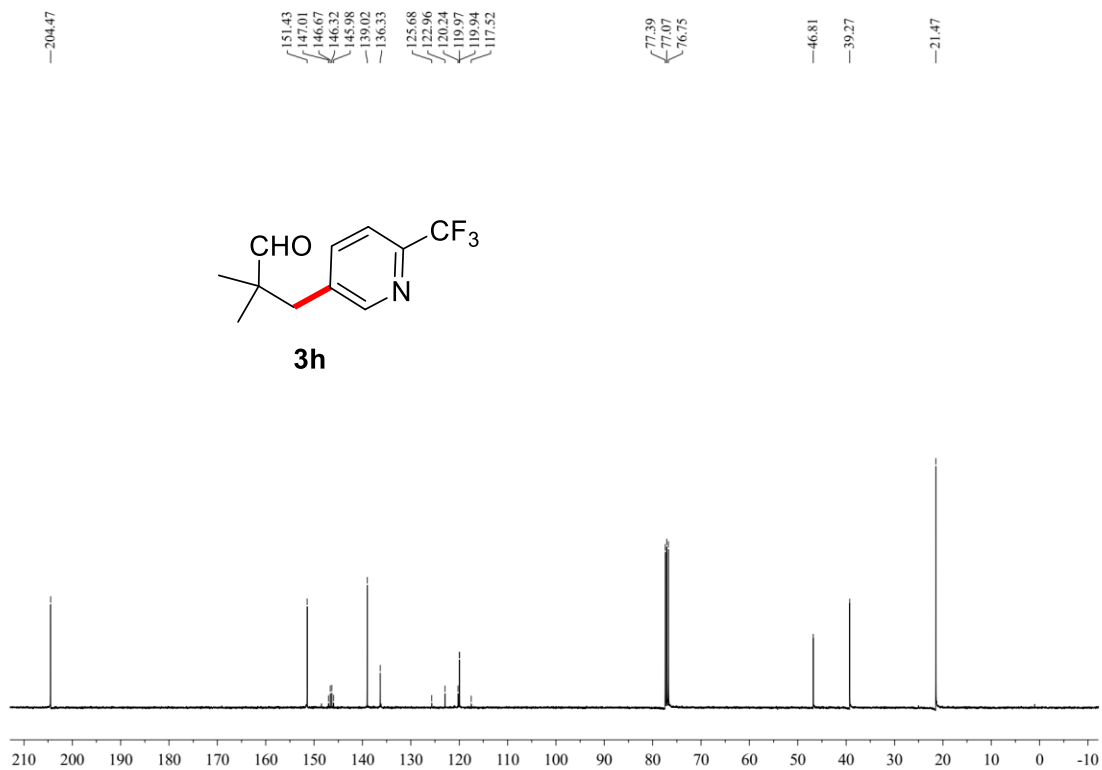


Figure S31 ^{13}C NMR spectrum (101MHz, CDCl_3 , 298K) of **3h**

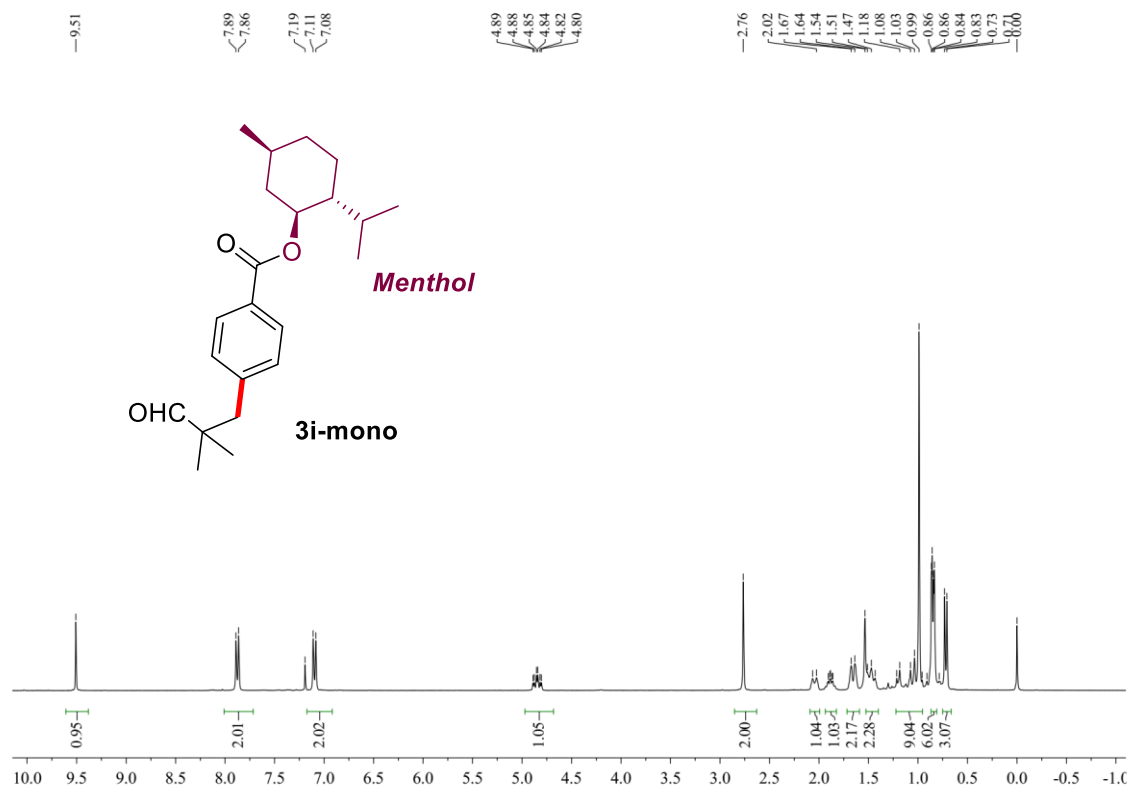


Figure S32 ^1H NMR spectrum (300MHz, CDCl_3 , 298K) of **3i-mono**

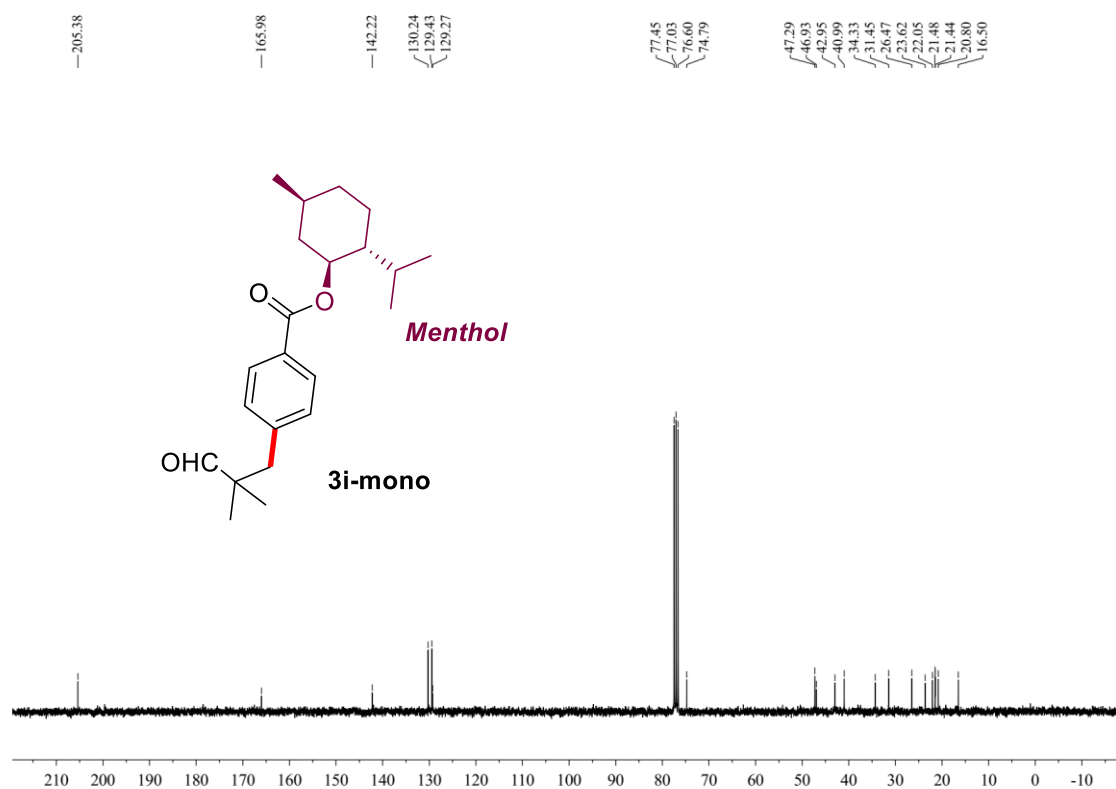


Figure S33 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3i-mono**

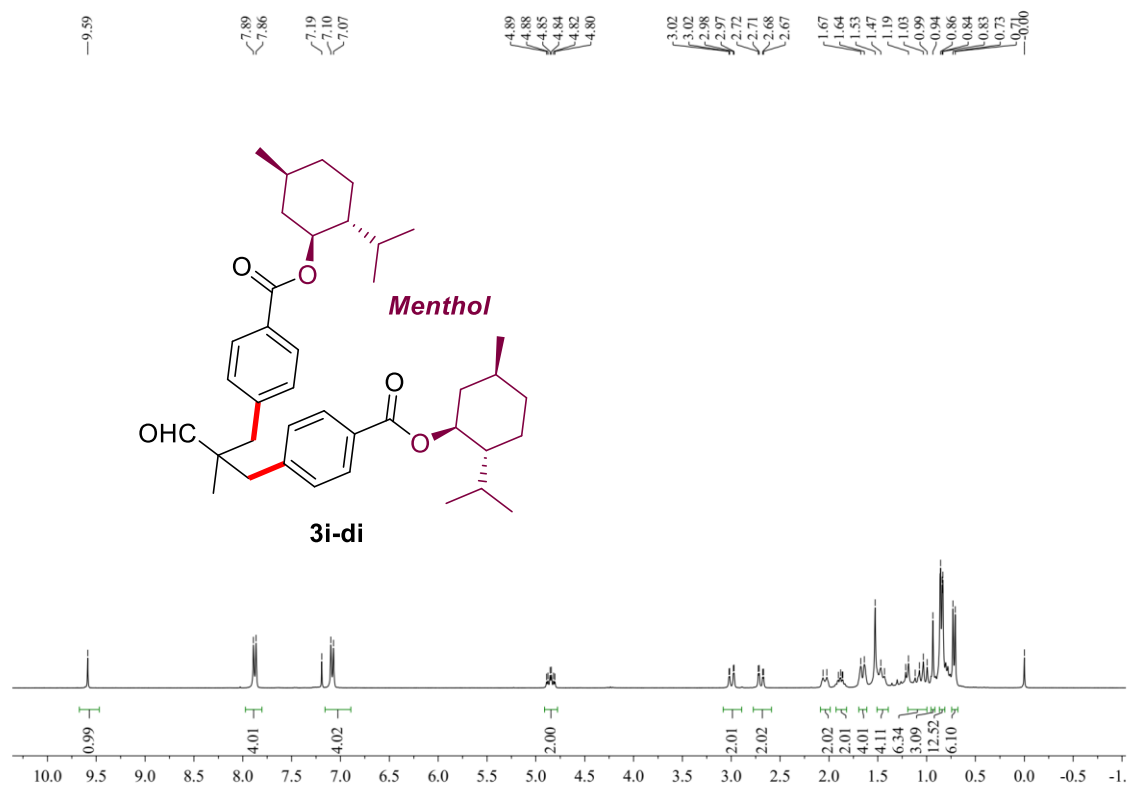


Figure S34 ¹H NMR spectrum (300MHz, CDCl₃, 298K) of **3i-di**

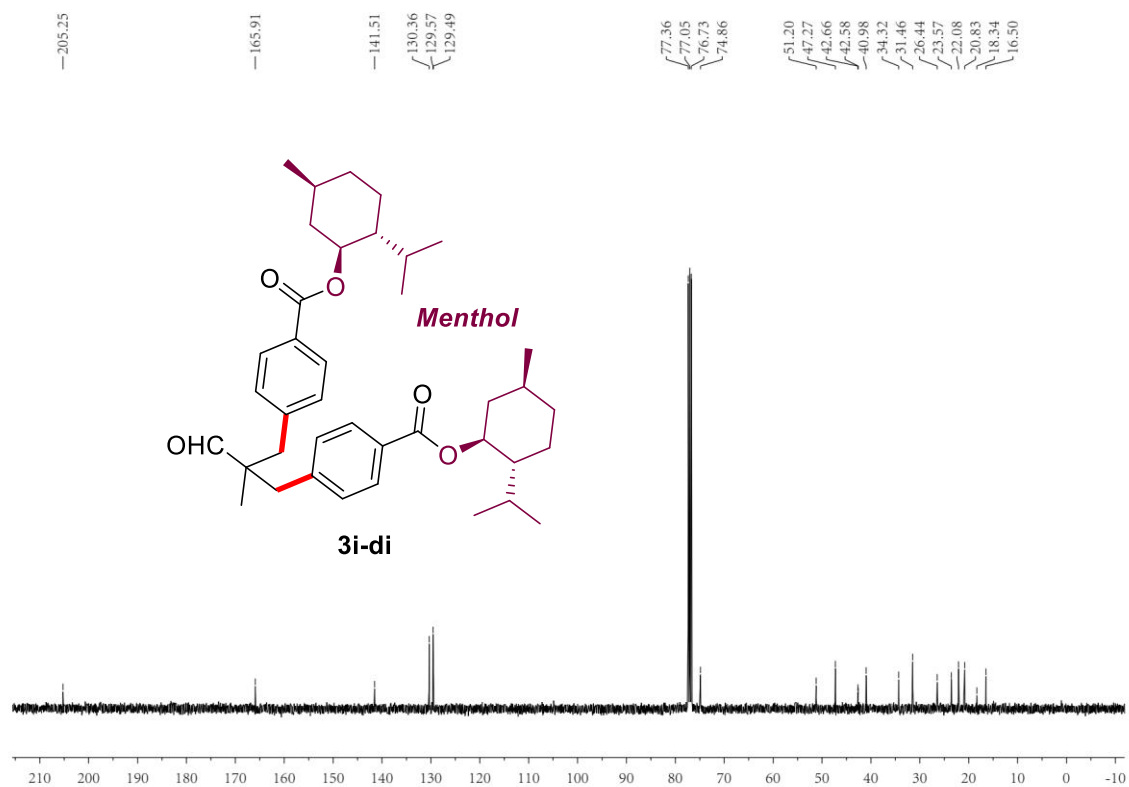


Figure S35 ¹³C NMR spectrum (101MHz, CDCl₃, 298K) of **3i-di**

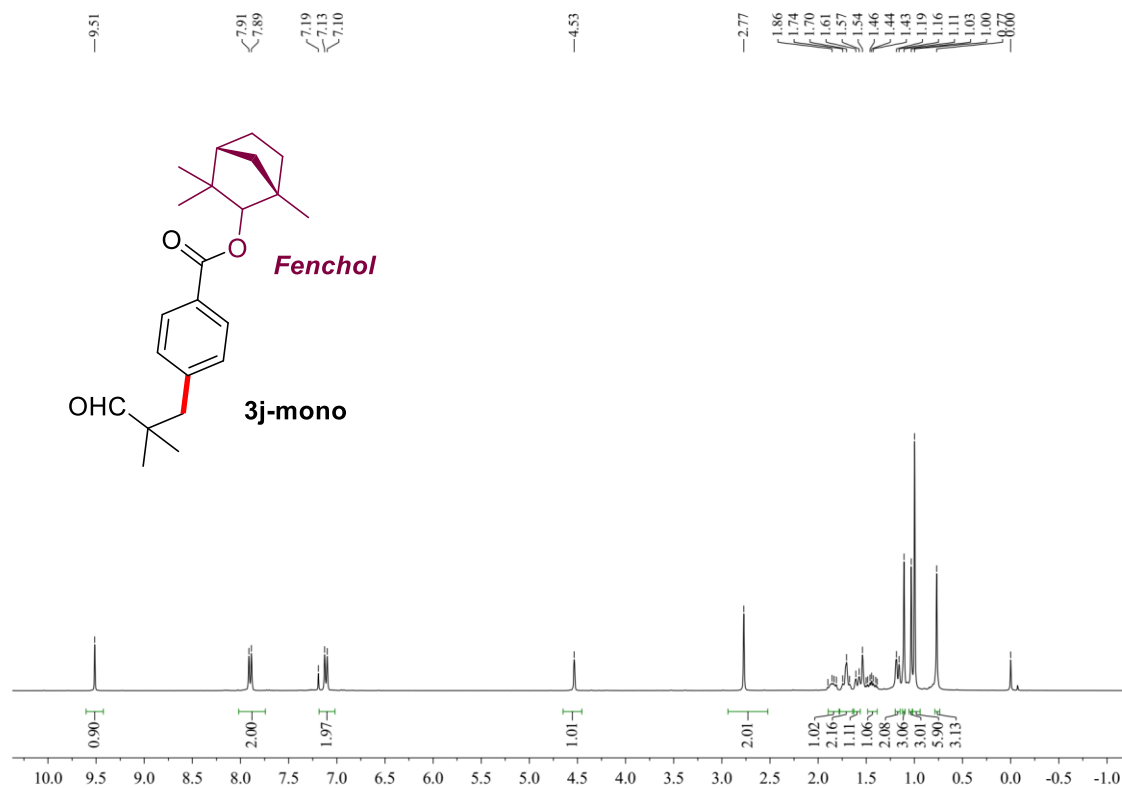


