Facile synthesis of nonsymmetrical heteroaryl-substituted triarylmethanes via FeCl$_3$·6H$_2$O-catalyzed two-step Friedel-Crafts-type reaction

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Spectral data of compounds 4a-f, 4h, 4i, 4k, 4l, 5h, 5i, 5k, 5l and 6a were in agreement with our previous reported.$^{12}$
Compound 4g [^H NMR (400 MHz, CDCl₃), ^1^3C NMR (100 MHz, CDCl₃)]
Compound 4j [¹H NMR (400 MHz, CDCl₃), ¹³C NMR (100 MHz, CDCl₃)]
Compound 4m \([^1H\text{ NMR (400 MHz, CDCl}_3\text{), }^{13}C\text{ NMR (100 MHz, CDCl}_3\text{)}]\)
Compound 6a [\(^1\)H NMR (400 MHz, CDCl\(_3\)), \(^{13}\)C NMR (100 MHz, CDCl\(_3\))]
Compound 6b [$^1$H NMR (400 MHz, CDCl$_3$), $^{13}$C NMR (100 MHz, CDCl$_3$)]
Compound 6c [\(^1\)H NMR (400 MHz, CDCl\(_3\)), \(^{13}\)C NMR (100 MHz, CDCl\(_3\))]
Compound 6d \[^1\text{H} \text{NMR (400 MHz, CDCl}_3\text{)}, \ ^{13}\text{C} \text{NMR (100 MHz, CDCl}_3\text{)}\]
Compound 6e \[^1^H\text{NMR (400 MHz, CDCl}_3\text{), }^{13}C\text{NMR (100 MHz, CDCl}_3\text{)}\]
Compound 6f [\(^1\)H NMR (400 MHz, CDCl\(_3\)), \(^{13}\)C NMR (100 MHz, CDCl\(_3\))]
Compound 6g \[^1\text{H} \text{NMR (400 MHz, CDCl}_3\)], \[^{13}\text{C} \text{NMR (100 MHz, CDCl}_3\)]
Compound 6h [\(^1\)H NMR (400 MHz, CDCl\(_3\)), \(^{13}\)C NMR (100 MHz, CDCl\(_3\))]
**Compound 6i** [\(^1\)H NMR (400 MHz, CDCl\(_3\)), \(^{13}\)C NMR (100 MHz, CDCl\(_3\))]
Compound 6j \([^1]\text{H NMR} \ (400 \text{ MHz, CDCl}_3), \ ^{13}\text{C NMR} \ (100 \text{ MHz, CDCl}_3)\)
Compound 6k \([^1H\text{ NMR (400 MHz, CDCl}_3), ^{13}\text{C NMR (100 MHz, CDCl}_3)\)]
**Compound 6l** $[^1]H$ NMR (400 MHz, CDCl$_3$), $^{13}C$ NMR (100 MHz, CDCl$_3$)
Compound 6m $^{1}H$ NMR (400 MHz, CDCl$_3$), $^{13}$C NMR (100 MHz, CDCl$_3$)
Compound 6n [\(^1\)H NMR (400 MHz, CDCl\(_3\)), \(^{13}\)C NMR (100 MHz, CDCl\(_3\))]
Compound 6o \(^{1}H\) NMR (400 MHz, CDCl\(_3\)), \(^{13}C\) NMR (100 MHz, CDCl\(_3\))
Compound 6p [\(^{1}H\) NMR (400 MHz, CDCl\(_3\)), \(^{13}C\) NMR (100 MHz, CDCl\(_3\))]
Compound 6q \([^1\text{H NMR (400 MHz, CDCl}_3), ^{13}\text{C NMR (100 MHz, CDCl}_3)]\)
Compound 6r \(^1H\) NMR (400 MHz, CDCl\(_3\)), \(^{13}C\) NMR (100 MHz, CDCl\(_3\))
Compound 6s \[^{1}H\text{ NMR (400 MHz, CDCl}_3\text{), }^{13}C\text{ NMR (100 MHz, CDCl}_3\text{)}\]
**Compound 7** [$^1$H NMR (400 MHz, CDCl$_3$), $^{13}$C NMR (100 MHz, CDCl$_3$)]