Unsymmetrical Tetrasubstituted Ureas from *tertiary* Carbamoylimidazole: activation by AlMe₃.

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SUPPORTING INFORMATION

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**General Information:**

All reactions were conducted under an atmosphere of dry nitrogen in oven dried glassware. Dichloromethane and toluene were obtained by distillation from calcium hydride under nitrogen, and stored with dried molecular sieves. Amines were dried over KOH and passed over activated alumina before use. Me₃Al (2M in toluene) was purchased from Aldrich. All the products obtained were purified by column chromatography using silica gel (100-200 mesh). ¹H and ¹³C NMR were recorded in 300 MHz spectrometer in CDCl₃ or DMSO-d₆ at ambient temperature. Chemical shifts (δ) are reported in ppm using TMS as internal standard and spin-spin coupling constants (J) are given in Hz. The high resolution mass spectra (HRMS) were measured by ESI. Melting points were measured in open capillary tubes and are uncorrected.
1H NMR in CDCl₃ (300 MHz)
$^{13}$C NMR in CDCl$_3$ (75 MHz)

![NMR Spectrum](image)
1H NMR in CDCl₃ (300 MHz)

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$^{13}$C NMR in CDCl$_3$ (75 MHz)

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3b

1H NMR in CDCl3 (300 MHz)
$^{13}$C NMR in CDCl$_3$ (75 MHz)

![NMR spectrum of compound 3b]
1H NMR in CDCl₃ (300 MHz)
$^{13}$C NMR in CDCl$_3$ (75 MHz)
1H NMR in DMSO-d$_6$ (300 MHz)

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$^{13}$C NMR in DMSO-d$_6$ (75 MHz)

6b
$^{13}$C NMR in DMSO-d$_6$ (75 MHz)
1H NMR in CDCl3 (300 MHz)

![1H NMR spectrum of 7b](image)

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$^{13}$C NMR in CDCl$_3$ (75 MHz)

![NMR spectrum](image_url)

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1H NMR in CDCl3 (300 MHz)
$^{13}$C NMR in CDCl$_3$ (75 MHz)
1H NMR in CDCl3 (300 MHz)

9b
$^{13}$C NMR in CDCl$_3$ (75 MHz)

9b
1H NMR in CDCl₃ (300 MHz)
$^{13}$C NMR in CDCl$_3$ (75 MHz)
1H NMR in CDCl$_3$ (300 MHz)

11b
$^{13}$C NMR in CDCl$_3$ (75 MHz)
1H NMR in CDCl₃ (300 MHz)

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$^{13}$C NMR in CDCl$_3$ (75 MHz)

$^{13}$C NMR in CDCl$_3$ (75 MHz)
1H NMR in CDCl₃ (300 MHz)

13C NMR in CDCl₃ (75 MHz)
1H NMR in CDCl3 (300 MHz)
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$^{13}$C NMR in CDCl$_3$ (75 MHz)

1c
$^{13}$C NMR in CDCl$_3$ (75 MHz)
1H NMR in DMSO-d$_6$ (300 MHz)

$^{13}$C NMR in DMSO-d$_6$ (75 MHz)
$^1$H NMR in CDCl₃ (75 MHz)
1H NMR in CDCl₃ (300 MHz)

13C NMR in CDCl₃ (75 MHz)
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1H NMR in CDCl3 (300 MHz)

10c

Me
\(\text{O}^\text{Ph} \quad \text{Me}^\text{Cl} \)

Diagram showing a molecular structure and NMR spectrum.
$^{13}$C NMR in CDCl$_3$ (75 MHz)
1H NMR in CDCl3 (300 MHz)

13C NMR in CDCl3 (75 MHz)
1H NMR in CDCl₃ (300 MHz)

Me-N=N-CN
Ph  Ph  12c
$^{13}$C NMR in CDCl$_3$ (75 MHz)
1H NMR in CDCl3 (300 MHz)

13C NMR in CDCl3 (75 MHz)
1H NMR in CDCl3 (300 MHz)
1H NMR in CDCl3 (300 MHz)

15c
Compound 16c

$\text{\textsuperscript{13}C NMR in CDCl}_3$ (75 MHz)

16c
1H NMR in CDCl₃ (300 MHz)
$^{13}$C NMR in CDCl$_3$ (75 MHz)
$^{13}$C NMR in CDCl$_3$ (75 MHz)
1H NMR in CDCl3 (300 MHz)
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1H NMR in CDCl₃ (300 MHz)
$^{13}$C NMR in CDCl$_3$ (75 MHz)
$^1$H NMR in DMSO-$d_6$ (300 MHz)
21c
\(^{13}\text{C} \text{NMR in DMSO-d6 (75 MHz)}\)
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1H NMR in DMSO-d$_6$ (300 MHz)

13C NMR in DMSO-d$_6$ (75 MHz)
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1H NMR in DMSO-d<sub>6</sub> (300 MHz)

13C NMR in DMSO-d<sub>6</sub> (75 MHz)
1H NMR in CDCl₃ (300 MHz)

13C NMR in CDCl₃ (75 MHz)