Figure S36 ¹H NMR spectrum (300MHz, CDCl₃, 298K) of **3j-mono**

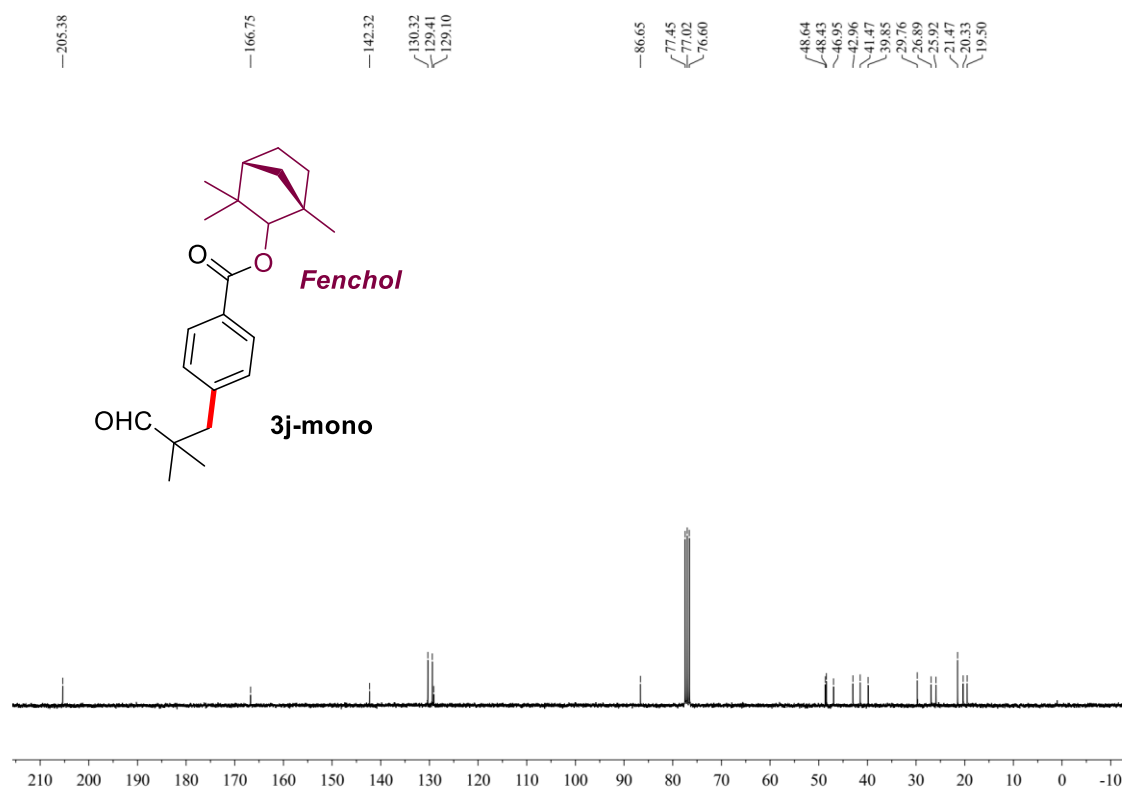


Figure S37 ¹³C NMR spectrum (75MHz, CDCl₃, 298K) of **3j-mono**

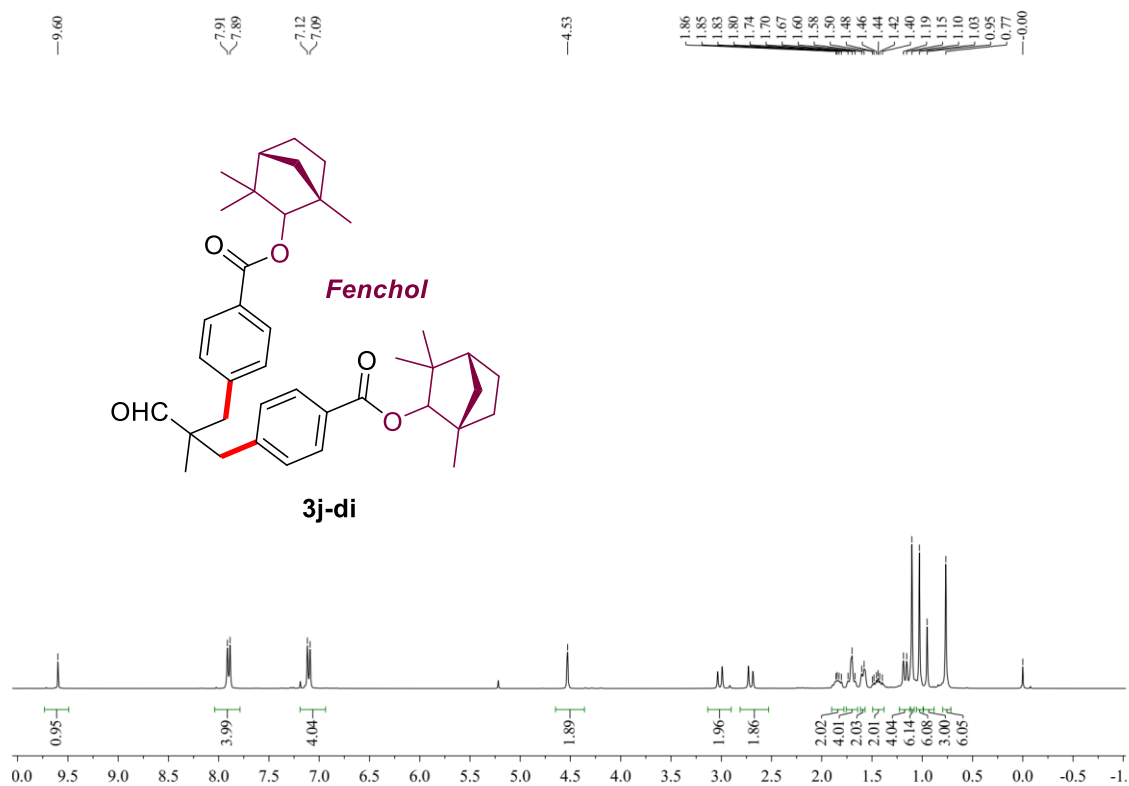


Figure S38 ¹H NMR spectrum (300MHz, CDCl₃, 298K) of **3j-di**

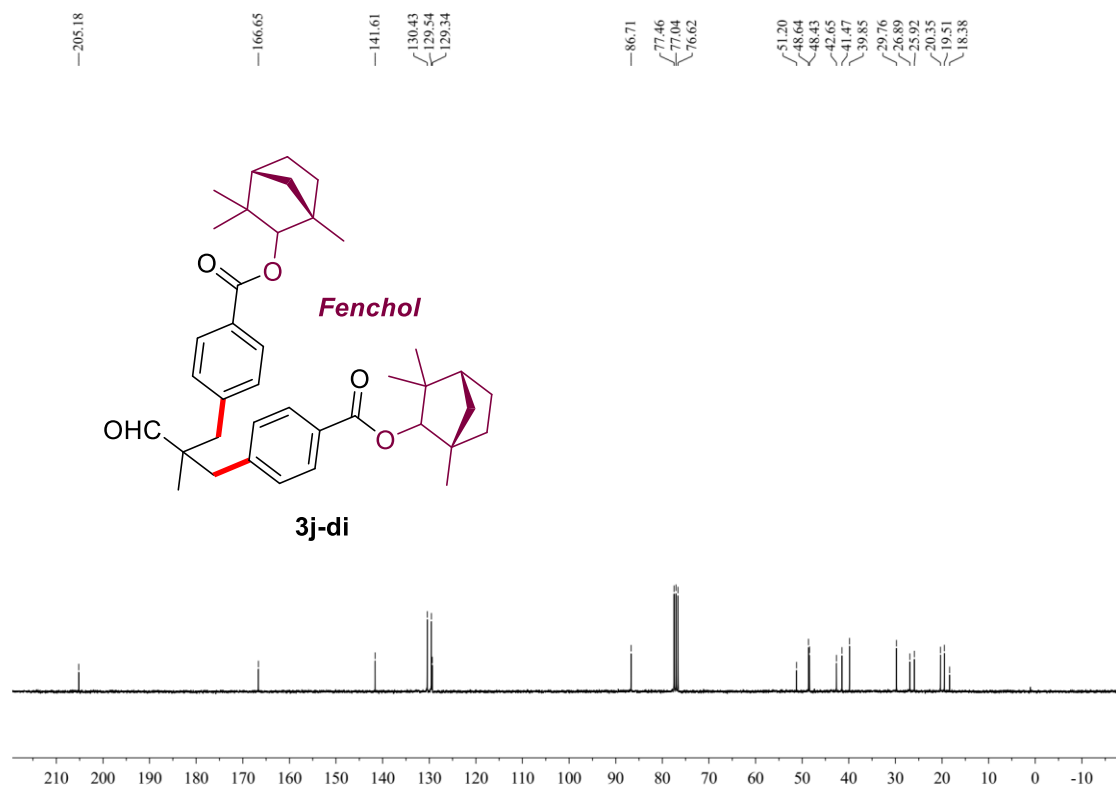


Figure S39 ¹³C NMR spectrum (75MHz, CDCl₃, 298K) of **3j-di**

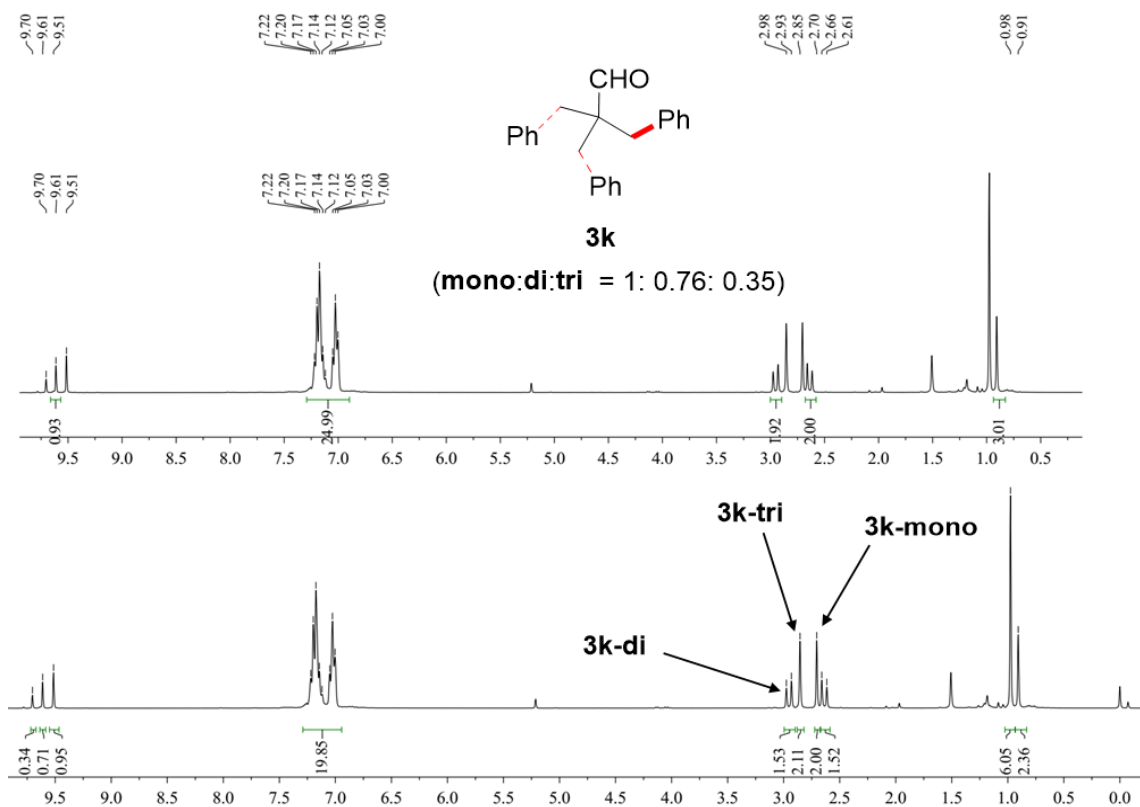


Figure S40 ¹H NMR spectrum (300MHz, CDCl₃, 298K) of **3k**

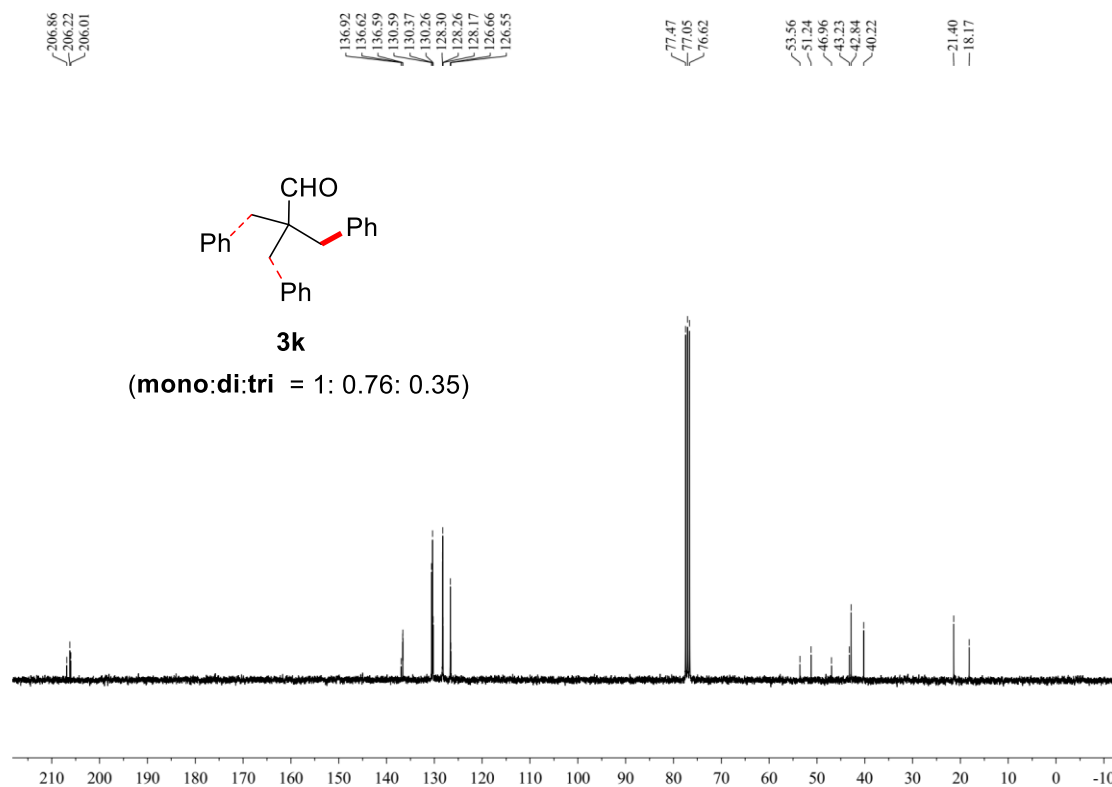


Figure S41 ¹³C NMR spectrum (75MHz, CDCl₃, 298K) of **3k**

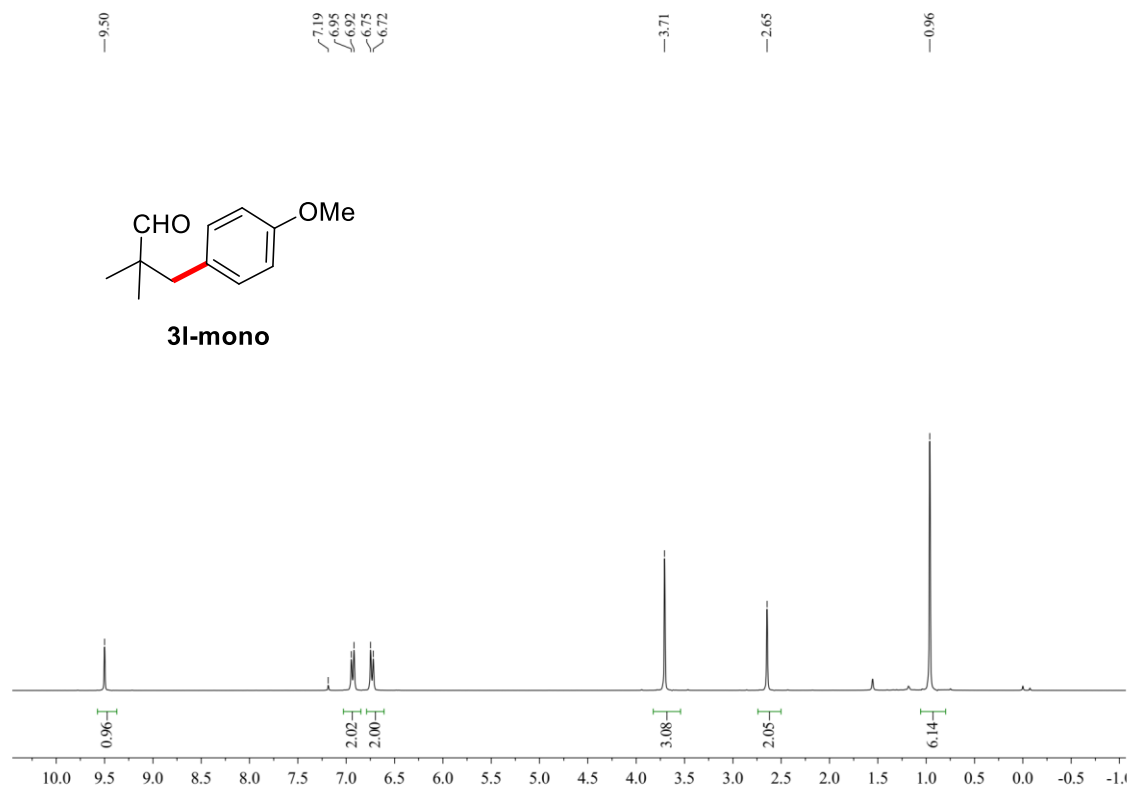


Figure S42 ^1H NMR spectrum (300MHz, CDCl_3 , 298K) of **3l-mono**

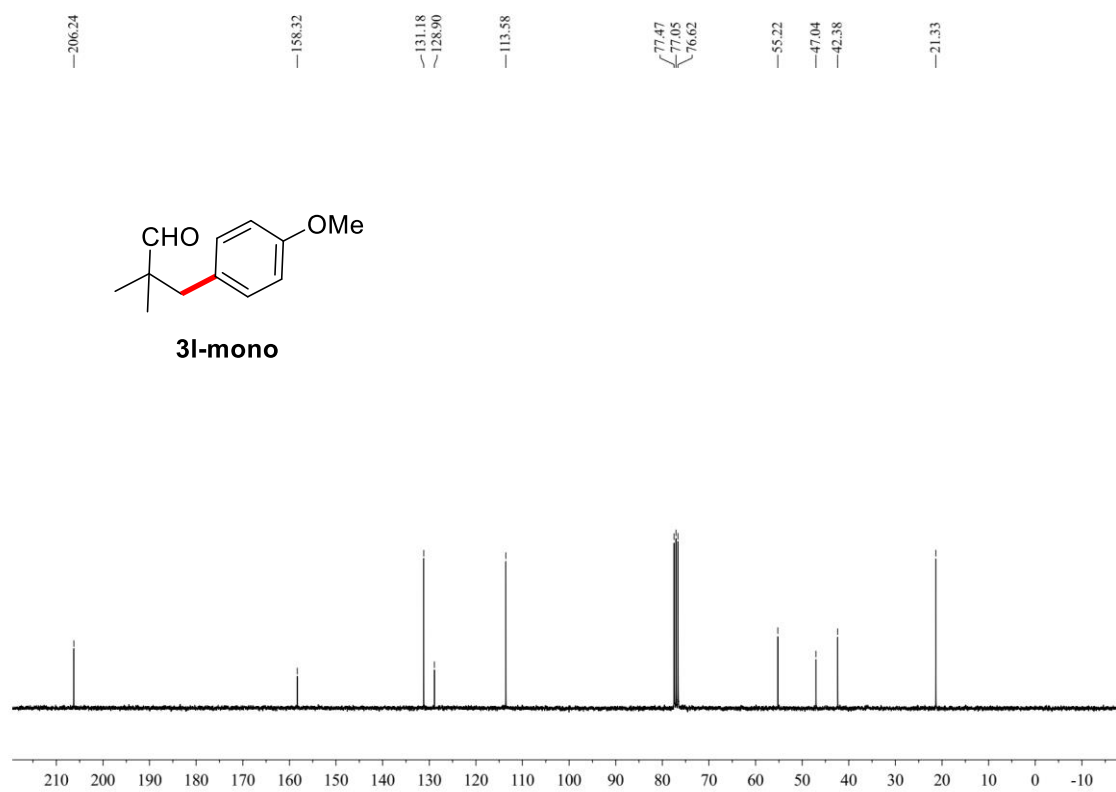


Figure S43 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3l-mono**

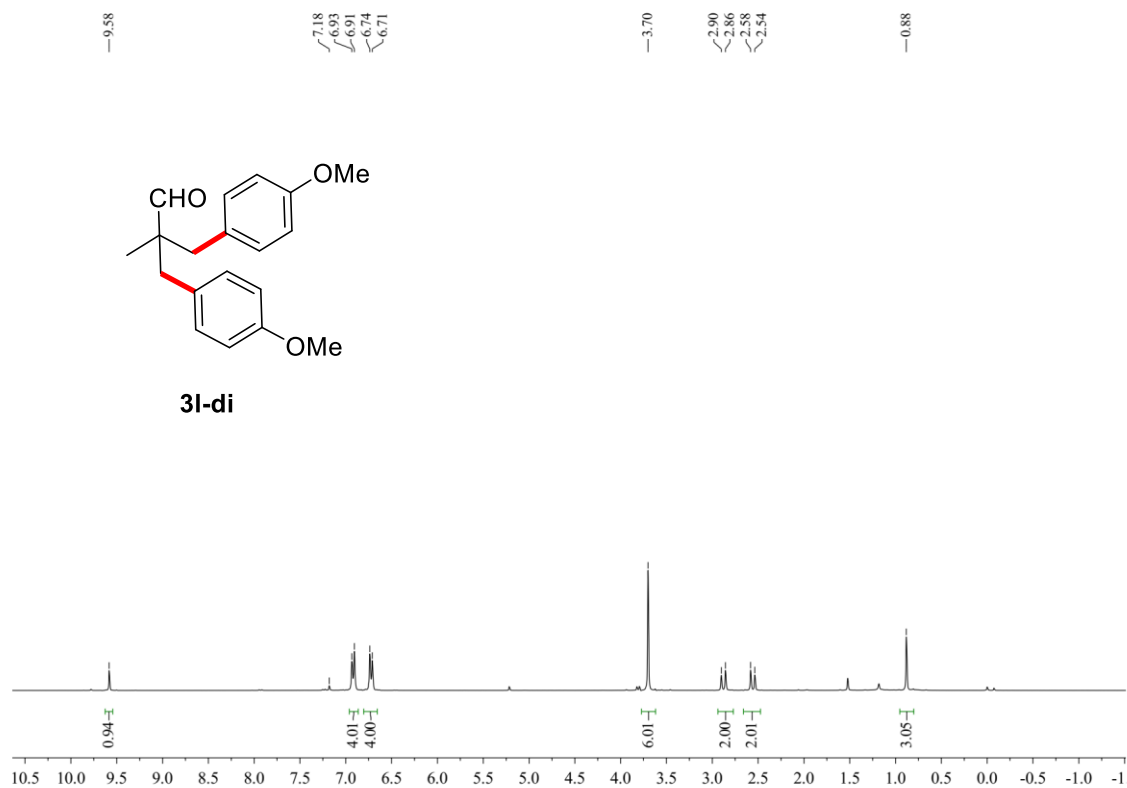


Figure S44 ^1H NMR spectrum (300MHz, CDCl_3 , 298K) of **3l-di**

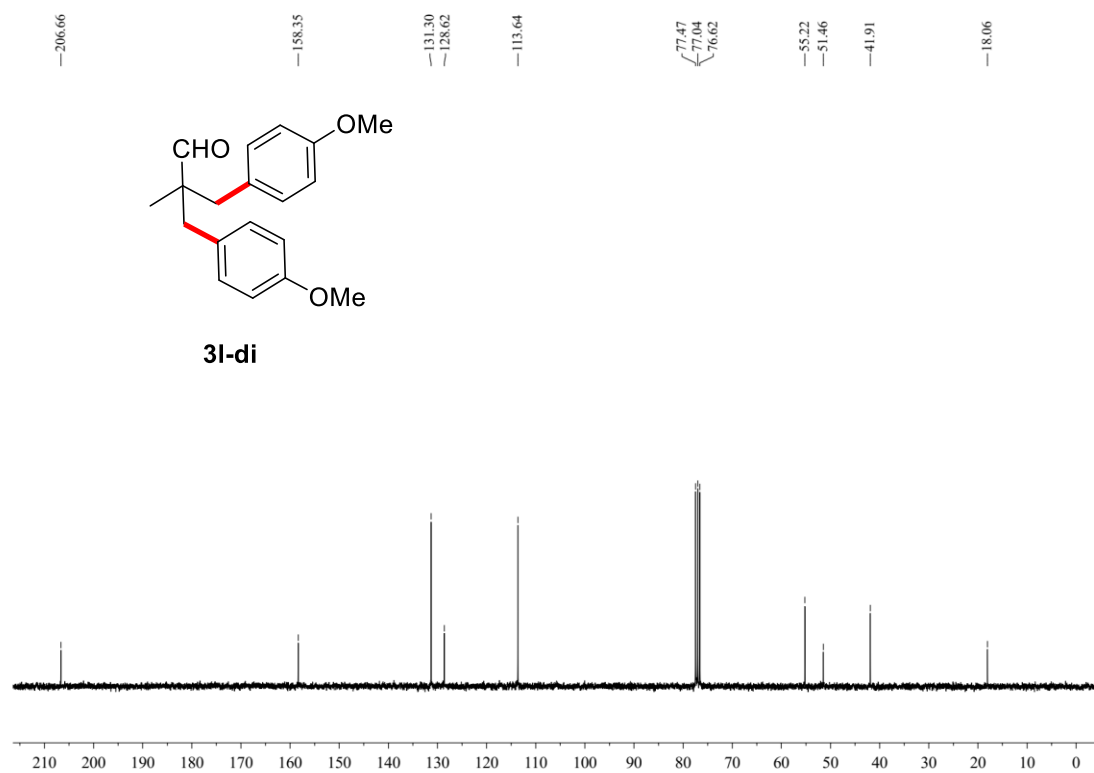


Figure S45 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3l-di**

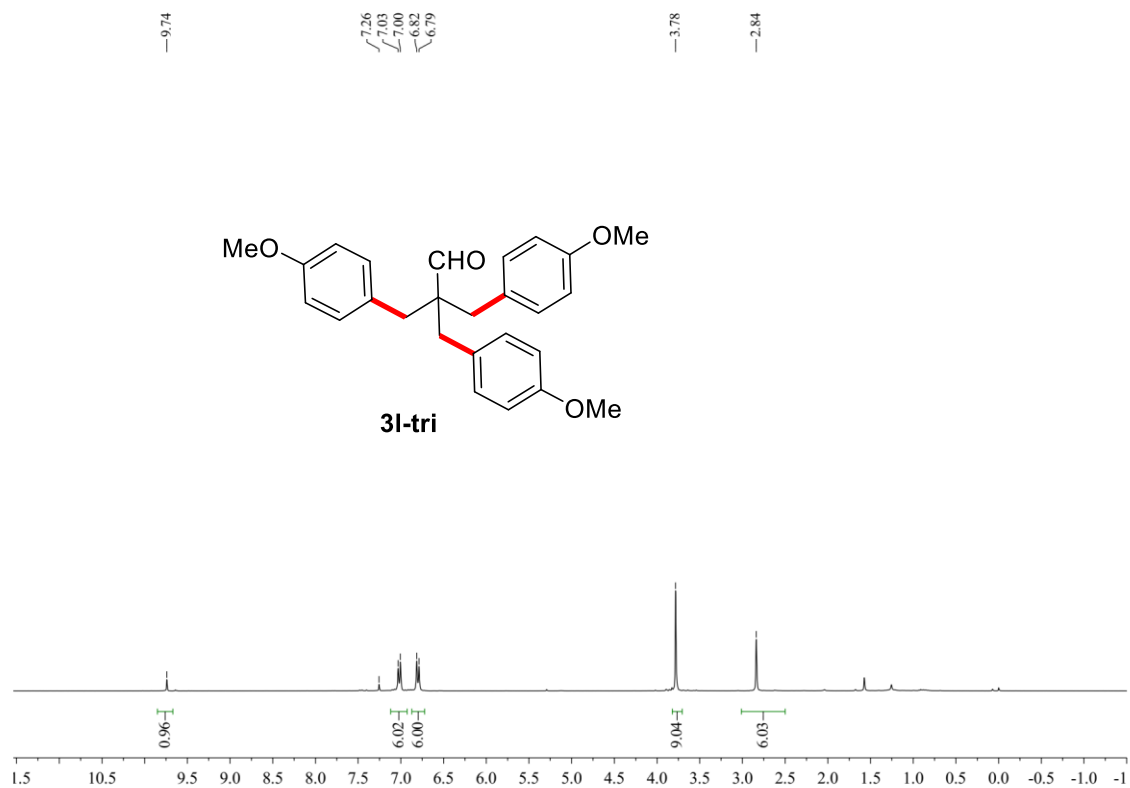


Figure S46 ^1H NMR spectrum (300MHz, CDCl_3 , 298K) of **3l-tri**

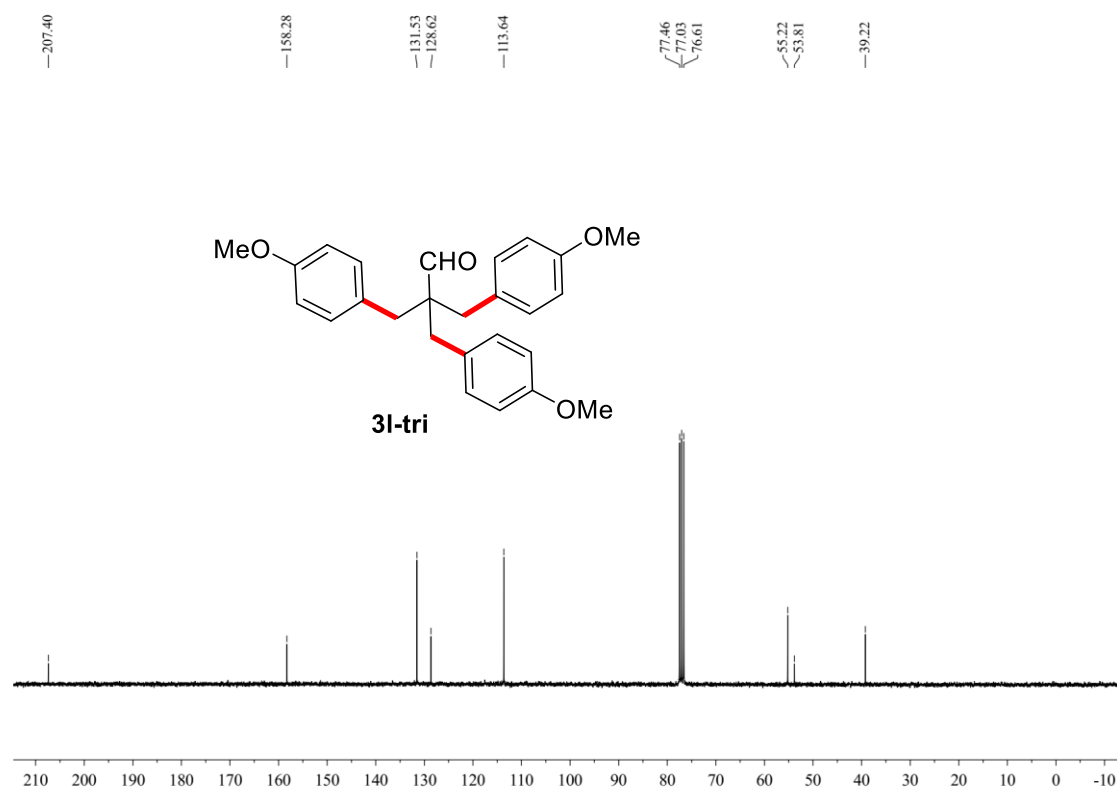


Figure S47 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3l-tri**

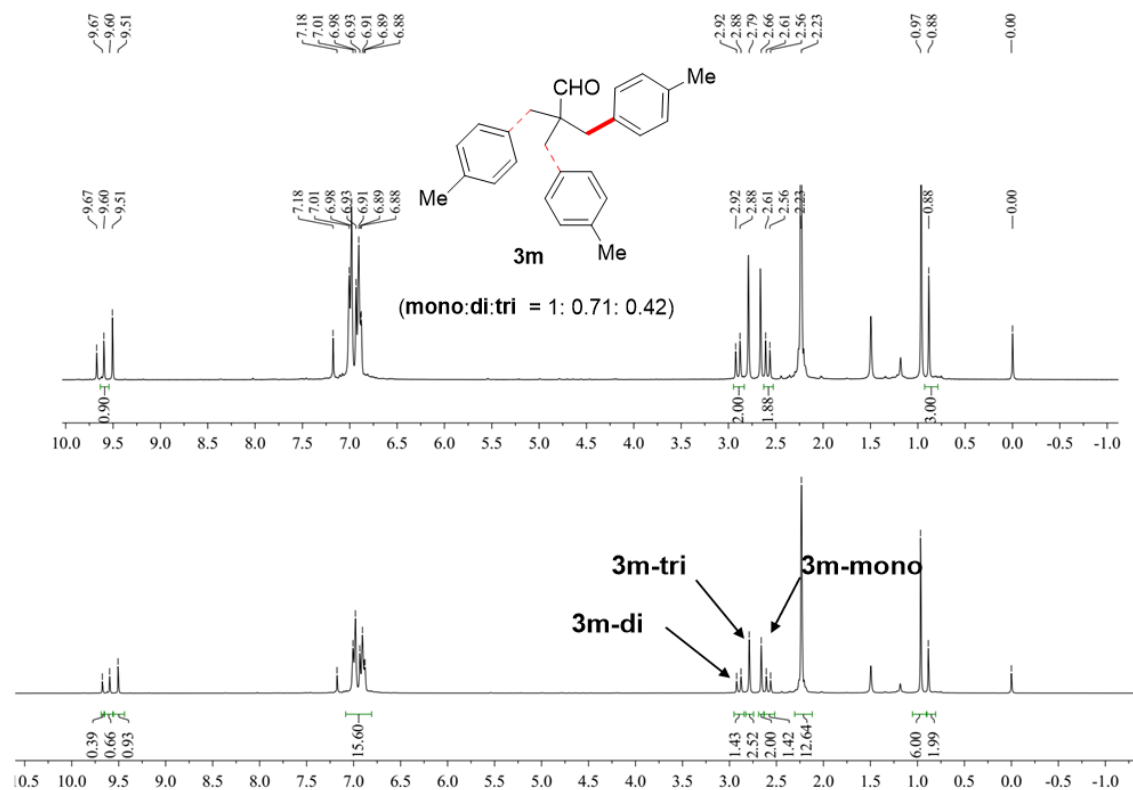


Figure S48 ¹H NMR spectrum (300MHz, CDCl₃, 298K) of **3m**

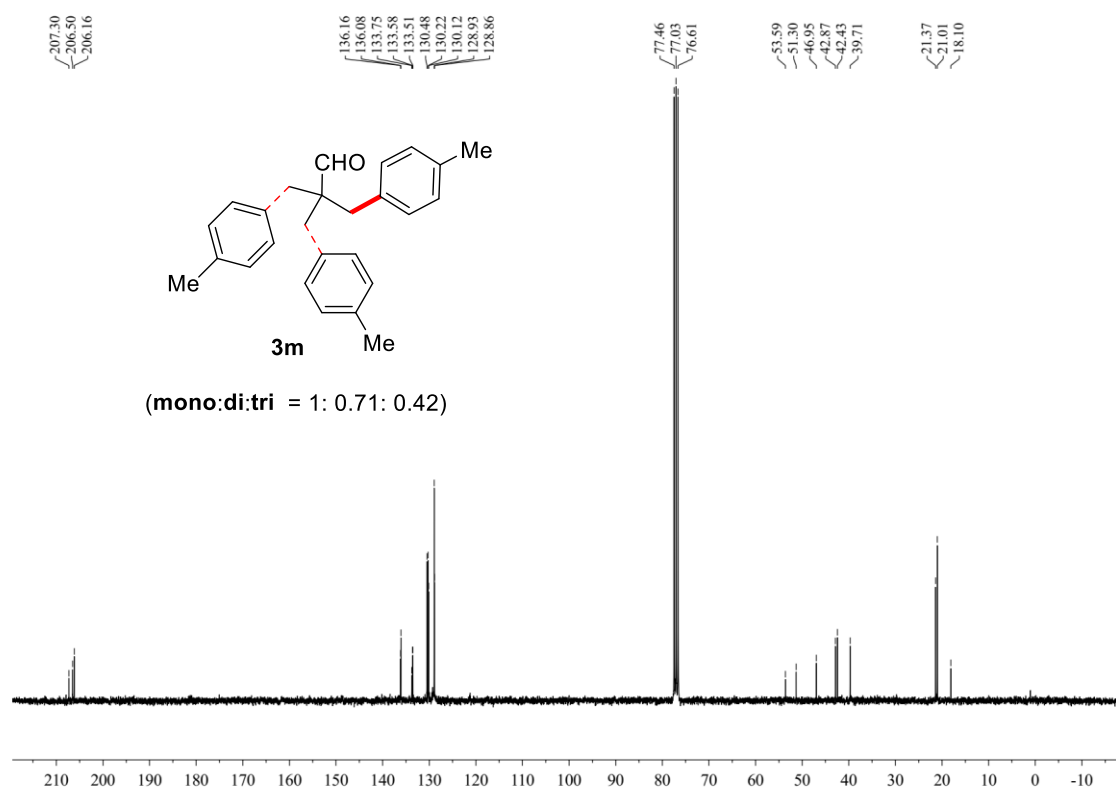


Figure S49 ¹³C NMR spectrum (75MHz, CDCl₃, 298K) of **3m**

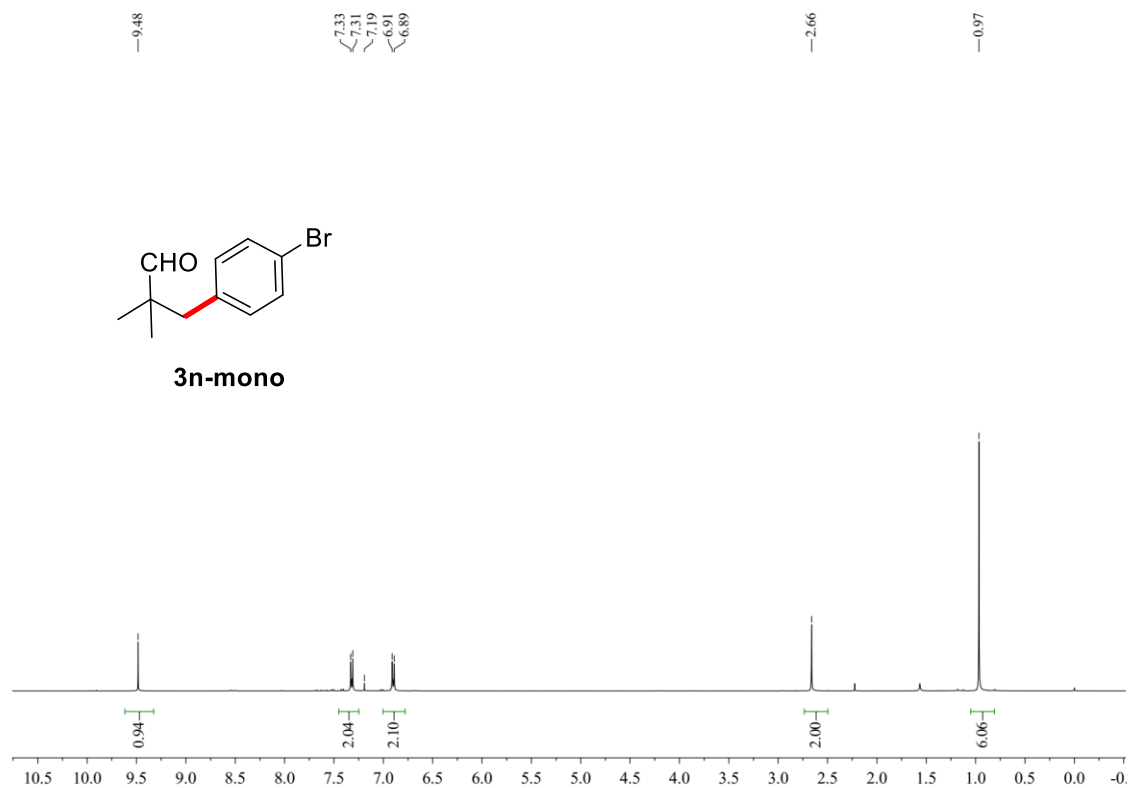


Figure S50 ^1H NMR spectrum (400MHz, CDCl_3 , 298K) of **3n-mono**

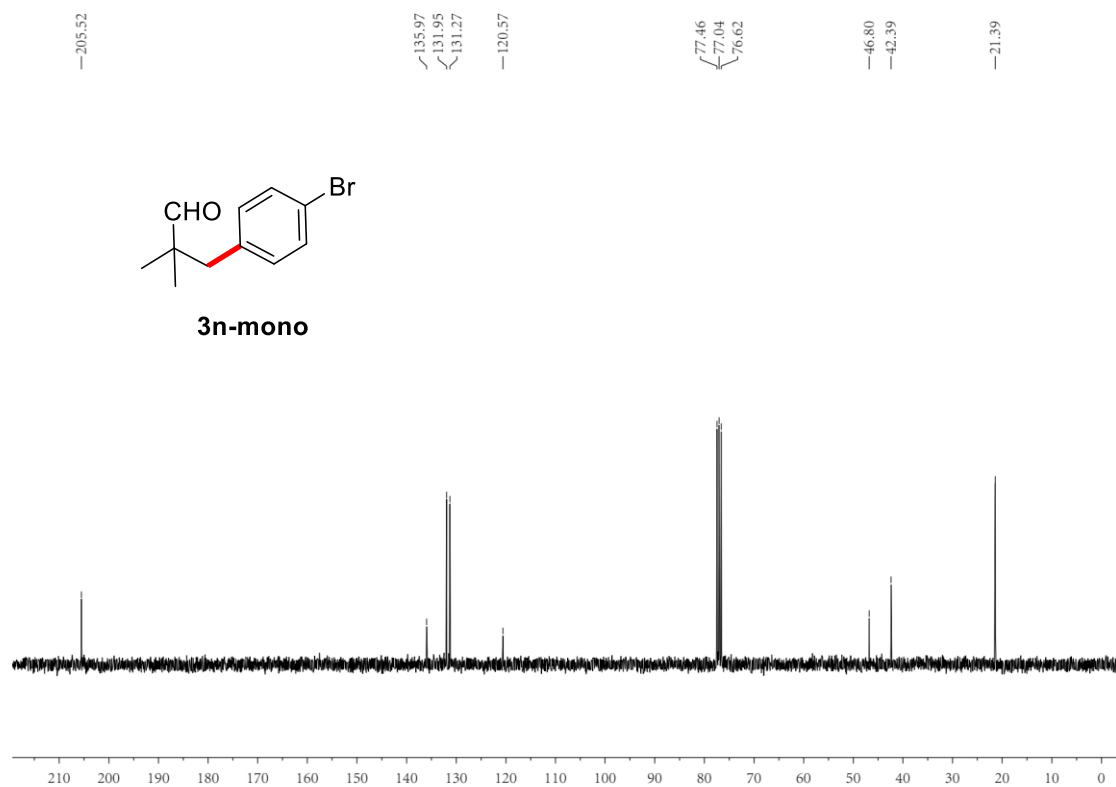


Figure S51 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3n-mono**

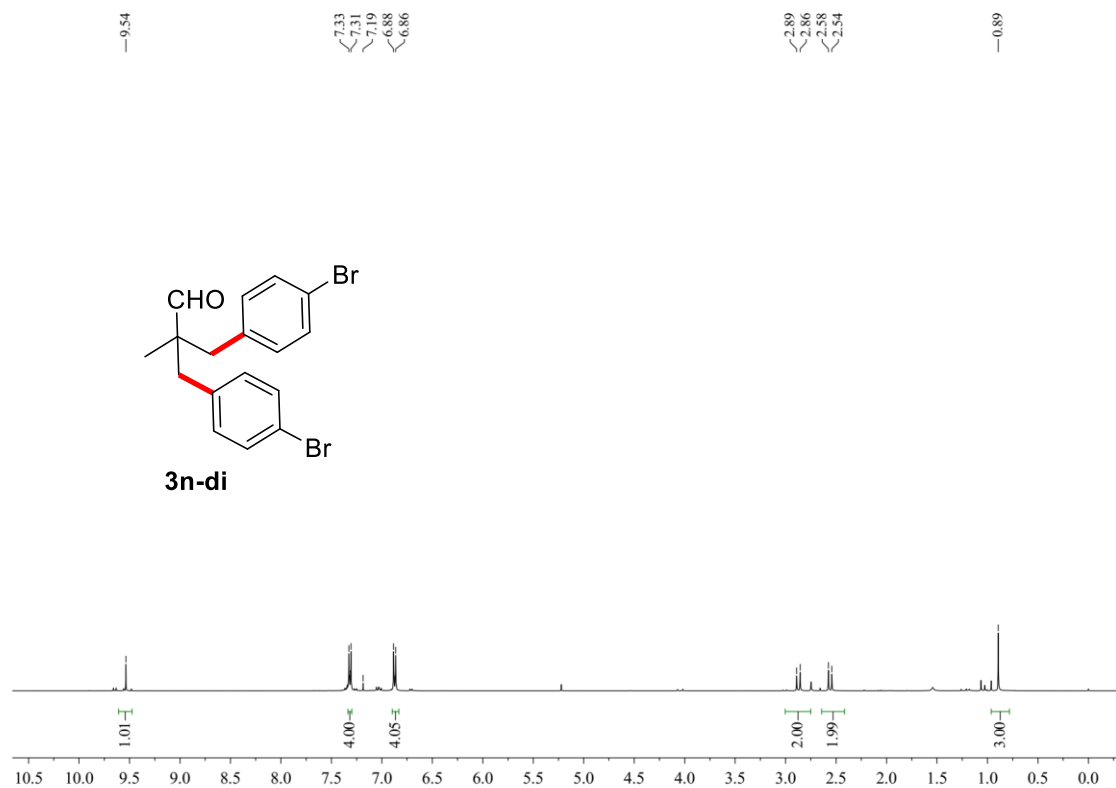


Figure S52 ^1H NMR spectrum (400MHz, CDCl_3 , 298K) of **3n-di**

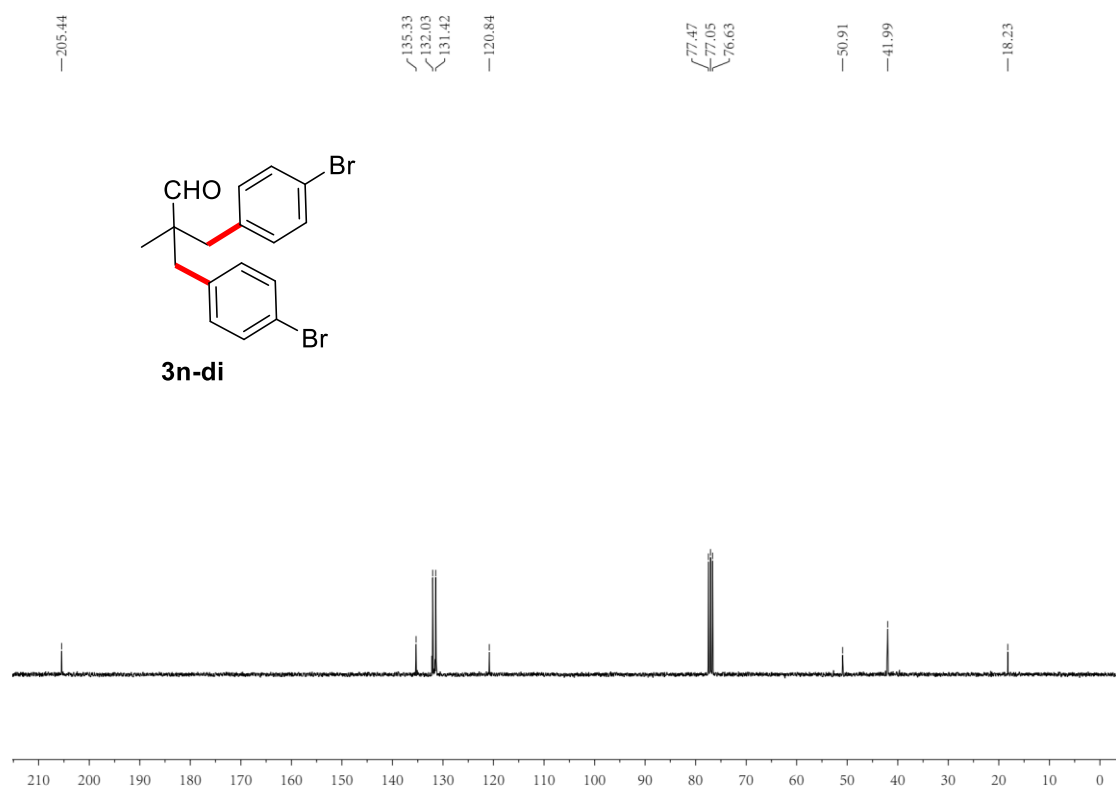


Figure S53 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3n-di**

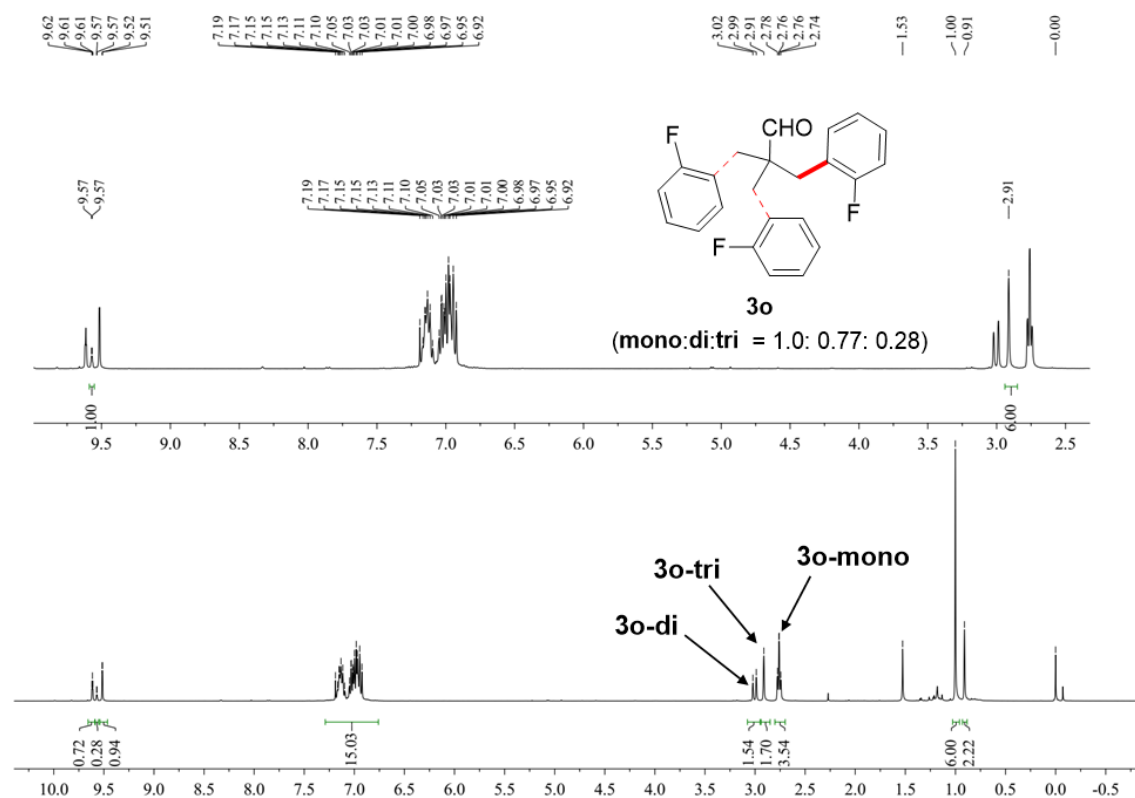


Figure S54 ^1H NMR spectrum (400MHz, CDCl_3 , 298K) of **3o**

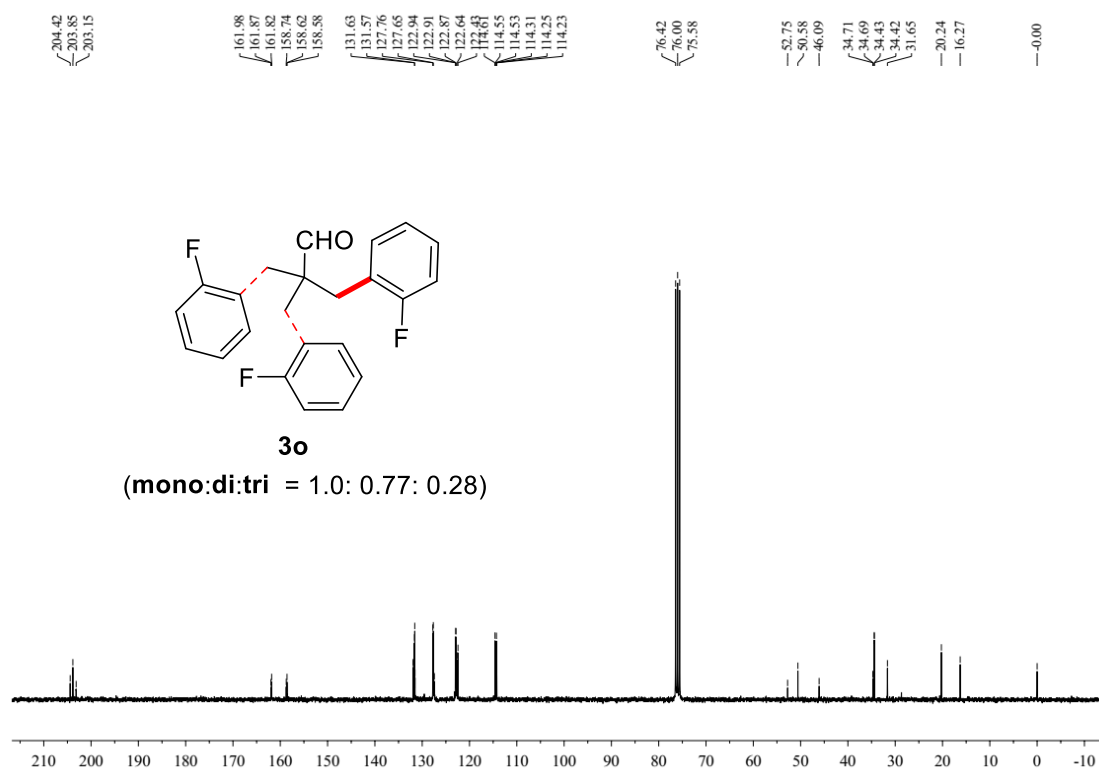


Figure S55 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3o**

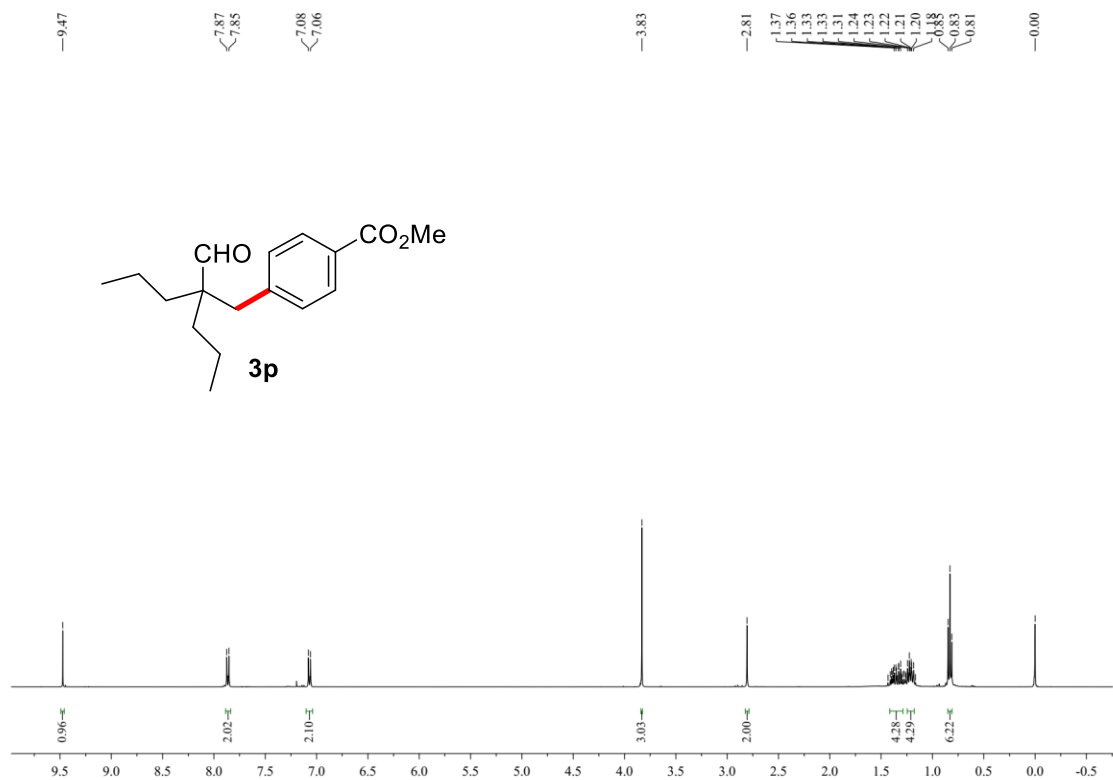


Figure S56 ^1H NMR spectrum (400MHz, CDCl_3 , 298K) of **3p**

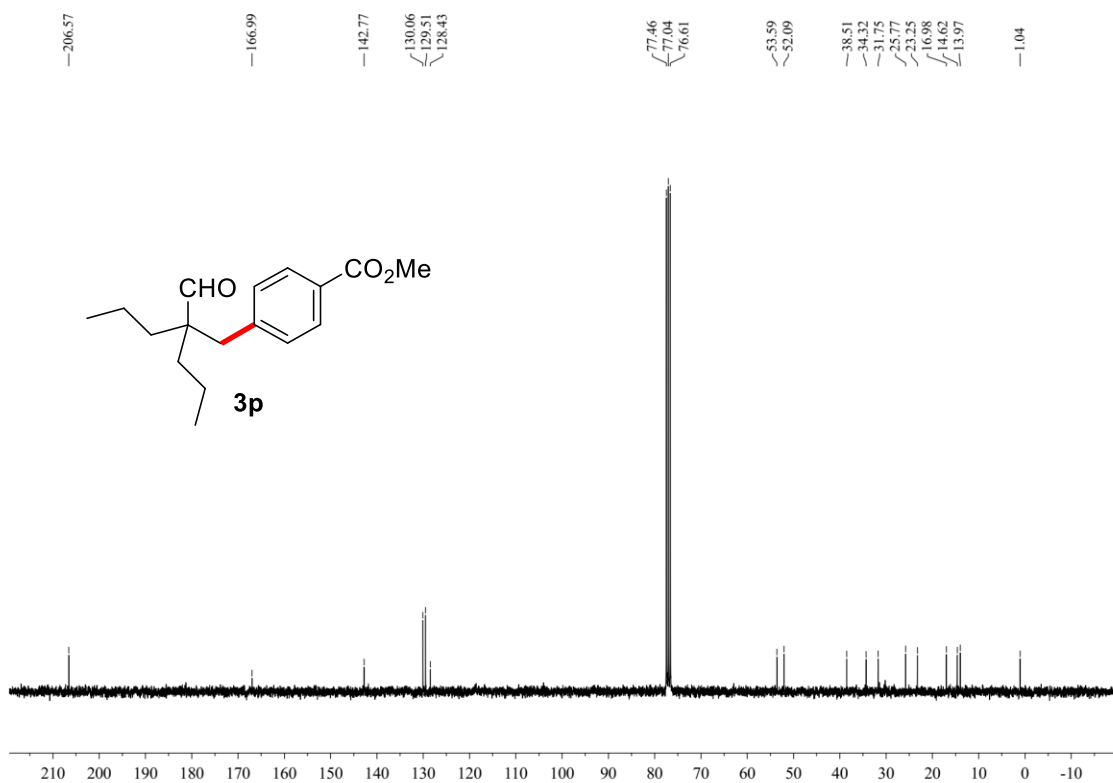


Figure S57 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3p**

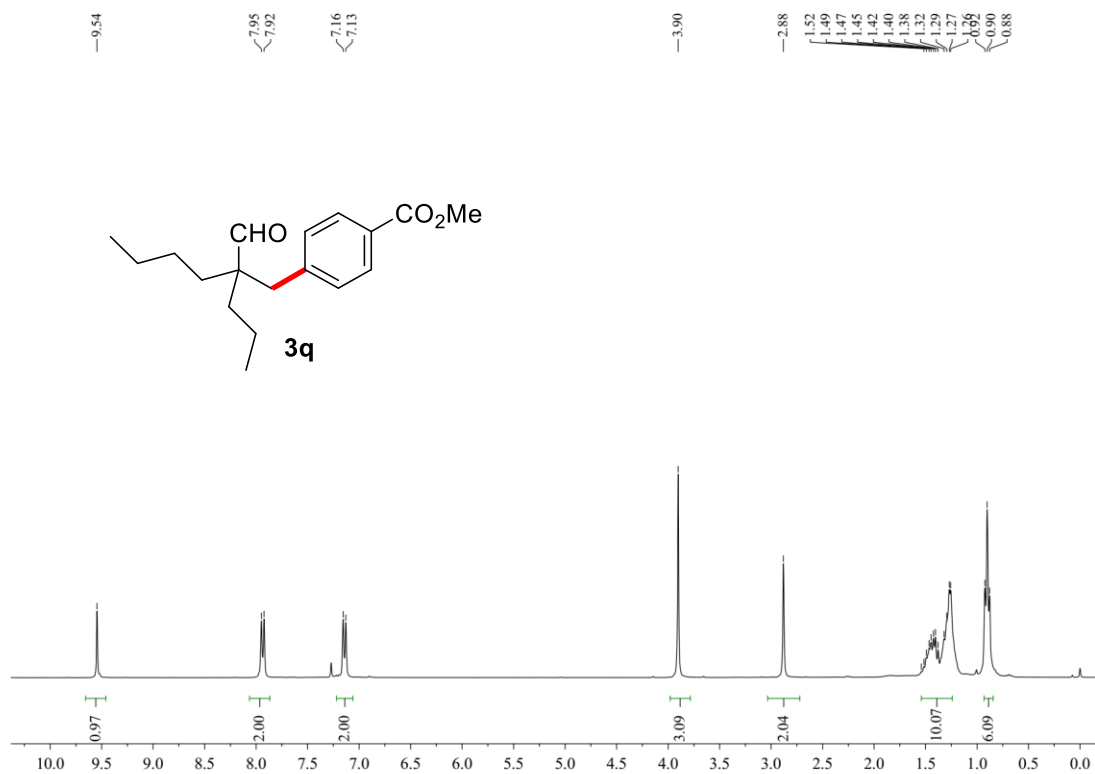


Figure S58 ^1H NMR spectrum (300MHz, CDCl_3 , 298K) of **3q**

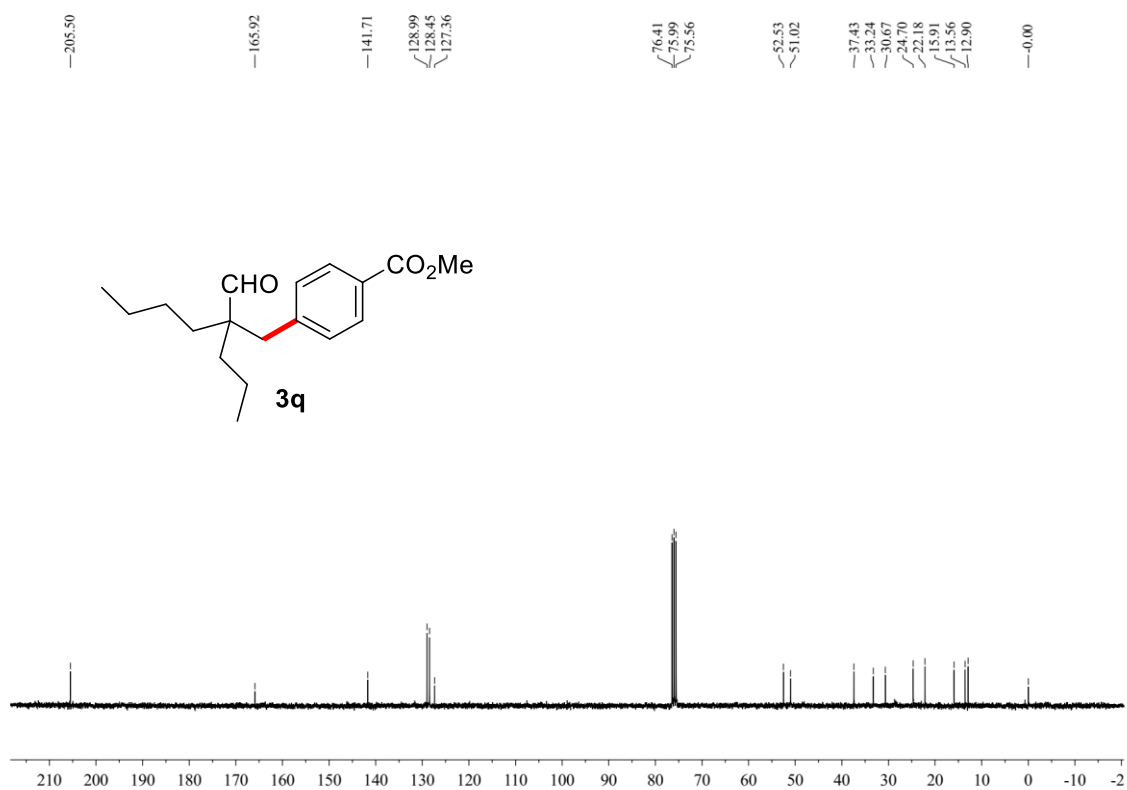


Figure S58 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3q**

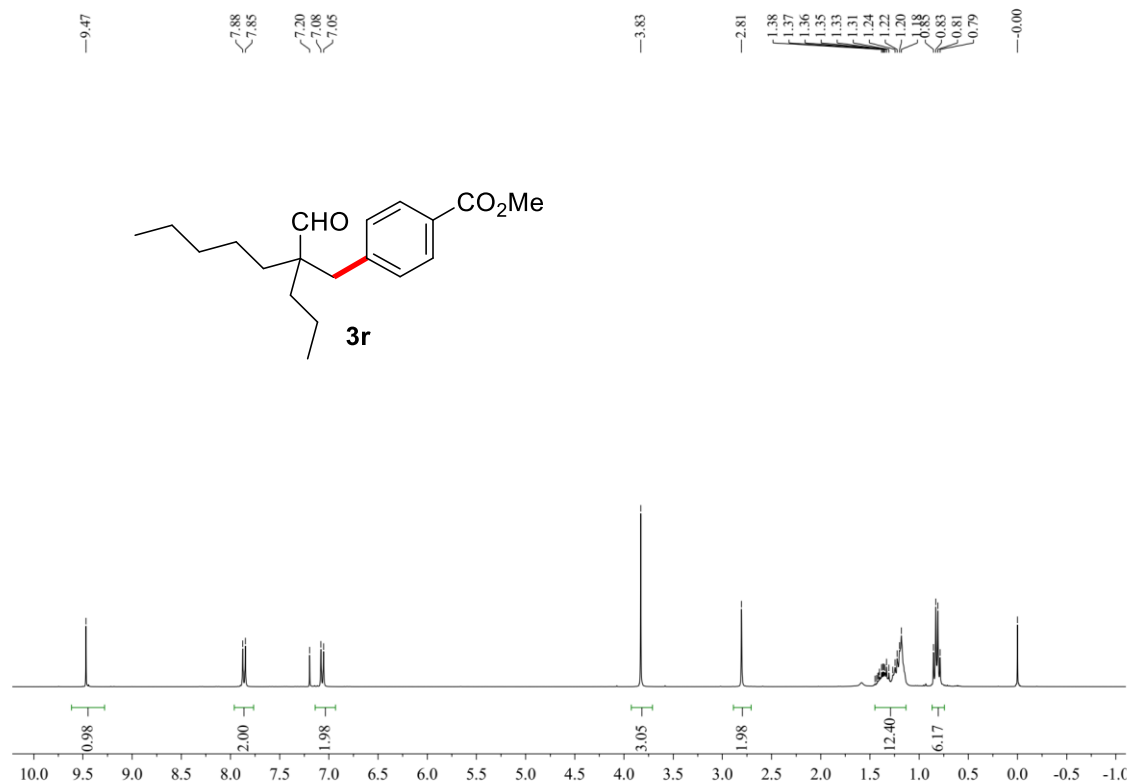


Figure S60 ^1H NMR spectrum (300 MHz, CDCl_3 , 298 K) of **3r**

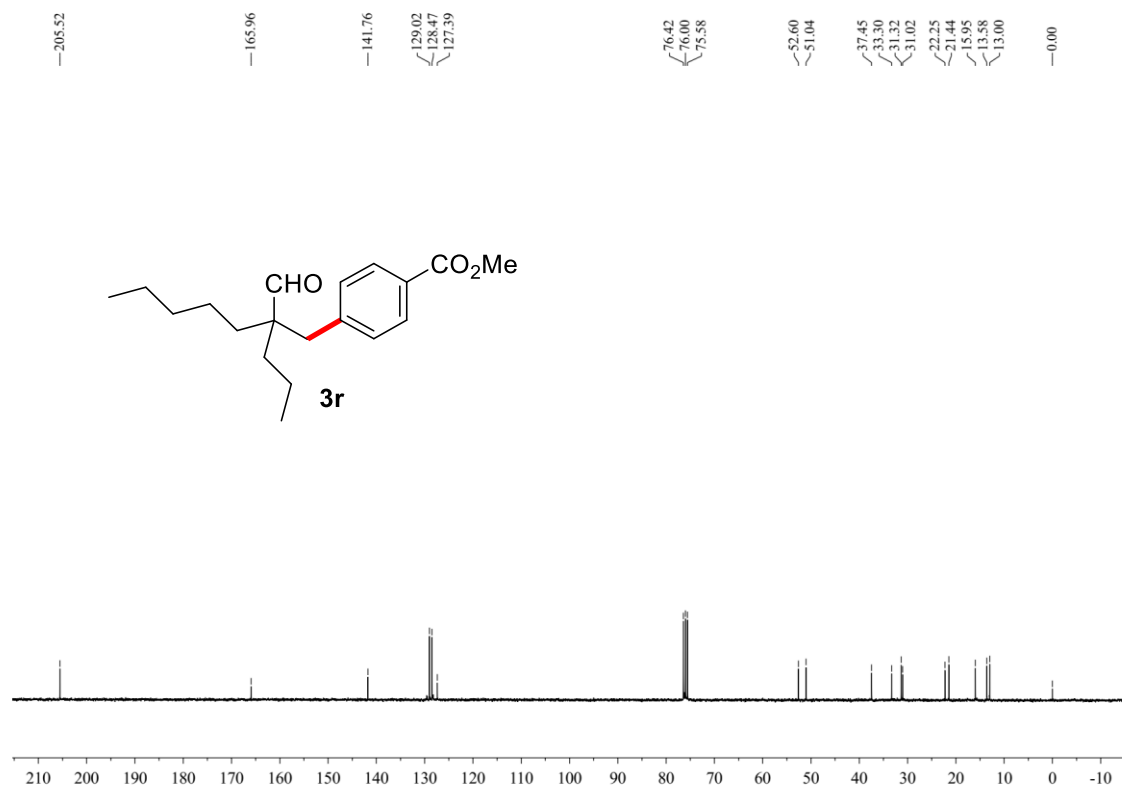


Figure S61 ^{13}C NMR spectrum (75 MHz, CDCl_3 , 298 K) of **3r**

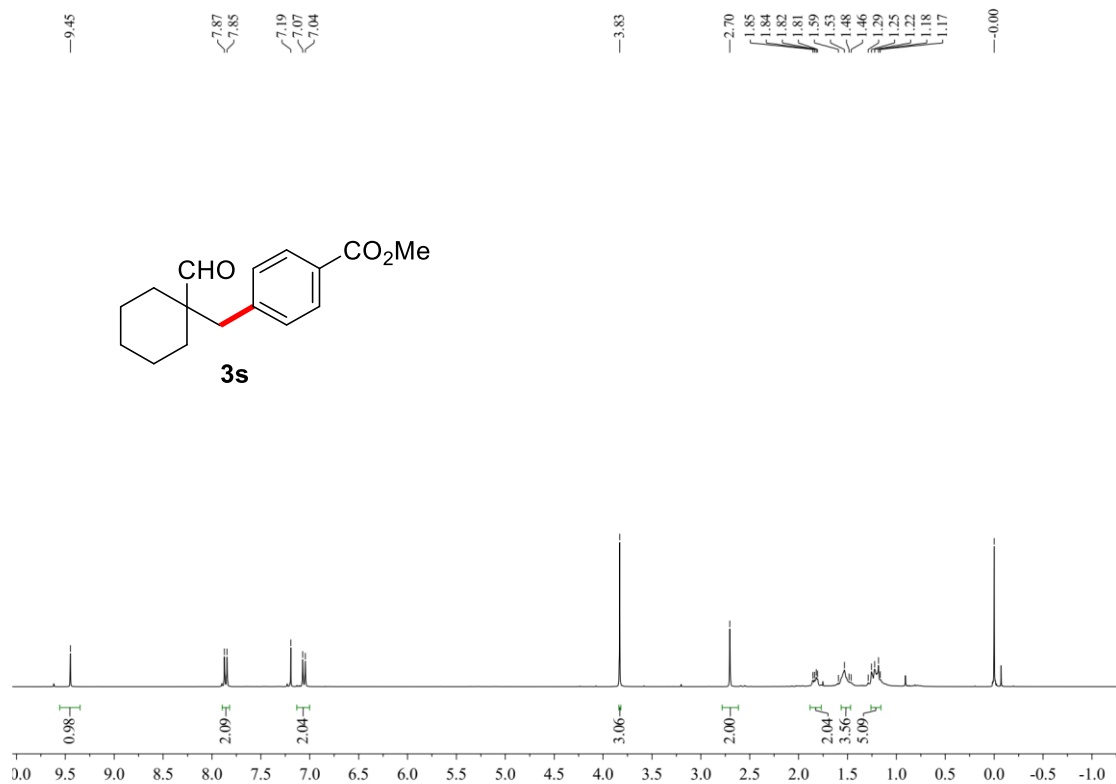


Figure S62 ¹H NMR spectrum (300MHz, CDCl₃, 298K) of **3s**

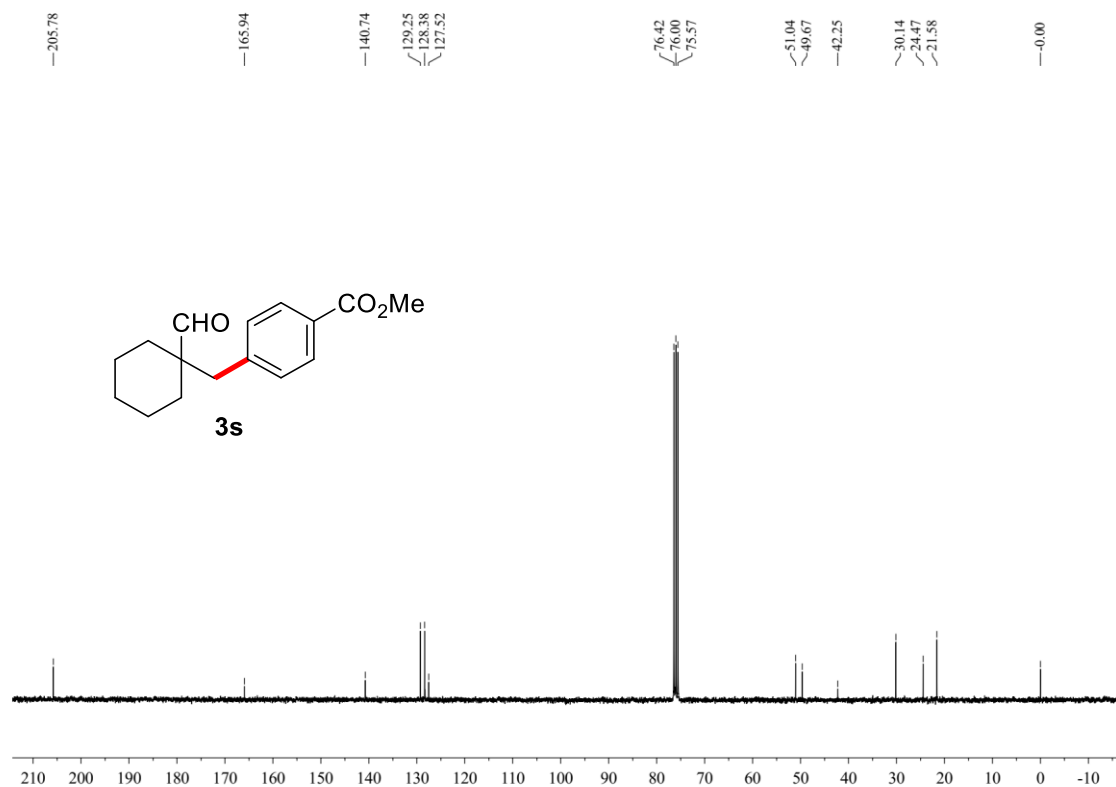


Figure S63 ¹³C NMR spectrum (75MHz, CDCl₃, 298K) of **3s**

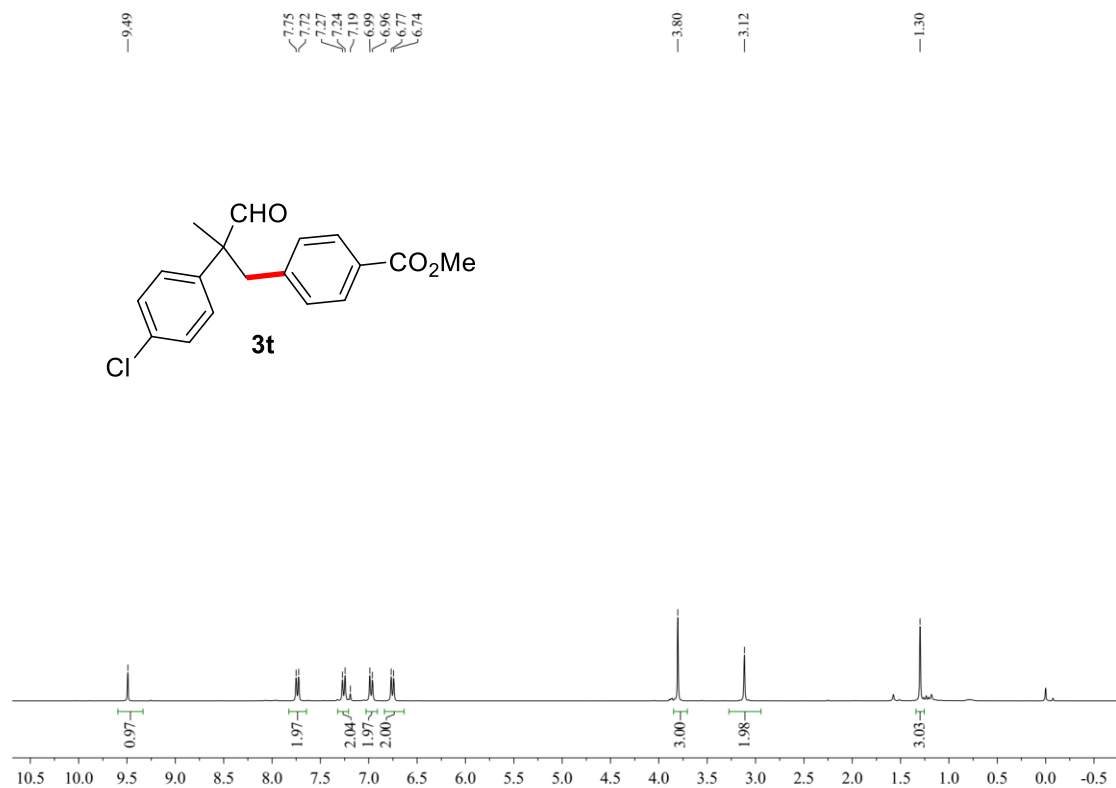


Figure S64 ¹H NMR spectrum (300MHz, CDCl₃, 298K) of **3t**

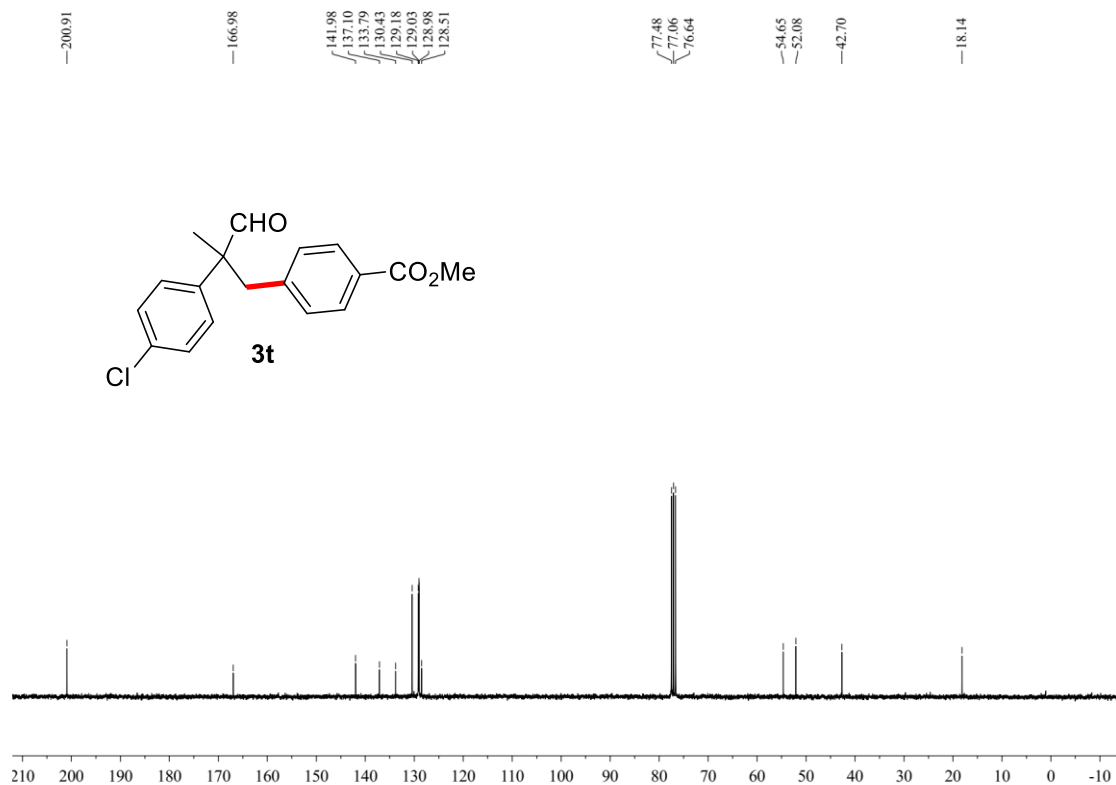


Figure S65 ¹³C NMR spectrum (75MHz, CDCl₃, 298K) of **3t**

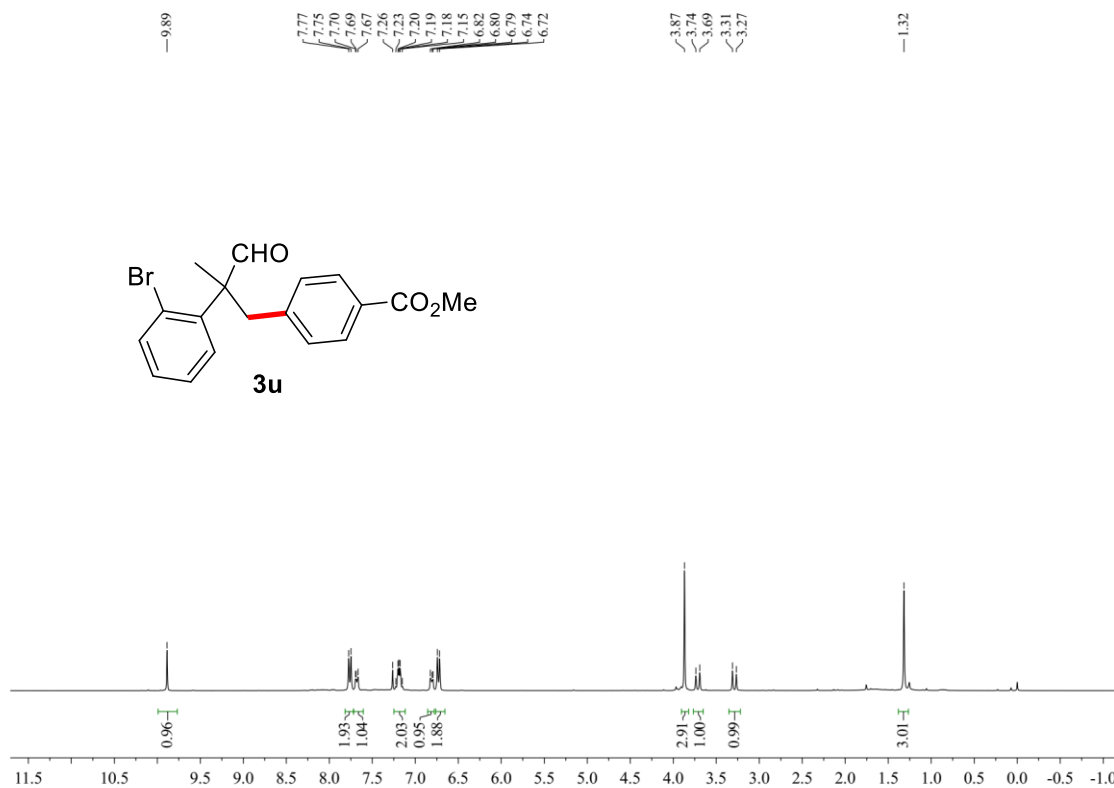


Figure S66 ¹H NMR spectrum (300MHz, CDCl₃, 298K) of **3u**

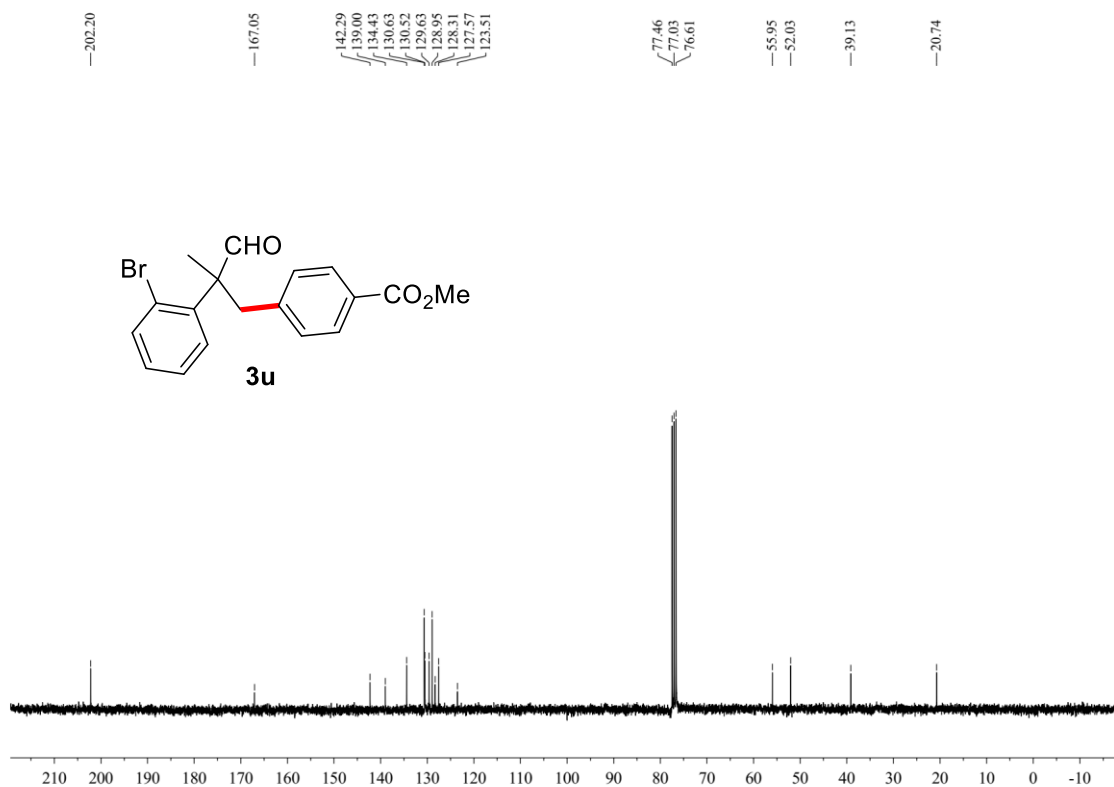


Figure S67 ¹³C NMR spectrum (75MHz, CDCl₃, 298K) of **3u**

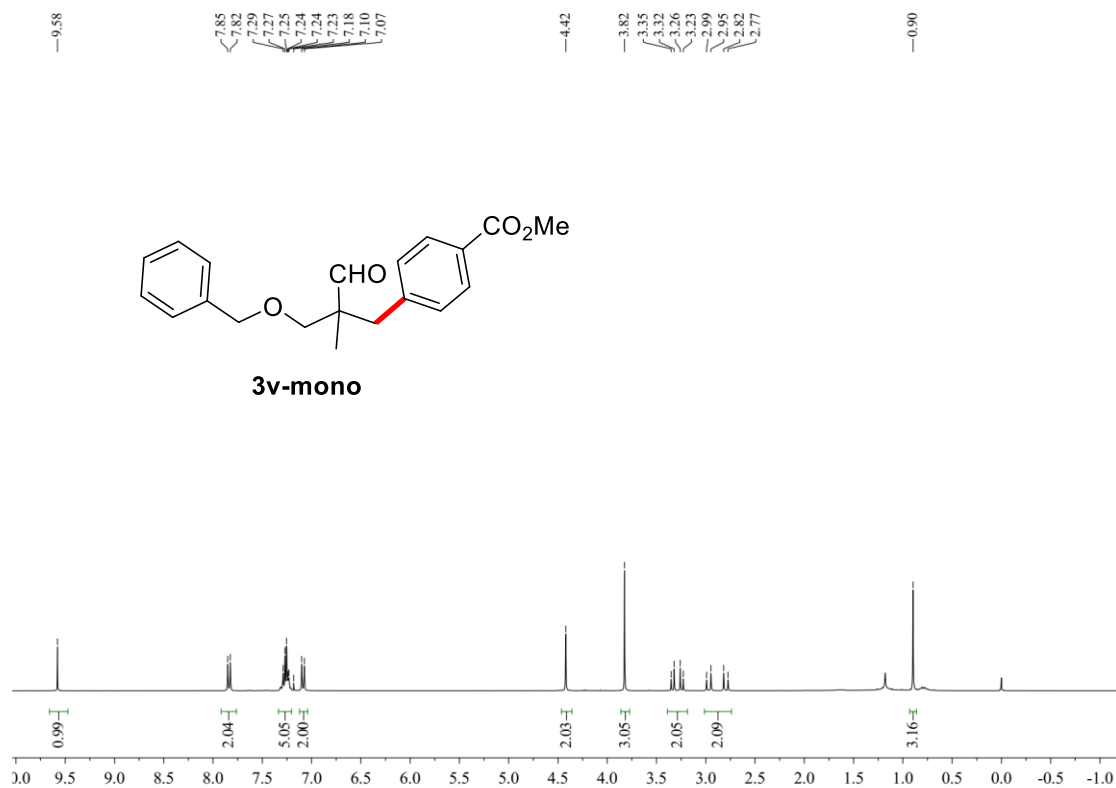


Figure S68 ^1H NMR spectrum (300MHz, CDCl_3 , 298K) of **3v-mono**

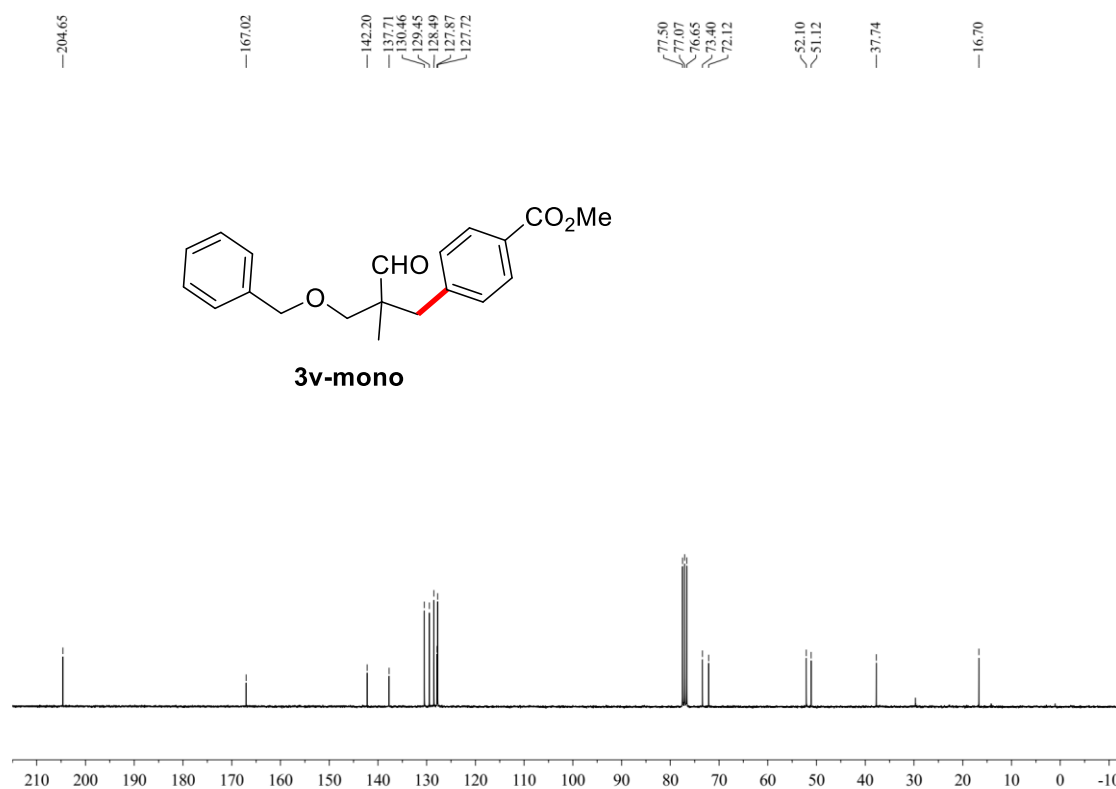


Figure S69 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3v-mono**

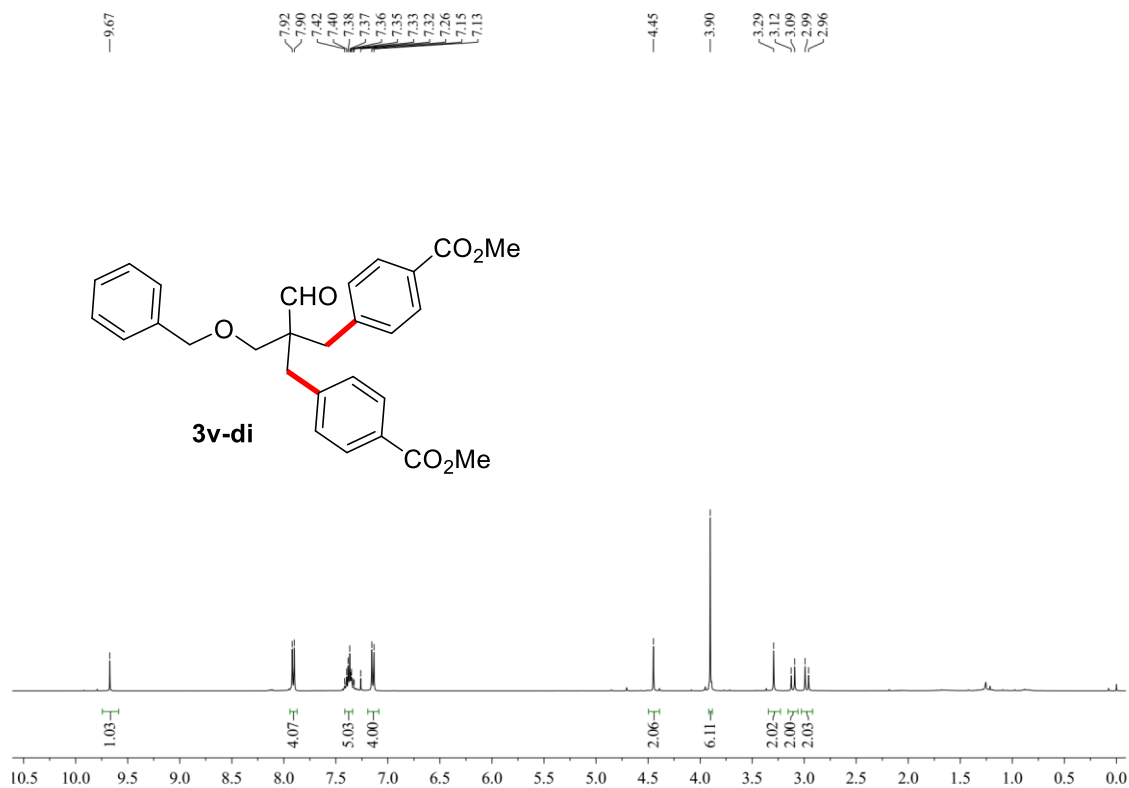


Figure S70 ^1H NMR spectrum (400MHz, CDCl_3 , 298K) of **3v-di**

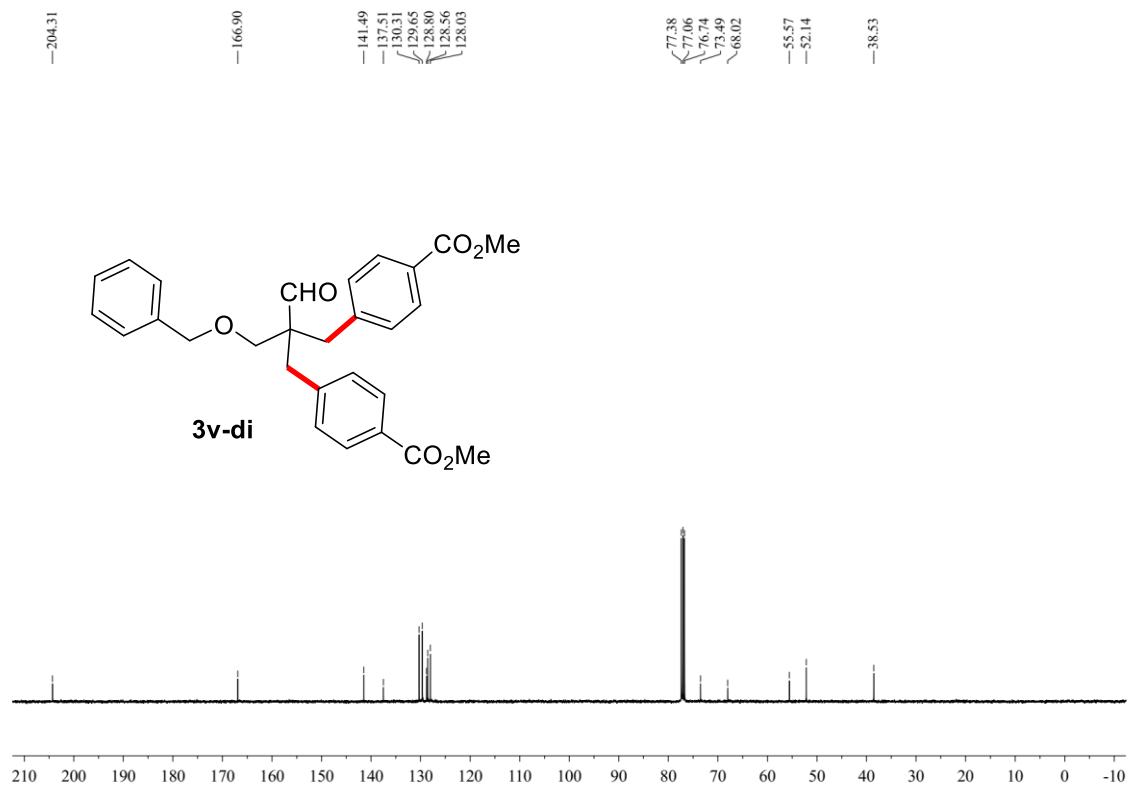


Figure S71 ^{13}C NMR spectrum (101MHz, CDCl_3 , 298K) of **3v-di**

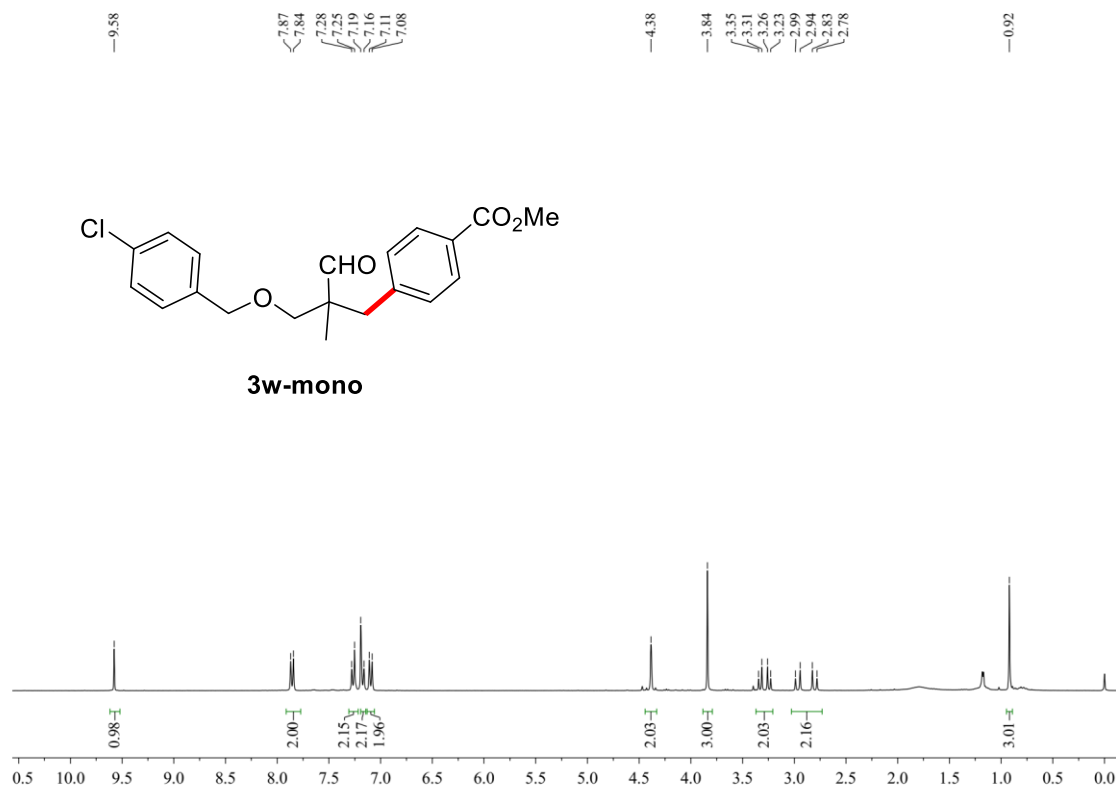


Figure S72 ^1H NMR spectrum (300MHz, CDCl_3 , 298K) of **3w-mono**

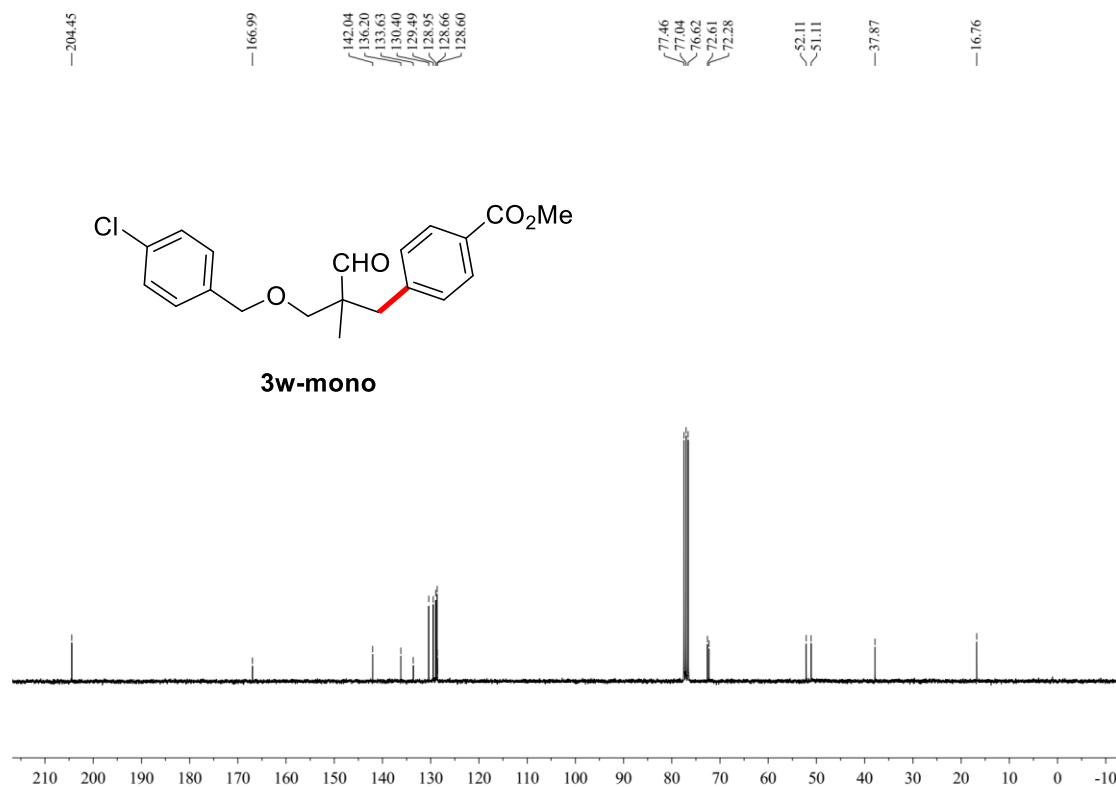


Figure S73 ^{13}C NMR spectrum (75MHz, CDCl_3 , 298K) of **3w-mono**

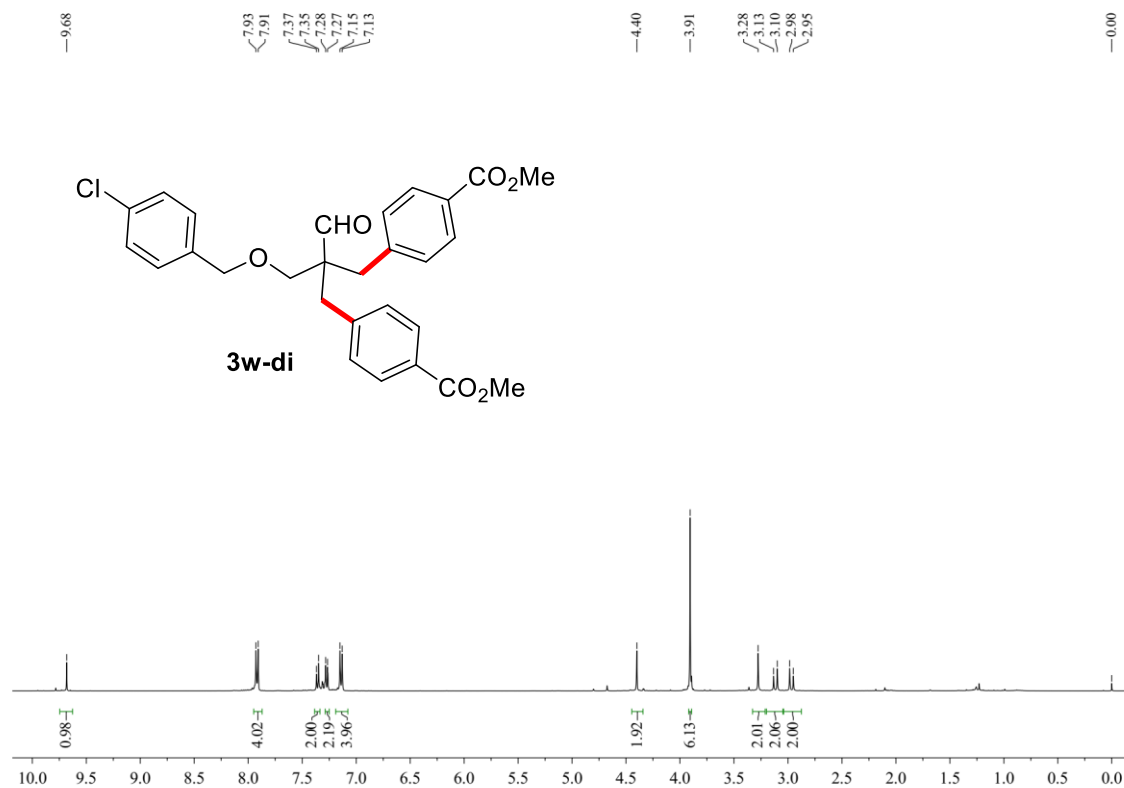


Figure S74 ^1H NMR spectrum (400MHz, CDCl_3 , 298K) of **3w-di**

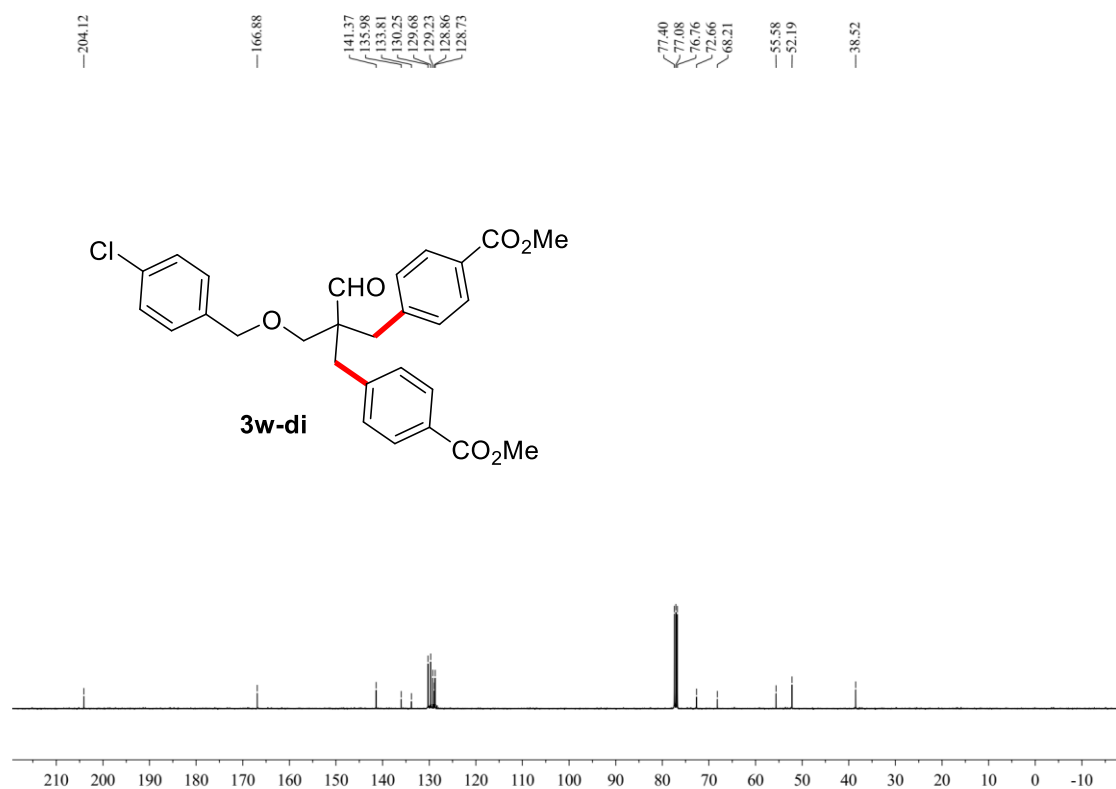


Figure S75 ^{13}C NMR spectrum (101MHz, CDCl_3 , 298K) of **3w-di**